



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: Newton Primary Ash Pond (IEPA ID: W0798070001-01) 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 Primary Ash Pond (IEPA ID: W0798070001-01), as enclosed.

Sincerely,

A handwritten signature in blue ink, appearing to read "Phil Morris", is written over a light blue horizontal line.

Phil Morris  
Senior Environmental Director

Enclosures

Annual Consolidated Report  
**Illinois Power Generating Company**  
Newton Power Plant  
Primary Ash Pond; IEPA ID: **W0798070001-01**

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 Newton Power Plant**

*Prepared for:*



**Illinois Power Generating Company**

**Newton Power Plant  
6725 North 500<sup>th</sup> Street  
Newton, IL 62448**

November 2023

**Newton Power Plant  
ANNUAL CCR FUGITIVE DUST CONTROL REPORT**

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

Completed by:    
 Name Title

Reviewed by:    
 Name Title

This Annual CCR Fugitive Dust Control Report has been prepared for the Newton Power Plant 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 Newton Power Plant 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 placed in the landfill is conditioned before loading into vehicles for transport to the landfill.
	Apply cover to exposed material in the landfill.
	Wet management of CCR bottom ash and CCR fly ash 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	Wet sluice CCR bottom ash and fly ash to CCR surface impoundments.
	Pneumatically convey dry CCR fly ash to storage silos in an enclosed system.

**Newton Power Plant  
ANNUAL CCR FUGITIVE DUST CONTROL REPORT**

CCR Activity	Actions Taken to Control CCR Fugitive Dust
Handling of CCR at the facility	CCR fly ash to be emplaced in the landfill is conditioned before loading into trucks for transport to the landfill.
	Load CCR transport trucks from the CCR fly ash silos in a partially enclosed area.
	Load CCR transport trucks from the CCR fly ash silos using a telescoping chute.
	Perform housekeeping, as necessary, in the fly ash loading area.
	Operate fly ash handling system in accordance with good operating practices.
	Maintain and repair as necessary dust controls on the fly ash handling system.
Transportation of CCR at the facility	CCR to be emplaced in the landfill is conditioned before loaded into vehicles for transport to the landfill.
	Cover or enclose trucks used to transport CCR material, as necessary.
	Limit the speed of vehicles to no more than 15 mph on facility roads.
	Sweep or rinse off the outside of the trucks transporting CCR, as necessary.
	Remove CCR, as necessary, deposited on facility road surfaces during transport.

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.

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

No citizen complaints were received regarding CCR fugitive dust at Newton Power Plant 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	Newton Power Station Jasper, Illinois 62953 10/18/2023
Operator Name / Address	Luminant Generation Company LLC 6555 Sierra Drive, Irving, TX 75039
CCR unit	Ash 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 II 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	See the attached.
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 31,000 acre-feet
(b)(2)(E) The approximate volume of the impounded water and CCR contained in the unit at the time of the inspection.	Approximately 14,000 acre-feet
(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: Newton Power Station

CCR Unit: Ash Pond

35 IAC § 845.540 (b)(2)(B)		
Instrument ID #	Type	Maximum recorded reading since previous annual inspection (ft)
B001	Piezometer	500.6'
B003	Piezometer	Abandoned
B004	Piezometer	Abandoned
B005	Piezometer	503.8'
B006	Piezometer	542.0'
B007	Piezometer	536.4'
B008	Piezometer	528.7'
B009	Piezometer	527.6'
B010A	Piezometer	528.0'
B010B	Piezometer	526.2'
B012	Piezometer	521.3'
B014	Piezometer	Abandoned
B015	Piezometer	Abandoned
B016	Piezometer	Abandoned

35 IAC § 845.540 (b)(2)(C)						
Since previous inspection:	Approximate Depth / Elevation					
	Elevation (ft)			Depth (ft)		
	Minimum	Present	Maximum	Minimum	Present	Maximum
Impounded Water		534.5			16	
CCR	515		545	33		45

### **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.  
**1940103649-013**

**2023 35 I.A.C. § 845 ANNUAL  
GROUNDWATER MONITORING AND  
CORRECTIVE ACTION REPORT  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS  
IEPA ID NO. W0798070001-01**

**2023 35 I.A.C. § 845 ANNUAL GROUNDWATER  
MONITORING AND CORRECTIVE ACTION REPORT  
NEWTON POWER PLANT PRIMARY ASH POND**

Project name **Newton Power Plant Primary Ash Pond**  
Project no. **1940103649-013**  
Recipient **Illinois Power Generating Company**  
Document type **Annual Groundwater Monitoring and Corrective Action Report**  
Version **FINAL**  
Date **January 31, 2024**  
Prepared by **Chase J. Christenson, PG**  
Checked by **Nicole M. Pagano, PE**  
Approved by **Nicole M. Pagano, PE**  
Description **Annual Report required by 35 I.A.C. § 845**

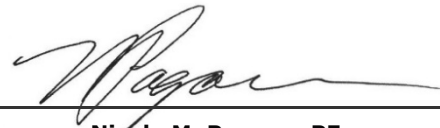
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**Chase J. Christenson, PG**  
**Senior Project Hydrogeologist**



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**Nicole M. Pagano, PE**  
**Senior Managing Engineer**

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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  
Field Parameters and Analytical Results – Quarter 4, 2023

Table 2 Comparison of Statistical Results to GWPS – Quarter 2, 2023  
Comparison of Statistical Results to GWPS – Quarter 3, 2023  
Comparison of Statistical Results to GWPS – Quarter 4, 2023

### FIGURES (ATTACHED)

Figure 1 Monitoring Well Location Map

Figure 2 GWPS Exceedance Map Uppermost Aquifer, Quarters 2-4, 2023

Figure 3 GWPS Exceedance Map Upper Drift, Quarters 2-4, 2023

Figure 4 Potentiometric Surface Map, April 24, 2023

Figure 5 Potentiometric Surface Map, May 24, 2023

Figure 6 Potentiometric Surface Map, June 24, 2023

Figure 7 Potentiometric Surface Map, July 24-25, 2023

Figure 8 Potentiometric Surface Map, August 9, 2023

Figure 9 Potentiometric Surface Map, September 9, 2023

Figure 10 Potentiometric Surface Map, October 9, 2023

Figure 11 Potentiometric Surface Map, November 8-9, 2023

Figure 12 Potentiometric Surface Map, December 13, 2023

### ATTACHMENTS

Attachment A Groundwater Elevation Data

Attachment B Alternative Source Demonstration and IEPA Denial Letter

Attachment C Corrective Measures Assessment Extension Request and IEPA Approval Letter

Attachment D Comparison of Statistical Results to Background – Quarter 2, 2023  
Comparison of Statistical Results to Background – Quarter 3, 2023  
Comparison of Statistical Results to Background – Quarter 4, 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
E001	Quarter 2, 2023 sampling event
E002	Quarter 3, 2023 sampling event
E003	Quarter 4, 2023 sampling event
GWPS	groundwater protection standard
ID	identification
IEPA	Illinois Environmental Protection Agency
IPGC	Illinois Power Generating Company
NID	National Inventory of Dams
No.	number
NPP	Newton Power Plant
PAP	Primary Ash Pond
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SI	surface impoundment
SSI	statistically significant increase

## 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 Primary Ash Pond (PAP) located at Newton Power Plant (NPP) near Newton, Illinois. The PAP is recognized by coal combustion residuals (CCR) unit identification (ID) number (No.) 501, Illinois Environmental Protection Agency (IEPA) ID No. W0798070001-01, and National Inventory of Dams (NID) No. IL50719.

As required by 35 I.A.C. § 845, an operating permit application for the PAP 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. Consistent with the compliance commitment agreements (CCA) entered into with other facility owners and IEPA on December 28, 2022, groundwater monitoring in accordance with the proposed groundwater monitoring plan and sampling methodologies provided in the operating permit application for the PAP 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). After the PAP 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:

- Chloride in APW15
- Lithium in APW02
- Sulfate in APW02, APW04, APW05S, and APW10
- Total Dissolved Solids (TDS) in APW02, APW04, and APW05S

An Alternative Source Demonstration (ASD) was submitted on October 6, 2023, for the chloride GWPS exceedance detected in well APW15 during the Quarter 2, 2023 sampling event. Additional data to support the ASD, based on communication between IPGC and IEPA, were submitted to IEPA on November 3, 2023. The ASD was denied by the IEPA on November 7, 2023 (**Attachment B**). Therefore, the chloride exceedance at APW15 will be addressed within the assessment of corrective measures (CMA) that was initiated on November 5, 2023 in accordance with 35 I.A.C. § 845.660. A CMA extension request was submitted to IEPA on November 6, 2023, and an addendum to the CMA extension request incorporating the chloride GWPS exceedance at APW15 was submitted to IEPA on November 30, 2023. The CMA extension request and addendum were approved on December 11, 2023 (**Attachment C**). 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 quarterly for statistical exceedances over background levels (**Attachment D**).

## 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 PAP located at NPP near Newton, 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 and 3**).
- 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 4 through 12**).
- 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 D**).
- 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 PAP for calendar year 2023.

## 2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

An operating permit application for the PAP 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. Consistent with the CCA entered into between other facility owners and IEPA, groundwater monitoring in accordance with the proposed groundwater monitoring plan and sampling methodologies provided in the operating permit application for the PAP commenced in the second quarter of 2023. After the PAP has been issued an approved operating permit, groundwater monitoring shall be conducted in accordance with that operating permit.

A construction permit application for the PAP was also submitted by Illinois Power Generating Company 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 PAP in 2023. An ASD was submitted and denied for the the GWPS exceedance of chloride at APW15 (**Attachment B**). Therefore, the chloride exceedance and the remaining GWPS exceedances will be addressed in accordance with 35 I.A.C. § 845.660. The CMA was initiated on November 5, 2023. A CMA extension request was submitted to IEPA on November 6, 2023, and an addendum to the CMA extension request incorporating the chloride GWPS exceedance at APW15 was submitted to IEPA on November 30, 2023. The CMA extension request and addendum were approved on December 11, 2023 (**Attachment C**). 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 4 through 12**.

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. 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, Quarter 3, and Quarter 4 (Ramboll, 2023; Ramboll, 2024a; Ramboll, 2024b); therefore, these reports are not attached to this annual report to avoid reproduction of lengthy data transmittals that have been previously provided in hardcopy.

**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	Exceedance Determination Date	ASD Completion Date	Required CMA Initiation Date <sup>4</sup>
E001	April 25 - 28, 2023	June 8, 2023	August 7, 2023	October 6, 2023	November 5, 2023
E002	July 24 – August 1, and August 17, 2023	November 9, 2023	January 8, 2024	TBD	NA
E003	October 10 - 11, 2023	November 17, 2023	January 16, 2024	TBD	NA

**Notes:**

ASD: Alternative Source Demonstration

CMA: Corrective Measures Assessment

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: APW05 and APW06

<sup>3</sup> The following compliance wells were sampled for each event: APW02, APW03, APW04, APW05S, APW07, APW08, APW09, APW10, APW11, APW12, APW13, APW14, APW15, APW16, APW17, and APW18.

<sup>4</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.

### 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 and 3**:

- Chloride in APW15
- Lithium in APW02
- Sulfate in APW02, APW04, APW05S, and APW10
- TDS in APW02, APW04, and APW05S

As allowed in 35 I.A.C. § 845.650(e), an ASD was submitted on October 6, 2023, for the chloride GWPS exceedance detected in well APW15 during the Quarter 2, 2023 sampling event. Additional data to support the ASD, based on communication between IPGC and IEPA, were submitted to IEPA on November 3, 2023. The ASD was denied by the IEPA on November 7, 2023 (**Attachment B**). Therefore, the chloride exceedance at APW15 and the other GWPS exceedances listed above will be addressed within the CMA that was initiated on November 5, 2023 in accordance with 35 I.A.C. § 845.660. A CMA extension request was submitted to IEPA on November 6, 2023, and an addendum to the CMA extension request incorporating the chloride GWPS exceedance at APW15 was submitted to IEPA on November 30, 2023. The CMA extension request and addendum were approved on December 11, 2023 (**Attachment C**). 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.

### 3.3 Exceedances of Background

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

## **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 PAP has been issued an approved operating permit, groundwater monitoring shall be conducted in accordance with that operating permit.

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. Pressure transducers were refurbished and were redeployed in January 2024.



## 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 PAP. After the PAP 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 to IEPA on November 6, 2023, and an addendum to the CMA extension request incorporating the chloride GWPS exceedance at APW15 was submitted to IEPA on November 30, 2023. The CMA extension request and addendum were approved on December 11, 2023. The CMA will be submitted to IEPA on or before April 3, 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. Primary Ash Pond. Newton Power Plant. Newton, Illinois.* 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, Primary Ash Pond, Newton Power Plant, Newton, Illinois.* August 7, 2023.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2024a. *35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, 2023 Quarter 3, Primary Ash Pond, Newton Power Plant, Newton, Illinois.* January 8, 2024.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2024b. *35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, 2023 Quarter 4, Primary Ash Pond, Newton Power Plant, Newton, Illinois.* January 16, 2024.

## **TABLES**

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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW05	Background	E001	04/27/2023	Antimony, total	0.00043 U	mg/L
APW05	Background	E001	04/27/2023	Arsenic, total	0.0300	mg/L
APW05	Background	E001	04/27/2023	Barium, total	0.250	mg/L
APW05	Background	E001	04/27/2023	Beryllium, total	0.00059 U	mg/L
APW05	Background	E001	04/27/2023	Boron, total	0.0920	mg/L
APW05	Background	E001	04/27/2023	Cadmium, total	0.00074 U	mg/L
APW05	Background	E001	04/27/2023	Calcium, total	49.0	mg/L
APW05	Background	E001	04/27/2023	Chloride, total	46.0	mg/L
APW05	Background	E001	04/27/2023	Chromium, total	0.0037 J	mg/L
APW05	Background	E001	04/27/2023	Cobalt, total	0.00048 J	mg/L
APW05	Background	E001	04/27/2023	Dissolved Oxygen	18.0	mg/L
APW05	Background	E001	04/27/2023	Fluoride, total	0.498	mg/L
APW05	Background	E001	04/27/2023	Lead, total	0.00068 J	mg/L
APW05	Background	E001	04/27/2023	Lithium, total	0.0087 J	mg/L
APW05	Background	E001	04/27/2023	Mercury, total	0.00014 U	mg/L
APW05	Background	E001	04/27/2023	Molybdenum, total	0.00910	mg/L
APW05	Background	E001	04/27/2023	Oxidation Reduction Potential	-124	mV
APW05	Background	E001	04/27/2023	Radium 226 + Radium 228, total	0.841	pCi/L
APW05	Background	E001	04/27/2023	Selenium, total	0.00074 U	mg/L
APW05	Background	E001	04/27/2023	Specific Conductance @ 25C (field)	819	micromhos/cm
APW05	Background	E001	04/27/2023	Sulfate, total	0.97 J	mg/L
APW05	Background	E001	04/27/2023	Temperature	14.5	degrees C
APW05	Background	E001	04/27/2023	Thallium, total	0.00038 U	mg/L
APW05	Background	E001	04/27/2023	Total Dissolved Solids	560	mg/L
APW05	Background	E001	04/27/2023	Turbidity, field	40.1	NTU
APW05	Background	E001	04/27/2023	pH (field)	7.1	SU
APW06	Background	E001	04/26/2023	Antimony, total	0.00043 U	mg/L
APW06	Background	E001	04/26/2023	Arsenic, total	0.00920	mg/L
APW06	Background	E001	04/26/2023	Barium, total	0.240	mg/L
APW06	Background	E001	04/26/2023	Beryllium, total	0.00059 U	mg/L
APW06	Background	E001	04/26/2023	Boron, total	0.0870 J+	mg/L
APW06	Background	E001	04/26/2023	Cadmium, total	0.00074 U	mg/L
APW06	Background	E001	04/26/2023	Calcium, total	58.0	mg/L
APW06	Background	E001	04/26/2023	Chloride, total	26.0	mg/L
APW06	Background	E001	04/26/2023	Chromium, total	0.00790 J+	mg/L
APW06	Background	E001	04/26/2023	Cobalt, total	0.0011 J	mg/L
APW06	Background	E001	04/26/2023	Dissolved Oxygen	11.0	mg/L
APW06	Background	E001	04/26/2023	Fluoride, total	0.489	mg/L
APW06	Background	E001	04/26/2023	Lead, total	0.00170	mg/L
APW06	Background	E001	04/26/2023	Lithium, total	0.012 J	mg/L
APW06	Background	E001	04/26/2023	Mercury, total	0.00019 J	mg/L
APW06	Background	E001	04/26/2023	Molybdenum, total	0.00770	mg/L
APW06	Background	E001	04/26/2023	Oxidation Reduction Potential	-128	mV
APW06	Background	E001	04/26/2023	Radium 226 + Radium 228, total	1.20	pCi/L
APW06	Background	E001	04/26/2023	Selenium, total	0.00074 U	mg/L
APW06	Background	E001	04/26/2023	Specific Conductance @ 25C (field)	796	micromhos/cm

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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW06	Background	E001	04/26/2023	Sulfate, total	7.60	mg/L
APW06	Background	E001	04/26/2023	Temperature	17.6	degrees C
APW06	Background	E001	04/26/2023	Thallium, total	0.00038 U	mg/L
APW06	Background	E001	04/26/2023	Total Dissolved Solids	500 J+	mg/L
APW06	Background	E001	04/26/2023	Turbidity, field	471	NTU
APW06	Background	E001	04/26/2023	pH (field)	7.3	SU
APW02	Compliance	E001	04/27/2023	Antimony, total	0.00043 U	mg/L
APW02	Compliance	E001	04/27/2023	Arsenic, total	0.00140	mg/L
APW02	Compliance	E001	04/27/2023	Barium, total	0.0240	mg/L
APW02	Compliance	E001	04/27/2023	Beryllium, total	0.00059 U	mg/L
APW02	Compliance	E001	04/27/2023	Boron, total	0.120 J+	mg/L
APW02	Compliance	E001	04/27/2023	Cadmium, total	0.00074 U	mg/L
APW02	Compliance	E001	04/27/2023	Calcium, total	460	mg/L
APW02	Compliance	E001	04/27/2023	Chloride, total	110	mg/L
APW02	Compliance	E001	04/27/2023	Chromium, total	0.00400	mg/L
APW02	Compliance	E001	04/27/2023	Cobalt, total	0.0012 J	mg/L
APW02	Compliance	E001	04/27/2023	Dissolved Oxygen	1.20	mg/L
APW02	Compliance	E001	04/27/2023	Fluoride, total	0.172 J	mg/L
APW02	Compliance	E001	04/27/2023	Lead, total	0.00039 J	mg/L
APW02	Compliance	E001	04/27/2023	Lithium, total	0.0980	mg/L
APW02	Compliance	E001	04/27/2023	Mercury, total	0.00018 J	mg/L
APW02	Compliance	E001	04/27/2023	Molybdenum, total	0.00160	mg/L
APW02	Compliance	E001	04/27/2023	Oxidation Reduction Potential	80.8	mV
APW02	Compliance	E001	04/27/2023	Radium 226 + Radium 228, total	0.768	pCi/L
APW02	Compliance	E001	04/27/2023	Selenium, total	0.00074 U	mg/L
APW02	Compliance	E001	04/27/2023	Specific Conductance @ 25C (field)	5,217	micromhos/cm
APW02	Compliance	E001	04/27/2023	Sulfate, total	3,100	mg/L
APW02	Compliance	E001	04/27/2023	Temperature	15.6	degrees C
APW02	Compliance	E001	04/27/2023	Thallium, total	0.00038 U	mg/L
APW02	Compliance	E001	04/27/2023	Total Dissolved Solids	5,400	mg/L
APW02	Compliance	E001	04/27/2023	Turbidity, field	25.0	NTU
APW02	Compliance	E001	04/27/2023	pH (field)	6.7	SU
APW03	Compliance	E001	04/25/2023	Antimony, total	0.00043 U	mg/L
APW03	Compliance	E001	04/25/2023	Arsenic, total	0.00069 U	mg/L
APW03	Compliance	E001	04/25/2023	Barium, total	0.0780	mg/L
APW03	Compliance	E001	04/25/2023	Beryllium, total	0.00059 U	mg/L
APW03	Compliance	E001	04/25/2023	Boron, total	0.370	mg/L
APW03	Compliance	E001	04/25/2023	Cadmium, total	0.00074 U	mg/L
APW03	Compliance	E001	04/25/2023	Calcium, total	96.0	mg/L
APW03	Compliance	E001	04/25/2023	Chloride, total	6.90	mg/L
APW03	Compliance	E001	04/25/2023	Chromium, total	0.00720	mg/L
APW03	Compliance	E001	04/25/2023	Cobalt, total	0.00048 U	mg/L
APW03	Compliance	E001	04/25/2023	Dissolved Oxygen	2.20	mg/L
APW03	Compliance	E001	04/25/2023	Fluoride, total	0.04 U	mg/L
APW03	Compliance	E001	04/25/2023	Lead, total	0.00022 U	mg/L
APW03	Compliance	E001	04/25/2023	Lithium, total	0.01 J	mg/L

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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW03	Compliance	E001	04/25/2023	Mercury, total	0.00014 U	mg/L
APW03	Compliance	E001	04/25/2023	Molybdenum, total	0.0008 J	mg/L
APW03	Compliance	E001	04/25/2023	Oxidation Reduction Potential	141	mV
APW03	Compliance	E001	04/25/2023	Radium 226 + Radium 228, total	1.02	pCi/L
APW03	Compliance	E001	04/25/2023	Selenium, total	0.00074 U	mg/L
APW03	Compliance	E001	04/25/2023	Specific Conductance @ 25C (field)	925	micromhos/cm
APW03	Compliance	E001	04/25/2023	Sulfate, total	120	mg/L
APW03	Compliance	E001	04/25/2023	Temperature	17.0	degrees C
APW03	Compliance	E001	04/25/2023	Thallium, total	0.00038 U	mg/L
APW03	Compliance	E001	04/25/2023	Total Dissolved Solids	740	mg/L
APW03	Compliance	E001	04/25/2023	Turbidity, field	0 U	NTU
APW03	Compliance	E001	04/25/2023	pH (field)	7.0	SU
APW04	Compliance	E001	04/25/2023	Antimony, total	0.00043 U	mg/L
APW04	Compliance	E001	04/25/2023	Arsenic, total	0.00089 J	mg/L
APW04	Compliance	E001	04/25/2023	Barium, total	0.0220	mg/L
APW04	Compliance	E001	04/25/2023	Beryllium, total	0.00059 U	mg/L
APW04	Compliance	E001	04/25/2023	Boron, total	0.0240	mg/L
APW04	Compliance	E001	04/25/2023	Cadmium, total	0.00074 U	mg/L
APW04	Compliance	E001	04/25/2023	Calcium, total	210	mg/L
APW04	Compliance	E001	04/25/2023	Chloride, total	34.0	mg/L
APW04	Compliance	E001	04/25/2023	Chromium, total	0.0440	mg/L
APW04	Compliance	E001	04/25/2023	Cobalt, total	0.00081 J	mg/L
APW04	Compliance	E001	04/25/2023	Dissolved Oxygen	0.930	mg/L
APW04	Compliance	E001	04/25/2023	Fluoride, total	0.051 J	mg/L
APW04	Compliance	E001	04/25/2023	Lead, total	0.00063 J	mg/L
APW04	Compliance	E001	04/25/2023	Lithium, total	0.018 J	mg/L
APW04	Compliance	E001	04/25/2023	Mercury, total	0.00014 U	mg/L
APW04	Compliance	E001	04/25/2023	Molybdenum, total	0.00180	mg/L
APW04	Compliance	E001	04/25/2023	Oxidation Reduction Potential	171	mV
APW04	Compliance	E001	04/25/2023	Radium 226 + Radium 228, total	1.00	pCi/L
APW04	Compliance	E001	04/25/2023	Selenium, total	0.00074 U	mg/L
APW04	Compliance	E001	04/25/2023	Specific Conductance @ 25C (field)	1,830	micromhos/cm
APW04	Compliance	E001	04/25/2023	Sulfate, total	840	mg/L
APW04	Compliance	E001	04/25/2023	Temperature	11.8	degrees C
APW04	Compliance	E001	04/25/2023	Thallium, total	0.00038 U	mg/L
APW04	Compliance	E001	04/25/2023	Total Dissolved Solids	1,800	mg/L
APW04	Compliance	E001	04/25/2023	Turbidity, field	178	NTU
APW04	Compliance	E001	04/25/2023	pH (field)	6.9	SU
APW05S	Compliance	E001	04/26/2023	Antimony, total	0.00043 U	mg/L
APW05S	Compliance	E001	04/26/2023	Arsenic, total	0.00093 J	mg/L
APW05S	Compliance	E001	04/26/2023	Barium, total	0.0350	mg/L
APW05S	Compliance	E001	04/26/2023	Beryllium, total	0.00059 U	mg/L
APW05S	Compliance	E001	04/26/2023	Boron, total	0.0540 J+	mg/L
APW05S	Compliance	E001	04/26/2023	Cadmium, total	0.00074 U	mg/L
APW05S	Compliance	E001	04/26/2023	Calcium, total	390	mg/L
APW05S	Compliance	E001	04/26/2023	Chloride, total	200	mg/L

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

845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW05S	Compliance	E001	04/26/2023	Chromium, total	0.0031 J+	mg/L
APW05S	Compliance	E001	04/26/2023	Cobalt, total	0.00083 J	mg/L
APW05S	Compliance	E001	04/26/2023	Dissolved Oxygen	3.50	mg/L
APW05S	Compliance	E001	04/26/2023	Fluoride, total	0.365	mg/L
APW05S	Compliance	E001	04/26/2023	Lead, total	0.00022 J	mg/L
APW05S	Compliance	E001	04/26/2023	Lithium, total	0.0330	mg/L
APW05S	Compliance	E001	04/26/2023	Mercury, total	0.00014 U	mg/L
APW05S	Compliance	E001	04/26/2023	Molybdenum, total	0.00130	mg/L
APW05S	Compliance	E001	04/26/2023	Oxidation Reduction Potential	97.0	mV
APW05S	Compliance	E001	04/26/2023	Radium 226 + Radium 228, total	0.141	pCi/L
APW05S	Compliance	E001	04/26/2023	Selenium, total	0.00074 U	mg/L
APW05S	Compliance	E001	04/26/2023	Specific Conductance @ 25C (field)	3,930	micromhos/cm
APW05S	Compliance	E001	04/26/2023	Sulfate, total	2,100	mg/L
APW05S	Compliance	E001	04/26/2023	Temperature	16.4	degrees C
APW05S	Compliance	E001	04/26/2023	Thallium, total	0.00038 U	mg/L
APW05S	Compliance	E001	04/26/2023	Total Dissolved Solids	3,800 J+	mg/L
APW05S	Compliance	E001	04/26/2023	Turbidity, field	220	NTU
APW05S	Compliance	E001	04/26/2023	pH (field)	6.6	SU
APW07	Compliance	E001	04/27/2023	Antimony, total	0.00043 U	mg/L
APW07	Compliance	E001	04/27/2023	Arsenic, total	0.0180	mg/L
APW07	Compliance	E001	04/27/2023	Barium, total	0.510	mg/L
APW07	Compliance	E001	04/27/2023	Beryllium, total	0.00059 U	mg/L
APW07	Compliance	E001	04/27/2023	Boron, total	0.0850 J+	mg/L
APW07	Compliance	E001	04/27/2023	Cadmium, total	0.00074 U	mg/L
APW07	Compliance	E001	04/27/2023	Calcium, total	100	mg/L
APW07	Compliance	E001	04/27/2023	Chloride, total	63.0	mg/L
APW07	Compliance	E001	04/27/2023	Chromium, total	0.0170	mg/L
APW07	Compliance	E001	04/27/2023	Cobalt, total	0.00360	mg/L
APW07	Compliance	E001	04/27/2023	Dissolved Oxygen	0.510	mg/L
APW07	Compliance	E001	04/27/2023	Fluoride, total	0.409	mg/L
APW07	Compliance	E001	04/27/2023	Lead, total	0.00550	mg/L
APW07	Compliance	E001	04/27/2023	Lithium, total	0.0058 J	mg/L
APW07	Compliance	E001	04/27/2023	Mercury, total	0.00014 U	mg/L
APW07	Compliance	E001	04/27/2023	Molybdenum, total	0.00340	mg/L
APW07	Compliance	E001	04/27/2023	Oxidation Reduction Potential	-116	mV
APW07	Compliance	E001	04/27/2023	Radium 226 + Radium 228, total	2.09	pCi/L
APW07	Compliance	E001	04/27/2023	Selenium, total	0.00074 U	mg/L
APW07	Compliance	E001	04/27/2023	Specific Conductance @ 25C (field)	1,051	micromhos/cm
APW07	Compliance	E001	04/27/2023	Sulfate, total	14.0	mg/L
APW07	Compliance	E001	04/27/2023	Temperature	14.5	degrees C
APW07	Compliance	E001	04/27/2023	Thallium, total	0.00038 U	mg/L
APW07	Compliance	E001	04/27/2023	Total Dissolved Solids	590	mg/L
APW07	Compliance	E001	04/27/2023	Turbidity, field	621	NTU
APW07	Compliance	E001	04/27/2023	pH (field)	7.4	SU
APW08	Compliance	E001	04/26/2023	Antimony, total	0.00043 U	mg/L
APW08	Compliance	E001	04/26/2023	Arsenic, total	0.0260	mg/L

**TABLE 1.**  
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845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW08	Compliance	E001	04/26/2023	Barium, total	0.470	mg/L
APW08	Compliance	E001	04/26/2023	Beryllium, total	0.00059 U	mg/L
APW08	Compliance	E001	04/26/2023	Boron, total	0.0870 J+	mg/L
APW08	Compliance	E001	04/26/2023	Cadmium, total	0.00074 U	mg/L
APW08	Compliance	E001	04/26/2023	Calcium, total	110	mg/L
APW08	Compliance	E001	04/26/2023	Chloride, total	58.0	mg/L
APW08	Compliance	E001	04/26/2023	Chromium, total	0.00760 J+	mg/L
APW08	Compliance	E001	04/26/2023	Cobalt, total	0.00220	mg/L
APW08	Compliance	E001	04/26/2023	Dissolved Oxygen	1.70	mg/L
APW08	Compliance	E001	04/26/2023	Fluoride, total	0.404	mg/L
APW08	Compliance	E001	04/26/2023	Lead, total	0.00330	mg/L
APW08	Compliance	E001	04/26/2023	Lithium, total	0.0057 J	mg/L
APW08	Compliance	E001	04/26/2023	Mercury, total	0.00015 J	mg/L
APW08	Compliance	E001	04/26/2023	Molybdenum, total	0.00440	mg/L
APW08	Compliance	E001	04/26/2023	Oxidation Reduction Potential	-118	mV
APW08	Compliance	E001	04/26/2023	Radium 226 + Radium 228, total	0.941	pCi/L
APW08	Compliance	E001	04/26/2023	Selenium, total	0.00074 U	mg/L
APW08	Compliance	E001	04/26/2023	Specific Conductance @ 25C (field)	1,100	micromhos/cm
APW08	Compliance	E001	04/26/2023	Sulfate, total	48.0	mg/L
APW08	Compliance	E001	04/26/2023	Temperature	14.2	degrees C
APW08	Compliance	E001	04/26/2023	Thallium, total	0.00038 U	mg/L
APW08	Compliance	E001	04/26/2023	Total Dissolved Solids	640 J+	mg/L
APW08	Compliance	E001	04/26/2023	Turbidity, field	17.7	NTU
APW08	Compliance	E001	04/26/2023	pH (field)	7.5	SU
APW09	Compliance	E001	04/27/2023	Antimony, total	0.00043 U	mg/L
APW09	Compliance	E001	04/27/2023	Arsenic, total	0.0290	mg/L
APW09	Compliance	E001	04/27/2023	Barium, total	0.430	mg/L
APW09	Compliance	E001	04/27/2023	Beryllium, total	0.00059 U	mg/L
APW09	Compliance	E001	04/27/2023	Boron, total	0.0990 J+	mg/L
APW09	Compliance	E001	04/27/2023	Cadmium, total	0.00074 U	mg/L
APW09	Compliance	E001	04/27/2023	Calcium, total	76.0	mg/L
APW09	Compliance	E001	04/27/2023	Chloride, total	130	mg/L
APW09	Compliance	E001	04/27/2023	Chromium, total	0.00420	mg/L
APW09	Compliance	E001	04/27/2023	Cobalt, total	0.00068 J	mg/L
APW09	Compliance	E001	04/27/2023	Dissolved Oxygen	0.470	mg/L
APW09	Compliance	E001	04/27/2023	Fluoride, total	0.482	mg/L
APW09	Compliance	E001	04/27/2023	Lead, total	0.00130	mg/L
APW09	Compliance	E001	04/27/2023	Lithium, total	0.0072 J	mg/L
APW09	Compliance	E001	04/27/2023	Mercury, total	0.00014 U	mg/L
APW09	Compliance	E001	04/27/2023	Molybdenum, total	0.00390	mg/L
APW09	Compliance	E001	04/27/2023	Oxidation Reduction Potential	-137	mV
APW09	Compliance	E001	04/27/2023	Radium 226 + Radium 228, total	2.00	pCi/L
APW09	Compliance	E001	04/27/2023	Selenium, total	0.00074 U	mg/L
APW09	Compliance	E001	04/27/2023	Specific Conductance @ 25C (field)	1,356	micromhos/cm
APW09	Compliance	E001	04/27/2023	Sulfate, total	9.40	mg/L
APW09	Compliance	E001	04/27/2023	Temperature	16.5	degrees C



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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW09	Compliance	E001	04/27/2023	Thallium, total	0.00038 U	mg/L
APW09	Compliance	E001	04/27/2023	Total Dissolved Solids	840	mg/L
APW09	Compliance	E001	04/27/2023	Turbidity, field	117	NTU
APW09	Compliance	E001	04/27/2023	pH (field)	7.5	SU
APW10	Compliance	E001	04/27/2023	Antimony, total	0.00043 U	mg/L
APW10	Compliance	E001	04/27/2023	Arsenic, total	0.00780	mg/L
APW10	Compliance	E001	04/27/2023	Barium, total	0.0260	mg/L
APW10	Compliance	E001	04/27/2023	Beryllium, total	0.00059 U	mg/L
APW10	Compliance	E001	04/27/2023	Boron, total	0.0770 J+	mg/L
APW10	Compliance	E001	04/27/2023	Cadmium, total	0.00074 U	mg/L
APW10	Compliance	E001	04/27/2023	Calcium, total	140	mg/L
APW10	Compliance	E001	04/27/2023	Chloride, total	46.0	mg/L
APW10	Compliance	E001	04/27/2023	Chromium, total	0.0028 U	mg/L
APW10	Compliance	E001	04/27/2023	Cobalt, total	0.00048 U	mg/L
APW10	Compliance	E001	04/27/2023	Dissolved Oxygen	3.40	mg/L
APW10	Compliance	E001	04/27/2023	Fluoride, total	0.217 J	mg/L
APW10	Compliance	E001	04/27/2023	Lead, total	0.00022 U	mg/L
APW10	Compliance	E001	04/27/2023	Lithium, total	0.018 J	mg/L
APW10	Compliance	E001	04/27/2023	Mercury, total	0.00014 U	mg/L
APW10	Compliance	E001	04/27/2023	Molybdenum, total	0.00650	mg/L
APW10	Compliance	E001	04/27/2023	Oxidation Reduction Potential	77.5	mV
APW10	Compliance	E001	04/27/2023	Radium 226 + Radium 228, total	0.316	pCi/L
APW10	Compliance	E001	04/27/2023	Selenium, total	0.00074 U	mg/L
APW10	Compliance	E001	04/27/2023	Specific Conductance @ 25C (field)	1,461	micromhos/cm
APW10	Compliance	E001	04/27/2023	Sulfate, total	410	mg/L
APW10	Compliance	E001	04/27/2023	Temperature	15.1	degrees C
APW10	Compliance	E001	04/27/2023	Thallium, total	0.00038 U	mg/L
APW10	Compliance	E001	04/27/2023	Total Dissolved Solids	1,100	mg/L
APW10	Compliance	E001	04/27/2023	Turbidity, field	0 U	NTU
APW10	Compliance	E001	04/27/2023	pH (field)	7.4	SU
APW11	Compliance	E001	04/26/2023	Antimony, total	0.00043 U	mg/L
APW11	Compliance	E001	04/26/2023	Arsenic, total	0.00440	mg/L
APW11	Compliance	E001	04/26/2023	Barium, total	0.0430	mg/L
APW11	Compliance	E001	04/26/2023	Beryllium, total	0.00059 U	mg/L
APW11	Compliance	E001	04/26/2023	Boron, total	0.0640 J+	mg/L
APW11	Compliance	E001	04/26/2023	Cadmium, total	0.00074 U	mg/L
APW11	Compliance	E001	04/26/2023	Calcium, total	120	mg/L
APW11	Compliance	E001	04/26/2023	Chloride, total	26.0	mg/L
APW11	Compliance	E001	04/26/2023	Chromium, total	0.00700 J+	mg/L
APW11	Compliance	E001	04/26/2023	Cobalt, total	0.00210	mg/L
APW11	Compliance	E001	04/26/2023	Dissolved Oxygen	0.640	mg/L
APW11	Compliance	E001	04/26/2023	Fluoride, total	0.283	mg/L
APW11	Compliance	E001	04/26/2023	Lead, total	0.00630	mg/L
APW11	Compliance	E001	04/26/2023	Lithium, total	0.0200	mg/L
APW11	Compliance	E001	04/26/2023	Mercury, total	0.00014 J	mg/L
APW11	Compliance	E001	04/26/2023	Molybdenum, total	0.00430	mg/L

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

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 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW11	Compliance	E001	04/26/2023	Oxidation Reduction Potential	-17.8	mV
APW11	Compliance	E001	04/26/2023	Radium 226 + Radium 228, total	2.17 J	pCi/L
APW11	Compliance	E001	04/26/2023	Selenium, total	0.00074 U	mg/L
APW11	Compliance	E001	04/26/2023	Specific Conductance @ 25C (field)	1,252	micromhos/cm
APW11	Compliance	E001	04/26/2023	Sulfate, total	260	mg/L
APW11	Compliance	E001	04/26/2023	Temperature	15.5	degrees C
APW11	Compliance	E001	04/26/2023	Thallium, total	0.00038 U	mg/L
APW11	Compliance	E001	04/26/2023	Total Dissolved Solids	920 J+	mg/L
APW11	Compliance	E001	04/26/2023	Turbidity, field	446	NTU
APW11	Compliance	E001	04/26/2023	pH (field)	7.2	SU
APW12	Compliance	E001	04/26/2023	Antimony, total	0.00043 U	mg/L
APW12	Compliance	E001	04/26/2023	Arsenic, total	0.00140	mg/L
APW12	Compliance	E001	04/26/2023	Barium, total	0.0280	mg/L
APW12	Compliance	E001	04/26/2023	Beryllium, total	0.00059 U	mg/L
APW12	Compliance	E001	04/26/2023	Boron, total	0.440	mg/L
APW12	Compliance	E001	04/26/2023	Cadmium, total	0.00074 U	mg/L
APW12	Compliance	E001	04/26/2023	Calcium, total	230	mg/L
APW12	Compliance	E001	04/26/2023	Chloride, total	23.0	mg/L
APW12	Compliance	E001	04/26/2023	Chromium, total	0.003 U	mg/L
APW12	Compliance	E001	04/26/2023	Cobalt, total	0.0012 J	mg/L
APW12	Compliance	E001	04/26/2023	Dissolved Oxygen	0.980	mg/L
APW12	Compliance	E001	04/26/2023	Fluoride, total	0.04 U	mg/L
APW12	Compliance	E001	04/26/2023	Lead, total	0.00022 U	mg/L
APW12	Compliance	E001	04/26/2023	Lithium, total	0.0240	mg/L
APW12	Compliance	E001	04/26/2023	Mercury, total	0.00014 U	mg/L
APW12	Compliance	E001	04/26/2023	Molybdenum, total	0.00074 U	mg/L
APW12	Compliance	E001	04/26/2023	Oxidation Reduction Potential	107	mV
APW12	Compliance	E001	04/26/2023	Radium 226 + Radium 228, total	0.0586	pCi/L
APW12	Compliance	E001	04/26/2023	Selenium, total	0.00074 U	mg/L
APW12	Compliance	E001	04/26/2023	Specific Conductance @ 25C (field)	1,831	micromhos/cm
APW12	Compliance	E001	04/26/2023	Sulfate, total	540	mg/L
APW12	Compliance	E001	04/26/2023	Temperature	14.6	degrees C
APW12	Compliance	E001	04/26/2023	Thallium, total	0.00038 U	mg/L
APW12	Compliance	E001	04/26/2023	Total Dissolved Solids	1,500 J+	mg/L
APW12	Compliance	E001	04/26/2023	Turbidity, field	0.520	NTU
APW12	Compliance	E001	04/26/2023	pH (field)	6.5	SU
APW13	Compliance	E001	04/27/2023	Antimony, total	0.00043 U	mg/L
APW13	Compliance	E001	04/27/2023	Arsenic, total	0.00400	mg/L
APW13	Compliance	E001	04/27/2023	Barium, total	0.0500	mg/L
APW13	Compliance	E001	04/27/2023	Beryllium, total	0.00059 U	mg/L
APW13	Compliance	E001	04/27/2023	Boron, total	0.110 J+	mg/L
APW13	Compliance	E001	04/27/2023	Cadmium, total	0.00074 U	mg/L
APW13	Compliance	E001	04/27/2023	Calcium, total	120	mg/L
APW13	Compliance	E001	04/27/2023	Chloride, total	51.0	mg/L
APW13	Compliance	E001	04/27/2023	Chromium, total	0.0028 U	mg/L
APW13	Compliance	E001	04/27/2023	Cobalt, total	0.00048 U	mg/L

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

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 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW13	Compliance	E001	04/27/2023	Dissolved Oxygen	1.60	mg/L
APW13	Compliance	E001	04/27/2023	Fluoride, total	0.394	mg/L
APW13	Compliance	E001	04/27/2023	Lead, total	0.00022 U	mg/L
APW13	Compliance	E001	04/27/2023	Lithium, total	0.0210	mg/L
APW13	Compliance	E001	04/27/2023	Mercury, total	0.00014 U	mg/L
APW13	Compliance	E001	04/27/2023	Molybdenum, total	0.00670	mg/L
APW13	Compliance	E001	04/27/2023	Oxidation Reduction Potential	-25.3	mV
APW13	Compliance	E001	04/27/2023	Radium 226 + Radium 228, total	0.651	pCi/L
APW13	Compliance	E001	04/27/2023	Selenium, total	0.00074 U	mg/L
APW13	Compliance	E001	04/27/2023	Specific Conductance @ 25C (field)	1,360	micromhos/cm
APW13	Compliance	E001	04/27/2023	Sulfate, total	250	mg/L
APW13	Compliance	E001	04/27/2023	Temperature	14.3	degrees C
APW13	Compliance	E001	04/27/2023	Thallium, total	0.00038 U	mg/L
APW13	Compliance	E001	04/27/2023	Total Dissolved Solids	940	mg/L
APW13	Compliance	E001	04/27/2023	Turbidity, field	0 U	NTU
APW13	Compliance	E001	04/27/2023	pH (field)	7.3	SU
APW14	Compliance	E001	04/28/2023	Antimony, total	0.00043 U	mg/L
APW14	Compliance	E001	04/28/2023	Arsenic, total	0.00550	mg/L
APW14	Compliance	E001	04/28/2023	Barium, total	0.0650	mg/L
APW14	Compliance	E001	04/28/2023	Beryllium, total	0.00059 U	mg/L
APW14	Compliance	E001	04/28/2023	Boron, total	0.100 J+	mg/L
APW14	Compliance	E001	04/28/2023	Cadmium, total	0.00074 U	mg/L
APW14	Compliance	E001	04/28/2023	Calcium, total	130	mg/L
APW14	Compliance	E001	04/28/2023	Chloride, total	46.0	mg/L
APW14	Compliance	E001	04/28/2023	Chromium, total	0.0028 U	mg/L
APW14	Compliance	E001	04/28/2023	Cobalt, total	0.00048 U	mg/L
APW14	Compliance	E001	04/28/2023	Dissolved Oxygen	1.20	mg/L
APW14	Compliance	E001	04/28/2023	Fluoride, total	0.243 J	mg/L
APW14	Compliance	E001	04/28/2023	Lead, total	0.00022 U	mg/L
APW14	Compliance	E001	04/28/2023	Lithium, total	0.016 J	mg/L
APW14	Compliance	E001	04/28/2023	Mercury, total	0.00014 U	mg/L
APW14	Compliance	E001	04/28/2023	Molybdenum, total	0.00400	mg/L
APW14	Compliance	E001	04/28/2023	Oxidation Reduction Potential	-95.0	mV
APW14	Compliance	E001	04/28/2023	Radium 226 + Radium 228, total	0.381 J	pCi/L
APW14	Compliance	E001	04/28/2023	Selenium, total	0.00074 U	mg/L
APW14	Compliance	E001	04/28/2023	Specific Conductance @ 25C (field)	1,480	micromhos/cm
APW14	Compliance	E001	04/28/2023	Sulfate, total	380	mg/L
APW14	Compliance	E001	04/28/2023	Temperature	14.8	degrees C
APW14	Compliance	E001	04/28/2023	Thallium, total	0.00038 U	mg/L
APW14	Compliance	E001	04/28/2023	Total Dissolved Solids	980	mg/L
APW14	Compliance	E001	04/28/2023	Turbidity, field	8.81	NTU
APW14	Compliance	E001	04/28/2023	pH (field)	7.3	SU
APW15	Compliance	E001	04/26/2023	Antimony, total	0.00043 U	mg/L
APW15	Compliance	E001	04/26/2023	Arsenic, total	0.0210	mg/L
APW15	Compliance	E001	04/26/2023	Barium, total	0.530	mg/L
APW15	Compliance	E001	04/26/2023	Beryllium, total	0.00059 U	mg/L

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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW15	Compliance	E001	04/26/2023	Boron, total	0.130	mg/L
APW15	Compliance	E001	04/26/2023	Cadmium, total	0.00074 U	mg/L
APW15	Compliance	E001	04/26/2023	Calcium, total	91.0	mg/L
APW15	Compliance	E001	04/26/2023	Chloride, total	270	mg/L
APW15	Compliance	E001	04/26/2023	Chromium, total	0.00640 J+	mg/L
APW15	Compliance	E001	04/26/2023	Cobalt, total	0.0011 J	mg/L
APW15	Compliance	E001	04/26/2023	Dissolved Oxygen	0.320	mg/L
APW15	Compliance	E001	04/26/2023	Fluoride, total	0.402	mg/L
APW15	Compliance	E001	04/26/2023	Lead, total	0.00120	mg/L
APW15	Compliance	E001	04/26/2023	Lithium, total	0.0064 J	mg/L
APW15	Compliance	E001	04/26/2023	Mercury, total	0.00014 U	mg/L
APW15	Compliance	E001	04/26/2023	Molybdenum, total	0.00650	mg/L
APW15	Compliance	E001	04/26/2023	Oxidation Reduction Potential	-126	mV
APW15	Compliance	E001	04/26/2023	Radium 226 + Radium 228, total	1.97	pCi/L
APW15	Compliance	E001	04/26/2023	Selenium, total	0.00074 U	mg/L
APW15	Compliance	E001	04/26/2023	Specific Conductance @ 25C (field)	1,682	micromhos/cm
APW15	Compliance	E001	04/26/2023	Sulfate, total	0.4 J	mg/L
APW15	Compliance	E001	04/26/2023	Temperature	15.3	degrees C
APW15	Compliance	E001	04/26/2023	Thallium, total	0.00038 U	mg/L
APW15	Compliance	E001	04/26/2023	Total Dissolved Solids	1,100 J+	mg/L
APW15	Compliance	E001	04/26/2023	Turbidity, field	51.6	NTU
APW15	Compliance	E001	04/26/2023	pH (field)	7.2	SU
APW16	Compliance	E001	04/25/2023	Antimony, total	0.00043 U	mg/L
APW16	Compliance	E001	04/25/2023	Arsenic, total	0.0210	mg/L
APW16	Compliance	E001	04/25/2023	Barium, total	0.540	mg/L
APW16	Compliance	E001	04/25/2023	Beryllium, total	0.00059 U	mg/L
APW16	Compliance	E001	04/25/2023	Boron, total	0.130	mg/L
APW16	Compliance	E001	04/25/2023	Cadmium, total	0.00074 U	mg/L
APW16	Compliance	E001	04/25/2023	Calcium, total	96.0	mg/L
APW16	Compliance	E001	04/25/2023	Chloride, total	71.0	mg/L
APW16	Compliance	E001	04/25/2023	Chromium, total	0.0028 U	mg/L
APW16	Compliance	E001	04/25/2023	Cobalt, total	0.00048 U	mg/L
APW16	Compliance	E001	04/25/2023	Dissolved Oxygen	1.20	mg/L
APW16	Compliance	E001	04/25/2023	Fluoride, total	0.606	mg/L
APW16	Compliance	E001	04/25/2023	Lead, total	0.00036 J	mg/L
APW16	Compliance	E001	04/25/2023	Lithium, total	0.005 U	mg/L
APW16	Compliance	E001	04/25/2023	Mercury, total	0.00014 U	mg/L
APW16	Compliance	E001	04/25/2023	Molybdenum, total	0.00074 U	mg/L
APW16	Compliance	E001	04/25/2023	Oxidation Reduction Potential	-104	mV
APW16	Compliance	E001	04/25/2023	Radium 226 + Radium 228, total	2.05	pCi/L
APW16	Compliance	E001	04/25/2023	Selenium, total	0.00074 U	mg/L
APW16	Compliance	E001	04/25/2023	Specific Conductance @ 25C (field)	953	micromhos/cm
APW16	Compliance	E001	04/25/2023	Sulfate, total	0.65 J	mg/L
APW16	Compliance	E001	04/25/2023	Temperature	14.0	degrees C
APW16	Compliance	E001	04/25/2023	Thallium, total	0.00038 U	mg/L
APW16	Compliance	E001	04/25/2023	Total Dissolved Solids	800	mg/L

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

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 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW16	Compliance	E001	04/25/2023	Turbidity, field	0.210	NTU
APW16	Compliance	E001	04/25/2023	pH (field)	7.7	SU
APW17	Compliance	E001	04/25/2023	Antimony, total	0.00043 U	mg/L
APW17	Compliance	E001	04/25/2023	Arsenic, total	0.0200	mg/L
APW17	Compliance	E001	04/25/2023	Barium, total	0.550	mg/L
APW17	Compliance	E001	04/25/2023	Beryllium, total	0.00059 U	mg/L
APW17	Compliance	E001	04/25/2023	Boron, total	0.0830	mg/L
APW17	Compliance	E001	04/25/2023	Cadmium, total	0.00074 U	mg/L
APW17	Compliance	E001	04/25/2023	Calcium, total	110	mg/L
APW17	Compliance	E001	04/25/2023	Chloride, total	56.0	mg/L
APW17	Compliance	E001	04/25/2023	Chromium, total	0.0028 U	mg/L
APW17	Compliance	E001	04/25/2023	Cobalt, total	0.00048 U	mg/L
APW17	Compliance	E001	04/25/2023	Dissolved Oxygen	1.20	mg/L
APW17	Compliance	E001	04/25/2023	Fluoride, total	0.483	mg/L
APW17	Compliance	E001	04/25/2023	Lead, total	0.00022 U	mg/L
APW17	Compliance	E001	04/25/2023	Lithium, total	0.005 U	mg/L
APW17	Compliance	E001	04/25/2023	Mercury, total	0.00014 U	mg/L
APW17	Compliance	E001	04/25/2023	Molybdenum, total	0.00530	mg/L
APW17	Compliance	E001	04/25/2023	Oxidation Reduction Potential	-97.2	mV
APW17	Compliance	E001	04/25/2023	Radium 226 + Radium 228, total	1.42	pCi/L
APW17	Compliance	E001	04/25/2023	Selenium, total	0.00074 U	mg/L
APW17	Compliance	E001	04/25/2023	Specific Conductance @ 25C (field)	1,162	micromhos/cm
APW17	Compliance	E001	04/25/2023	Sulfate, total	52.0	mg/L
APW17	Compliance	E001	04/25/2023	Temperature	15.2	degrees C
APW17	Compliance	E001	04/25/2023	Thallium, total	0.00038 U	mg/L
APW17	Compliance	E001	04/25/2023	Total Dissolved Solids	700	mg/L
APW17	Compliance	E001	04/25/2023	Turbidity, field	3.82	NTU
APW17	Compliance	E001	04/25/2023	pH (field)	7.6	SU
APW18	Compliance	E001	04/25/2023	Antimony, total	0.00043 U	mg/L
APW18	Compliance	E001	04/25/2023	Arsenic, total	0.00270	mg/L
APW18	Compliance	E001	04/25/2023	Barium, total	0.350	mg/L
APW18	Compliance	E001	04/25/2023	Beryllium, total	0.00059 U	mg/L
APW18	Compliance	E001	04/25/2023	Boron, total	0.100	mg/L
APW18	Compliance	E001	04/25/2023	Cadmium, total	0.00074 U	mg/L
APW18	Compliance	E001	04/25/2023	Calcium, total	75.0	mg/L
APW18	Compliance	E001	04/25/2023	Chloride, total	24.0	mg/L
APW18	Compliance	E001	04/25/2023	Chromium, total	0.0028 U	mg/L
APW18	Compliance	E001	04/25/2023	Cobalt, total	0.00048 U	mg/L
APW18	Compliance	E001	04/25/2023	Dissolved Oxygen	1.00	mg/L
APW18	Compliance	E001	04/25/2023	Fluoride, total	0.518	mg/L
APW18	Compliance	E001	04/25/2023	Lead, total	0.00022 U	mg/L
APW18	Compliance	E001	04/25/2023	Lithium, total	0.0052 J	mg/L
APW18	Compliance	E001	04/25/2023	Mercury, total	0.00014 U	mg/L
APW18	Compliance	E001	04/25/2023	Molybdenum, total	0.00290	mg/L
APW18	Compliance	E001	04/25/2023	Oxidation Reduction Potential	-137	mV
APW18	Compliance	E001	04/25/2023	Radium 226 + Radium 228, total	1.33	pCi/L

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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW18	Compliance	E001	04/25/2023	Selenium, total	0.00074 U	mg/L
APW18	Compliance	E001	04/25/2023	Specific Conductance @ 25C (field)	1,012	micromhos/cm
APW18	Compliance	E001	04/25/2023	Sulfate, total	52.0	mg/L
APW18	Compliance	E001	04/25/2023	Temperature	15.2	degrees C
APW18	Compliance	E001	04/25/2023	Thallium, total	0.00038 U	mg/L
APW18	Compliance	E001	04/25/2023	Total Dissolved Solids	660	mg/L
APW18	Compliance	E001	04/25/2023	Turbidity, field	5.01	NTU
APW18	Compliance	E001	04/25/2023	pH (field)	7.8	SU

**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  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW05	Background	E002	07/24/2023	Antimony, total	0.0004 U	mg/L
APW05	Background	E002	07/24/2023	Arsenic, total	0.0293	mg/L
APW05	Background	E002	07/24/2023	Barium, total	0.312	mg/L
APW05	Background	E002	07/24/2023	Beryllium, total	0.0002 U	mg/L
APW05	Background	E002	07/24/2023	Boron, total	0.108	mg/L
APW05	Background	E002	07/24/2023	Cadmium, total	0.0002 U	mg/L
APW05	Background	E002	07/24/2023	Calcium, total	50.4	mg/L
APW05	Background	E002	07/24/2023	Chloride, total	46.0	mg/L
APW05	Background	E002	07/24/2023	Chromium, total	0.0013 J	mg/L
APW05	Background	E002	07/24/2023	Cobalt, total	0.001 UJ	mg/L
APW05	Background	E002	07/24/2023	Dissolved Oxygen	0.360	mg/L
APW05	Background	E002	07/24/2023	Fluoride, total	0.480	mg/L
APW05	Background	E002	07/24/2023	Lead, total	0.0006 U	mg/L
APW05	Background	E002	07/24/2023	Lithium, total	0.00880	mg/L
APW05	Background	E002	07/24/2023	Mercury, total	0.00006 U	mg/L
APW05	Background	E002	07/24/2023	Molybdenum, total	0.0114	mg/L
APW05	Background	E002	07/24/2023	Oxidation Reduction Potential	-88.0	mV
APW05	Background	E002	07/24/2023	pH (field)	8.0	SU
APW05	Background	E002	07/24/2023	Radium 226 + Radium 228, total	0.522	pCi/L
APW05	Background	E002	07/24/2023	Selenium, total	0.0006 U	mg/L
APW05	Background	E002	07/24/2023	Specific Conductance @ 25C (field)	1,030	micromhos/cm
APW05	Background	E002	07/24/2023	Sulfate, total	10.0 J+	mg/L
APW05	Background	E002	07/24/2023	Temperature	15.6	degrees C
APW05	Background	E002	07/24/2023	Thallium, total	0.001 U	mg/L
APW05	Background	E002	07/24/2023	Total Dissolved Solids	550	mg/L
APW05	Background	E002	07/24/2023	Turbidity, field	14.0	NTU
APW06	Background	E002	07/25/2023	Antimony, total	0.0004 U	mg/L
APW06	Background	E002	07/25/2023	Arsenic, total	0.00470	mg/L
APW06	Background	E002	07/25/2023	Barium, total	0.254	mg/L
APW06	Background	E002	07/25/2023	Beryllium, total	0.0002 U	mg/L
APW06	Background	E002	07/25/2023	Boron, total	0.605	mg/L
APW06	Background	E002	07/25/2023	Cadmium, total	0.0002 U	mg/L
APW06	Background	E002	07/25/2023	Calcium, total	53.7	mg/L
APW06	Background	E002	07/25/2023	Chloride, total	24.0	mg/L
APW06	Background	E002	07/25/2023	Chromium, total	0.0009 J	mg/L
APW06	Background	E002	07/25/2023	Cobalt, total	0.001 UJ	mg/L
APW06	Background	E002	07/25/2023	Dissolved Oxygen	0.390	mg/L
APW06	Background	E002	07/25/2023	Fluoride, total	0.580	mg/L
APW06	Background	E002	07/25/2023	Lead, total	0.0006 U	mg/L
APW06	Background	E002	07/25/2023	Lithium, total	0.00960	mg/L
APW06	Background	E002	07/25/2023	Mercury, total	0.00013 J	mg/L
APW06	Background	E002	07/25/2023	Molybdenum, total	0.00710	mg/L
APW06	Background	E002	07/25/2023	Oxidation Reduction Potential	22.0	mV
APW06	Background	E002	07/25/2023	pH (field)	7.7	SU
APW06	Background	E002	07/25/2023	Radium 226 + Radium 228, total	1.12	pCi/L
APW06	Background	E002	07/25/2023	Selenium, total	0.0006 U	mg/L

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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW06	Background	E002	07/25/2023	Specific Conductance @ 25C (field)	647	micromhos/cm
APW06	Background	E002	07/25/2023	Sulfate, total	17.0 J+	mg/L
APW06	Background	E002	07/25/2023	Temperature	14.5	degrees C
APW06	Background	E002	07/25/2023	Thallium, total	0.001 U	mg/L
APW06	Background	E002	07/25/2023	Total Dissolved Solids	540	mg/L
APW06	Background	E002	07/25/2023	Turbidity, field	18.0	NTU
APW02	Compliance	E002	08/17/2023	Antimony, total	0.0004 U	mg/L
APW02	Compliance	E002	08/17/2023	Arsenic, total	0.0009 J	mg/L
APW02	Compliance	E002	08/17/2023	Barium, total	0.00760	mg/L
APW02	Compliance	E002	08/17/2023	Beryllium, total	0.0004 J	mg/L
APW02	Compliance	E002	08/17/2023	Boron, total	0.189	mg/L
APW02	Compliance	E002	08/17/2023	Cadmium, total	0.0002 U	mg/L
APW02	Compliance	E002	08/17/2023	Calcium, total	475	mg/L
APW02	Compliance	E002	08/17/2023	Chloride, total	102	mg/L
APW02	Compliance	E002	08/17/2023	Chromium, total	0.00220	mg/L
APW02	Compliance	E002	08/17/2023	Cobalt, total	0.00160 J+	mg/L
APW02	Compliance	E002	08/17/2023	Dissolved Oxygen	1.60	mg/L
APW02	Compliance	E002	08/17/2023	Fluoride, total	0.210	mg/L
APW02	Compliance	E002	08/17/2023	Lead, total	0.0006 U	mg/L
APW02	Compliance	E002	08/17/2023	Lithium, total	0.190 J	mg/L
APW02	Compliance	E002	08/17/2023	Mercury, total	0.00008 U	mg/L
APW02	Compliance	E002	08/17/2023	Molybdenum, total	0.00150	mg/L
APW02	Compliance	E002	08/17/2023	Oxidation Reduction Potential	93.0	mV
APW02	Compliance	E002	08/17/2023	pH (field)	6.7	SU
APW02	Compliance	E002	08/17/2023	Radium 226 + Radium 228, total	1.2 J	pCi/L
APW02	Compliance	E002	08/17/2023	Selenium, total	0.0006 U	mg/L
APW02	Compliance	E002	08/17/2023	Specific Conductance @ 25C (field)	8,440	micromhos/cm
APW02	Compliance	E002	08/17/2023	Sulfate, total	2,860	mg/L
APW02	Compliance	E002	08/17/2023	Temperature	17.5	degrees C
APW02	Compliance	E002	08/17/2023	Thallium, total	0.001 U	mg/L
APW02	Compliance	E002	08/17/2023	Total Dissolved Solids	3,660	mg/L
APW02	Compliance	E002	08/17/2023	Turbidity, field	17.0	NTU
APW03	Compliance	E002	07/31/2023	Antimony, total	0.0004 U	mg/L
APW03	Compliance	E002	07/31/2023	Arsenic, total	0.0007 J	mg/L
APW03	Compliance	E002	07/31/2023	Barium, total	0.0942	mg/L
APW03	Compliance	E002	07/31/2023	Beryllium, total	0.0002 U	mg/L
APW03	Compliance	E002	07/31/2023	Boron, total	0.538	mg/L
APW03	Compliance	E002	07/31/2023	Cadmium, total	0.0002 U	mg/L
APW03	Compliance	E002	07/31/2023	Calcium, total	96.5	mg/L
APW03	Compliance	E002	07/31/2023	Chloride, total	10.0	mg/L
APW03	Compliance	E002	07/31/2023	Chromium, total	0.0014 J	mg/L
APW03	Compliance	E002	07/31/2023	Cobalt, total	0.001 UJ	mg/L
APW03	Compliance	E002	07/31/2023	Dissolved Oxygen	0.750	mg/L
APW03	Compliance	E002	07/31/2023	Fluoride, total	0.230	mg/L
APW03	Compliance	E002	07/31/2023	Lead, total	0.0006 U	mg/L
APW03	Compliance	E002	07/31/2023	Lithium, total	0.0139	mg/L



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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW03	Compliance	E002	07/31/2023	Mercury, total	0.00006 U	mg/L
APW03	Compliance	E002	07/31/2023	Molybdenum, total	0.0013 J	mg/L
APW03	Compliance	E002	07/31/2023	Oxidation Reduction Potential	64.0	mV
APW03	Compliance	E002	07/31/2023	pH (field)	6.8	SU
APW03	Compliance	E002	07/31/2023	Radium 226 + Radium 228, total	0.698	pCi/L
APW03	Compliance	E002	07/31/2023	Selenium, total	0.0006 U	mg/L
APW03	Compliance	E002	07/31/2023	Sulfate, total	118	mg/L
APW03	Compliance	E002	07/31/2023	Temperature	16.5	degrees C
APW03	Compliance	E002	07/31/2023	Thallium, total	0.001 U	mg/L
APW03	Compliance	E002	07/31/2023	Total Dissolved Solids	620	mg/L
APW03	Compliance	E002	07/31/2023	Turbidity, field	5.60	NTU
APW04	Compliance	E002	07/31/2023	Antimony, total	0.0005 J	mg/L
APW04	Compliance	E002	07/31/2023	Arsenic, total	0.0009 J	mg/L
APW04	Compliance	E002	07/31/2023	Barium, total	0.0247	mg/L
APW04	Compliance	E002	07/31/2023	Beryllium, total	0.0002 U	mg/L
APW04	Compliance	E002	07/31/2023	Boron, total	0.0402	mg/L
APW04	Compliance	E002	07/31/2023	Cadmium, total	0.0002 U	mg/L
APW04	Compliance	E002	07/31/2023	Calcium, total	211	mg/L
APW04	Compliance	E002	07/31/2023	Chloride, total	36.0	mg/L
APW04	Compliance	E002	07/31/2023	Chromium, total	0.0121	mg/L
APW04	Compliance	E002	07/31/2023	Cobalt, total	0.001 UJ	mg/L
APW04	Compliance	E002	07/31/2023	Dissolved Oxygen	0.680	mg/L
APW04	Compliance	E002	07/31/2023	Fluoride, total	0.180	mg/L
APW04	Compliance	E002	07/31/2023	Lead, total	0.0006 U	mg/L
APW04	Compliance	E002	07/31/2023	Lithium, total	0.0225	mg/L
APW04	Compliance	E002	07/31/2023	Mercury, total	0.00006 U	mg/L
APW04	Compliance	E002	07/31/2023	Molybdenum, total	0.0014 J	mg/L
APW04	Compliance	E002	07/31/2023	Oxidation Reduction Potential	92.0	mV
APW04	Compliance	E002	07/31/2023	pH (field)	6.6	SU
APW04	Compliance	E002	07/31/2023	Radium 226 + Radium 228, total	0.749	pCi/L
APW04	Compliance	E002	07/31/2023	Selenium, total	0.0006 U	mg/L
APW04	Compliance	E002	07/31/2023	Sulfate, total	808	mg/L
APW04	Compliance	E002	07/31/2023	Temperature	18.9	degrees C
APW04	Compliance	E002	07/31/2023	Thallium, total	0.001 U	mg/L
APW04	Compliance	E002	07/31/2023	Total Dissolved Solids	1,770	mg/L
APW04	Compliance	E002	07/31/2023	Turbidity, field	8.00	NTU
APW05S	Compliance	E002	07/25/2023	Antimony, total	0.0004 U	mg/L
APW05S	Compliance	E002	07/25/2023	Arsenic, total	0.0009 J	mg/L
APW05S	Compliance	E002	07/25/2023	Barium, total	0.0328	mg/L
APW05S	Compliance	E002	07/25/2023	Beryllium, total	0.0002 U	mg/L
APW05S	Compliance	E002	07/25/2023	Boron, total	0.209	mg/L
APW05S	Compliance	E002	07/25/2023	Cadmium, total	0.0002 U	mg/L
APW05S	Compliance	E002	07/25/2023	Calcium, total	355	mg/L
APW05S	Compliance	E002	07/25/2023	Chloride, total	123	mg/L
APW05S	Compliance	E002	07/25/2023	Chromium, total	0.0011 J	mg/L
APW05S	Compliance	E002	07/25/2023	Cobalt, total	0.00200	mg/L

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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW05S	Compliance	E002	07/25/2023	Dissolved Oxygen	0.310	mg/L
APW05S	Compliance	E002	07/25/2023	Fluoride, total	0.410	mg/L
APW05S	Compliance	E002	07/25/2023	Lead, total	0.0006 U	mg/L
APW05S	Compliance	E002	07/25/2023	Lithium, total	0.0350	mg/L
APW05S	Compliance	E002	07/25/2023	Mercury, total	0.00006 U	mg/L
APW05S	Compliance	E002	07/25/2023	Molybdenum, total	0.0013 J	mg/L
APW05S	Compliance	E002	07/25/2023	Oxidation Reduction Potential	36.0	mV
APW05S	Compliance	E002	07/25/2023	pH (field)	6.9	SU
APW05S	Compliance	E002	07/25/2023	Radium 226 + Radium 228, total	0.706	pCi/L
APW05S	Compliance	E002	07/25/2023	Selenium, total	0.0006 U	mg/L
APW05S	Compliance	E002	07/25/2023	Sulfate, total	1,790	mg/L
APW05S	Compliance	E002	07/25/2023	Temperature	19.5	degrees C
APW05S	Compliance	E002	07/25/2023	Thallium, total	0.001 U	mg/L
APW05S	Compliance	E002	07/25/2023	Total Dissolved Solids	3,200	mg/L
APW05S	Compliance	E002	07/25/2023	Turbidity, field	50.0	NTU
APW07	Compliance	E002	07/25/2023	Antimony, total	0.0004 U	mg/L
APW07	Compliance	E002	07/25/2023	Arsenic, total	0.0146	mg/L
APW07	Compliance	E002	07/25/2023	Barium, total	0.519	mg/L
APW07	Compliance	E002	07/25/2023	Beryllium, total	0.0002 U	mg/L
APW07	Compliance	E002	07/25/2023	Boron, total	0.144	mg/L
APW07	Compliance	E002	07/25/2023	Cadmium, total	0.0002 U	mg/L
APW07	Compliance	E002	07/25/2023	Calcium, total	90.4	mg/L
APW07	Compliance	E002	07/25/2023	Chloride, total	62.0	mg/L
APW07	Compliance	E002	07/25/2023	Chromium, total	0.00150 J	mg/L
APW07	Compliance	E002	07/25/2023	Cobalt, total	0.001 UJ	mg/L
APW07	Compliance	E002	07/25/2023	Dissolved Oxygen	9.50	mg/L
APW07	Compliance	E002	07/25/2023	Fluoride, total	0.430	mg/L
APW07	Compliance	E002	07/25/2023	Lead, total	0.0007 J	mg/L
APW07	Compliance	E002	07/25/2023	Lithium, total	0.00340	mg/L
APW07	Compliance	E002	07/25/2023	Mercury, total	0.00006 U	mg/L
APW07	Compliance	E002	07/25/2023	Molybdenum, total	0.00200	mg/L
APW07	Compliance	E002	07/25/2023	Oxidation Reduction Potential	33.0	mV
APW07	Compliance	E002	07/25/2023	pH (field)	7.3	SU
APW07	Compliance	E002	07/25/2023	Radium 226 + Radium 228, total	3.03	pCi/L
APW07	Compliance	E002	07/25/2023	Selenium, total	0.0006 U	mg/L
APW07	Compliance	E002	07/25/2023	Sulfate, total	23.0 J+	mg/L
APW07	Compliance	E002	07/25/2023	Temperature	15.8	degrees C
APW07	Compliance	E002	07/25/2023	Thallium, total	0.001 U	mg/L
APW07	Compliance	E002	07/25/2023	Total Dissolved Solids	605	mg/L
APW07	Compliance	E002	07/25/2023	Turbidity, field	390	NTU
APW08	Compliance	E002	07/31/2023	Antimony, total	0.0004 U	mg/L
APW08	Compliance	E002	07/31/2023	Arsenic, total	0.0308	mg/L
APW08	Compliance	E002	07/31/2023	Barium, total	0.651	mg/L
APW08	Compliance	E002	07/31/2023	Beryllium, total	0.0002 U	mg/L
APW08	Compliance	E002	07/31/2023	Boron, total	0.114	mg/L
APW08	Compliance	E002	07/31/2023	Cadmium, total	0.0002 U	mg/L

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

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 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW08	Compliance	E002	07/31/2023	Calcium, total	102	mg/L
APW08	Compliance	E002	07/31/2023	Chloride, total	56.0	mg/L
APW08	Compliance	E002	07/31/2023	Chromium, total	0.00180	mg/L
APW08	Compliance	E002	07/31/2023	Cobalt, total	0.001 UJ	mg/L
APW08	Compliance	E002	07/31/2023	Dissolved Oxygen	0.950	mg/L
APW08	Compliance	E002	07/31/2023	Fluoride, total	0.440	mg/L
APW08	Compliance	E002	07/31/2023	Lead, total	0.0007 J	mg/L
APW08	Compliance	E002	07/31/2023	Lithium, total	0.0027 J	mg/L
APW08	Compliance	E002	07/31/2023	Mercury, total	0.00006 U	mg/L
APW08	Compliance	E002	07/31/2023	Molybdenum, total	0.00520	mg/L
APW08	Compliance	E002	07/31/2023	Oxidation Reduction Potential	94.0	mV
APW08	Compliance	E002	07/31/2023	pH (field)	7.1	SU
APW08	Compliance	E002	07/31/2023	Radium 226 + Radium 228, total	0.779	pCi/L
APW08	Compliance	E002	07/31/2023	Selenium, total	0.0006 U	mg/L
APW08	Compliance	E002	07/31/2023	Sulfate, total	53.0 J+	mg/L
APW08	Compliance	E002	07/31/2023	Temperature	17.5	degrees C
APW08	Compliance	E002	07/31/2023	Thallium, total	0.001 U	mg/L
APW08	Compliance	E002	07/31/2023	Total Dissolved Solids	600	mg/L
APW08	Compliance	E002	07/31/2023	Turbidity, field	11.0	NTU
APW09	Compliance	E002	07/31/2023	Antimony, total	0.0007 J	mg/L
APW09	Compliance	E002	07/31/2023	Arsenic, total	0.0355	mg/L
APW09	Compliance	E002	07/31/2023	Barium, total	0.564	mg/L
APW09	Compliance	E002	07/31/2023	Beryllium, total	0.0002 U	mg/L
APW09	Compliance	E002	07/31/2023	Boron, total	0.121	mg/L
APW09	Compliance	E002	07/31/2023	Cadmium, total	0.0002 U	mg/L
APW09	Compliance	E002	07/31/2023	Calcium, total	78.4	mg/L
APW09	Compliance	E002	07/31/2023	Chloride, total	134	mg/L
APW09	Compliance	E002	07/31/2023	Chromium, total	0.0013 J	mg/L
APW09	Compliance	E002	07/31/2023	Cobalt, total	0.001 UJ	mg/L
APW09	Compliance	E002	07/31/2023	Dissolved Oxygen	0.470	mg/L
APW09	Compliance	E002	07/31/2023	Fluoride, total	0.500	mg/L
APW09	Compliance	E002	07/31/2023	Lead, total	0.0006 U	mg/L
APW09	Compliance	E002	07/31/2023	Lithium, total	0.00750	mg/L
APW09	Compliance	E002	07/31/2023	Mercury, total	0.00006 U	mg/L
APW09	Compliance	E002	07/31/2023	Molybdenum, total	0.00420	mg/L
APW09	Compliance	E002	07/31/2023	Oxidation Reduction Potential	91.0	mV
APW09	Compliance	E002	07/31/2023	pH (field)	7.2	SU
APW09	Compliance	E002	07/31/2023	Radium 226 + Radium 228, total	1.57	pCi/L
APW09	Compliance	E002	07/31/2023	Selenium, total	0.0006 U	mg/L
APW09	Compliance	E002	07/31/2023	Sulfate, total	19.0 J+	mg/L
APW09	Compliance	E002	07/31/2023	Temperature	17.9	degrees C
APW09	Compliance	E002	07/31/2023	Thallium, total	0.001 U	mg/L
APW09	Compliance	E002	07/31/2023	Total Dissolved Solids	805	mg/L
APW09	Compliance	E002	07/31/2023	Turbidity, field	5.00	NTU
APW10	Compliance	E002	07/31/2023	Antimony, total	0.0004 U	mg/L
APW10	Compliance	E002	07/31/2023	Arsenic, total	0.00940	mg/L

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

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW10	Compliance	E002	07/31/2023	Barium, total	0.0326	mg/L
APW10	Compliance	E002	07/31/2023	Beryllium, total	0.0002 U	mg/L
APW10	Compliance	E002	07/31/2023	Boron, total	0.0923	mg/L
APW10	Compliance	E002	07/31/2023	Cadmium, total	0.0002 U	mg/L
APW10	Compliance	E002	07/31/2023	Calcium, total	140	mg/L
APW10	Compliance	E002	07/31/2023	Chloride, total	45.0	mg/L
APW10	Compliance	E002	07/31/2023	Chromium, total	0.0011 J	mg/L
APW10	Compliance	E002	07/31/2023	Cobalt, total	0.001 UJ	mg/L
APW10	Compliance	E002	07/31/2023	Dissolved Oxygen	1.58	mg/L
APW10	Compliance	E002	07/31/2023	Fluoride, total	0.320	mg/L
APW10	Compliance	E002	07/31/2023	Lead, total	0.0006 U	mg/L
APW10	Compliance	E002	07/31/2023	Lithium, total	0.0215	mg/L
APW10	Compliance	E002	07/31/2023	Mercury, total	0.00006 U	mg/L
APW10	Compliance	E002	07/31/2023	Molybdenum, total	0.00830	mg/L
APW10	Compliance	E002	07/31/2023	Oxidation Reduction Potential	104	mV
APW10	Compliance	E002	07/31/2023	pH (field)	7.1	SU
APW10	Compliance	E002	07/31/2023	Radium 226 + Radium 228, total	0.588	pCi/L
APW10	Compliance	E002	07/31/2023	Selenium, total	0.0006 U	mg/L
APW10	Compliance	E002	07/31/2023	Sulfate, total	421	mg/L
APW10	Compliance	E002	07/31/2023	Temperature	17.1	degrees C
APW10	Compliance	E002	07/31/2023	Thallium, total	0.001 U	mg/L
APW10	Compliance	E002	07/31/2023	Total Dissolved Solids	1,060	mg/L
APW10	Compliance	E002	07/31/2023	Turbidity, field	4.20	NTU
APW11	Compliance	E002	07/24/2023	Antimony, total	0.0004 U	mg/L
APW11	Compliance	E002	07/24/2023	Arsenic, total	0.00540	mg/L
APW11	Compliance	E002	07/24/2023	Barium, total	0.0492	mg/L
APW11	Compliance	E002	07/24/2023	Beryllium, total	0.0002 U	mg/L
APW11	Compliance	E002	07/24/2023	Boron, total	0.0646	mg/L
APW11	Compliance	E002	07/24/2023	Cadmium, total	0.0002 U	mg/L
APW11	Compliance	E002	07/24/2023	Calcium, total	122	mg/L
APW11	Compliance	E002	07/24/2023	Chloride, total	25.0	mg/L
APW11	Compliance	E002	07/24/2023	Chromium, total	0.00390	mg/L
APW11	Compliance	E002	07/24/2023	Cobalt, total	0.00130 J+	mg/L
APW11	Compliance	E002	07/24/2023	Dissolved Oxygen	0.310	mg/L
APW11	Compliance	E002	07/24/2023	Fluoride, total	0.320	mg/L
APW11	Compliance	E002	07/24/2023	Lead, total	0.00410	mg/L
APW11	Compliance	E002	07/24/2023	Lithium, total	0.0199	mg/L
APW11	Compliance	E002	07/24/2023	Mercury, total	0.00006 U	mg/L
APW11	Compliance	E002	07/24/2023	Molybdenum, total	0.00560	mg/L
APW11	Compliance	E002	07/24/2023	Oxidation Reduction Potential	-54.0	mV
APW11	Compliance	E002	07/24/2023	pH (field)	7.2	SU
APW11	Compliance	E002	07/24/2023	Radium 226 + Radium 228, total	1.96	pCi/L
APW11	Compliance	E002	07/24/2023	Selenium, total	0.0006 U	mg/L
APW11	Compliance	E002	07/24/2023	Specific Conductance @ 25C (field)	1,340	micromhos/cm
APW11	Compliance	E002	07/24/2023	Sulfate, total	268	mg/L
APW11	Compliance	E002	07/24/2023	Temperature	15.5	degrees C

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

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 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW11	Compliance	E002	07/24/2023	Thallium, total	0.001 U	mg/L
APW11	Compliance	E002	07/24/2023	Total Dissolved Solids	840	mg/L
APW11	Compliance	E002	07/24/2023	Turbidity, field	130	NTU
APW12	Compliance	E002	07/24/2023	Antimony, total	0.0004 U	mg/L
APW12	Compliance	E002	07/24/2023	Arsenic, total	0.0008 J	mg/L
APW12	Compliance	E002	07/24/2023	Barium, total	0.0317	mg/L
APW12	Compliance	E002	07/24/2023	Beryllium, total	0.0002 U	mg/L
APW12	Compliance	E002	07/24/2023	Boron, total	0.521	mg/L
APW12	Compliance	E002	07/24/2023	Cadmium, total	0.0002 U	mg/L
APW12	Compliance	E002	07/24/2023	Calcium, total	245	mg/L
APW12	Compliance	E002	07/24/2023	Chloride, total	25.0	mg/L
APW12	Compliance	E002	07/24/2023	Chromium, total	0.0007 U	mg/L
APW12	Compliance	E002	07/24/2023	Cobalt, total	0.00140 J+	mg/L
APW12	Compliance	E002	07/24/2023	Dissolved Oxygen	0.400	mg/L
APW12	Compliance	E002	07/24/2023	Fluoride, total	0.150	mg/L
APW12	Compliance	E002	07/24/2023	Lead, total	0.0006 U	mg/L
APW12	Compliance	E002	07/24/2023	Lithium, total	0.0275	mg/L
APW12	Compliance	E002	07/24/2023	Mercury, total	0.00006 U	mg/L
APW12	Compliance	E002	07/24/2023	Molybdenum, total	0.0013 J	mg/L
APW12	Compliance	E002	07/24/2023	Oxidation Reduction Potential	47.0	mV
APW12	Compliance	E002	07/24/2023	pH (field)	6.4	SU
APW12	Compliance	E002	07/24/2023	Radium 226 + Radium 228, total	0.629	pCi/L
APW12	Compliance	E002	07/24/2023	Selenium, total	0.0006 U	mg/L
APW12	Compliance	E002	07/24/2023	Specific Conductance @ 25C (field)	2,190	micromhos/cm
APW12	Compliance	E002	07/24/2023	Sulfate, total	655	mg/L
APW12	Compliance	E002	07/24/2023	Temperature	13.7	degrees C
APW12	Compliance	E002	07/24/2023	Thallium, total	0.001 U	mg/L
APW12	Compliance	E002	07/24/2023	Total Dissolved Solids	1,700	mg/L
APW12	Compliance	E002	07/24/2023	Turbidity, field	1 U	NTU
APW13	Compliance	E002	07/31/2023	Antimony, total	0.0004 U	mg/L
APW13	Compliance	E002	07/31/2023	Arsenic, total	0.00530	mg/L
APW13	Compliance	E002	07/31/2023	Barium, total	0.0720	mg/L
APW13	Compliance	E002	07/31/2023	Beryllium, total	0.0002 U	mg/L
APW13	Compliance	E002	07/31/2023	Boron, total	0.143	mg/L
APW13	Compliance	E002	07/31/2023	Cadmium, total	0.0002 U	mg/L
APW13	Compliance	E002	07/31/2023	Calcium, total	121	mg/L
APW13	Compliance	E002	07/31/2023	Chloride, total	48.0	mg/L
APW13	Compliance	E002	07/31/2023	Chromium, total	0.0008 J	mg/L
APW13	Compliance	E002	07/31/2023	Cobalt, total	0.001 UJ	mg/L
APW13	Compliance	E002	07/31/2023	Dissolved Oxygen	0.560	mg/L
APW13	Compliance	E002	07/31/2023	Fluoride, total	0.420	mg/L
APW13	Compliance	E002	07/31/2023	Lead, total	0.0006 U	mg/L
APW13	Compliance	E002	07/31/2023	Lithium, total	0.0230	mg/L
APW13	Compliance	E002	07/31/2023	Mercury, total	0.00006 U	mg/L
APW13	Compliance	E002	07/31/2023	Molybdenum, total	0.00980	mg/L
APW13	Compliance	E002	07/31/2023	Oxidation Reduction Potential	109	mV

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

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 NEWTON POWER PLANT  
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Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW13	Compliance	E002	07/31/2023	pH (field)	6.9	SU
APW13	Compliance	E002	07/31/2023	Radium 226 + Radium 228, total	0.715	pCi/L
APW13	Compliance	E002	07/31/2023	Selenium, total	0.0006 U	mg/L
APW13	Compliance	E002	07/31/2023	Sulfate, total	233	mg/L
APW13	Compliance	E002	07/31/2023	Temperature	18.1	degrees C
APW13	Compliance	E002	07/31/2023	Thallium, total	0.001 U	mg/L
APW13	Compliance	E002	07/31/2023	Total Dissolved Solids	875	mg/L
APW13	Compliance	E002	07/31/2023	Turbidity, field	5.80	NTU
APW14	Compliance	E002	07/31/2023	Antimony, total	0.0004 U	mg/L
APW14	Compliance	E002	07/31/2023	Arsenic, total	0.00780	mg/L
APW14	Compliance	E002	07/31/2023	Barium, total	0.0649	mg/L
APW14	Compliance	E002	07/31/2023	Beryllium, total	0.0002 U	mg/L
APW14	Compliance	E002	07/31/2023	Boron, total	0.103	mg/L
APW14	Compliance	E002	07/31/2023	Cadmium, total	0.0002 U	mg/L
APW14	Compliance	E002	07/31/2023	Calcium, total	133	mg/L
APW14	Compliance	E002	07/31/2023	Chloride, total	42.0	mg/L
APW14	Compliance	E002	07/31/2023	Chromium, total	0.001 J	mg/L
APW14	Compliance	E002	07/31/2023	Cobalt, total	0.001 UJ	mg/L
APW14	Compliance	E002	07/31/2023	Dissolved Oxygen	0.450	mg/L
APW14	Compliance	E002	07/31/2023	Fluoride, total	0.310	mg/L
APW14	Compliance	E002	07/31/2023	Lead, total	0.0006 U	mg/L
APW14	Compliance	E002	07/31/2023	Lithium, total	0.0207	mg/L
APW14	Compliance	E002	07/31/2023	Mercury, total	0.00006 U	mg/L
APW14	Compliance	E002	07/31/2023	Molybdenum, total	0.00490	mg/L
APW14	Compliance	E002	07/31/2023	Oxidation Reduction Potential	117	mV
APW14	Compliance	E002	07/31/2023	pH (field)	7.0	SU
APW14	Compliance	E002	07/31/2023	Radium 226 + Radium 228, total	0.66	pCi/L
APW14	Compliance	E002	07/31/2023	Selenium, total	0.0006 U	mg/L
APW14	Compliance	E002	07/31/2023	Sulfate, total	370	mg/L
APW14	Compliance	E002	07/31/2023	Temperature	16.2	degrees C
APW14	Compliance	E002	07/31/2023	Thallium, total	0.001 U	mg/L
APW14	Compliance	E002	07/31/2023	Total Dissolved Solids	990	mg/L
APW14	Compliance	E002	07/31/2023	Turbidity, field	7.70	NTU
APW15	Compliance	E002	08/01/2023	Antimony, total	0.0004 U	mg/L
APW15	Compliance	E002	08/01/2023	Arsenic, total	0.0259	mg/L
APW15	Compliance	E002	08/01/2023	Barium, total	0.640	mg/L
APW15	Compliance	E002	08/01/2023	Beryllium, total	0.0002 U	mg/L
APW15	Compliance	E002	08/01/2023	Boron, total	0.117	mg/L
APW15	Compliance	E002	08/01/2023	Cadmium, total	0.0002 U	mg/L
APW15	Compliance	E002	08/01/2023	Calcium, total	100	mg/L
APW15	Compliance	E002	08/01/2023	Chloride, total	235	mg/L
APW15	Compliance	E002	08/01/2023	Chromium, total	0.00420	mg/L
APW15	Compliance	E002	08/01/2023	Cobalt, total	0.00140 J+	mg/L
APW15	Compliance	E002	08/01/2023	Dissolved Oxygen	0.490	mg/L
APW15	Compliance	E002	08/01/2023	Fluoride, total	0.460	mg/L
APW15	Compliance	E002	08/01/2023	Lead, total	0.00240	mg/L

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

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 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW15	Compliance	E002	08/01/2023	Lithium, total	0.00610	mg/L
APW15	Compliance	E002	08/01/2023	Mercury, total	0.00007 J	mg/L
APW15	Compliance	E002	08/01/2023	Molybdenum, total	0.00560	mg/L
APW15	Compliance	E002	08/01/2023	Oxidation Reduction Potential	-62.0	mV
APW15	Compliance	E002	08/01/2023	pH (field)	6.9	SU
APW15	Compliance	E002	08/01/2023	Radium 226 + Radium 228, total	1.82	pCi/L
APW15	Compliance	E002	08/01/2023	Selenium, total	0.0006 U	mg/L
APW15	Compliance	E002	08/01/2023	Specific Conductance @ 25C (field)	2,570	micromhos/cm
APW15	Compliance	E002	08/01/2023	Sulfate, total	16.0 J+	mg/L
APW15	Compliance	E002	08/01/2023	Temperature	15.2	degrees C
APW15	Compliance	E002	08/01/2023	Thallium, total	0.001 U	mg/L
APW15	Compliance	E002	08/01/2023	Total Dissolved Solids	1,120	mg/L
APW15	Compliance	E002	08/01/2023	Turbidity, field	130	NTU
APW16	Compliance	E002	07/31/2023	Antimony, total	0.0004 U	mg/L
APW16	Compliance	E002	07/31/2023	Arsenic, total	0.0271	mg/L
APW16	Compliance	E002	07/31/2023	Barium, total	0.658	mg/L
APW16	Compliance	E002	07/31/2023	Beryllium, total	0.0002 U	mg/L
APW16	Compliance	E002	07/31/2023	Boron, total	0.147	mg/L
APW16	Compliance	E002	07/31/2023	Cadmium, total	0.0002 U	mg/L
APW16	Compliance	E002	07/31/2023	Calcium, total	94.0	mg/L
APW16	Compliance	E002	07/31/2023	Chloride, total	64.0	mg/L
APW16	Compliance	E002	07/31/2023	Chromium, total	0.0009 J	mg/L
APW16	Compliance	E002	07/31/2023	Cobalt, total	0.001 UJ	mg/L
APW16	Compliance	E002	07/31/2023	Dissolved Oxygen	1.14	mg/L
APW16	Compliance	E002	07/31/2023	Fluoride, total	0.720	mg/L
APW16	Compliance	E002	07/31/2023	Lead, total	0.0006 U	mg/L
APW16	Compliance	E002	07/31/2023	Lithium, total	0.0025 J	mg/L
APW16	Compliance	E002	07/31/2023	Mercury, total	0.00006 U	mg/L
APW16	Compliance	E002	07/31/2023	Molybdenum, total	0.0006 U	mg/L
APW16	Compliance	E002	07/31/2023	Oxidation Reduction Potential	108	mV
APW16	Compliance	E002	07/31/2023	pH (field)	7.1	SU
APW16	Compliance	E002	07/31/2023	Radium 226 + Radium 228, total	1.74	pCi/L
APW16	Compliance	E002	07/31/2023	Selenium, total	0.0006 U	mg/L
APW16	Compliance	E002	07/31/2023	Specific Conductance @ 25C (field)	946	micromhos/cm
APW16	Compliance	E002	07/31/2023	Sulfate, total	14.0 J+	mg/L
APW16	Compliance	E002	07/31/2023	Temperature	14.2	degrees C
APW16	Compliance	E002	07/31/2023	Thallium, total	0.001 U	mg/L
APW16	Compliance	E002	07/31/2023	Total Dissolved Solids	665	mg/L
APW16	Compliance	E002	07/31/2023	Turbidity, field	3.20	NTU
APW17	Compliance	E002	07/25/2023	Antimony, total	0.0004 U	mg/L
APW17	Compliance	E002	07/25/2023	Arsenic, total	0.0274	mg/L
APW17	Compliance	E002	07/25/2023	Barium, total	0.609	mg/L
APW17	Compliance	E002	07/25/2023	Beryllium, total	0.0002 U	mg/L
APW17	Compliance	E002	07/25/2023	Boron, total	0.121	mg/L
APW17	Compliance	E002	07/25/2023	Cadmium, total	0.0002 U	mg/L
APW17	Compliance	E002	07/25/2023	Calcium, total	106	mg/L

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

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 NEWTON POWER PLANT  
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 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW17	Compliance	E002	07/25/2023	Chloride, total	53.0	mg/L
APW17	Compliance	E002	07/25/2023	Chromium, total	0.0007 U	mg/L
APW17	Compliance	E002	07/25/2023	Cobalt, total	0.001 UJ	mg/L
APW17	Compliance	E002	07/25/2023	Dissolved Oxygen	0.510	mg/L
APW17	Compliance	E002	07/25/2023	Fluoride, total	0.580	mg/L
APW17	Compliance	E002	07/25/2023	Lead, total	0.0006 U	mg/L
APW17	Compliance	E002	07/25/2023	Lithium, total	0.0025 J	mg/L
APW17	Compliance	E002	07/25/2023	Mercury, total	0.00006 U	mg/L
APW17	Compliance	E002	07/25/2023	Molybdenum, total	0.00520	mg/L
APW17	Compliance	E002	07/25/2023	Oxidation Reduction Potential	50.0	mV
APW17	Compliance	E002	07/25/2023	pH (field)	6.9	SU
APW17	Compliance	E002	07/25/2023	Radium 226 + Radium 228, total	1.92	pCi/L
APW17	Compliance	E002	07/25/2023	Selenium, total	0.0006 U	mg/L
APW17	Compliance	E002	07/25/2023	Sulfate, total	56.0 J+	mg/L
APW17	Compliance	E002	07/25/2023	Temperature	16.6	degrees C
APW17	Compliance	E002	07/25/2023	Thallium, total	0.001 U	mg/L
APW17	Compliance	E002	07/25/2023	Total Dissolved Solids	670	mg/L
APW17	Compliance	E002	07/25/2023	Turbidity, field	4.50	NTU
APW18	Compliance	E002	07/25/2023	Antimony, total	0.0004 U	mg/L
APW18	Compliance	E002	07/25/2023	Arsenic, total	0.00230	mg/L
APW18	Compliance	E002	07/25/2023	Barium, total	0.368	mg/L
APW18	Compliance	E002	07/25/2023	Beryllium, total	0.0002 U	mg/L
APW18	Compliance	E002	07/25/2023	Boron, total	0.128	mg/L
APW18	Compliance	E002	07/25/2023	Cadmium, total	0.0002 U	mg/L
APW18	Compliance	E002	07/25/2023	Calcium, total	73.2	mg/L
APW18	Compliance	E002	07/25/2023	Chloride, total	26.0 J-	mg/L
APW18	Compliance	E002	07/25/2023	Chromium, total	0.0007 U	mg/L
APW18	Compliance	E002	07/25/2023	Cobalt, total	0.001 UJ	mg/L
APW18	Compliance	E002	07/25/2023	Dissolved Oxygen	0.520	mg/L
APW18	Compliance	E002	07/25/2023	Fluoride, total	0.630	mg/L
APW18	Compliance	E002	07/25/2023	Lead, total	0.0006 U	mg/L
APW18	Compliance	E002	07/25/2023	Lithium, total	0.00520	mg/L
APW18	Compliance	E002	07/25/2023	Mercury, total	0.00008 J	mg/L
APW18	Compliance	E002	07/25/2023	Molybdenum, total	0.00320	mg/L
APW18	Compliance	E002	07/25/2023	Oxidation Reduction Potential	48.0	mV
APW18	Compliance	E002	07/25/2023	pH (field)	7.2	SU
APW18	Compliance	E002	07/25/2023	Radium 226 + Radium 228, total	2.23	pCi/L
APW18	Compliance	E002	07/25/2023	Selenium, total	0.0006 U	mg/L
APW18	Compliance	E002	07/25/2023	Specific Conductance @ 25C (field)	756	micromhos/cm
APW18	Compliance	E002	07/25/2023	Sulfate, total	49.0 J+	mg/L
APW18	Compliance	E002	07/25/2023	Temperature	14.4	degrees C
APW18	Compliance	E002	07/25/2023	Thallium, total	0.001 U	mg/L
APW18	Compliance	E002	07/25/2023	Total Dissolved Solids	535	mg/L
APW18	Compliance	E002	07/25/2023	Turbidity, field	3.60	NTU



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

845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, 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 low.

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 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW05	Background	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW05	Background	E003	10/10/2023	Arsenic, total	0.0323	mg/L
APW05	Background	E003	10/10/2023	Barium, total	0.333	mg/L
APW05	Background	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW05	Background	E003	10/10/2023	Boron, total	0.0897	mg/L
APW05	Background	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW05	Background	E003	10/10/2023	Calcium, total	52.8	mg/L
APW05	Background	E003	10/10/2023	Chloride, total	46.0	mg/L
APW05	Background	E003	10/10/2023	Chromium, total	0.0012 J	mg/L
APW05	Background	E003	10/10/2023	Cobalt, total	0.0002 J	mg/L
APW05	Background	E003	10/10/2023	Dissolved Oxygen	0.600	mg/L
APW05	Background	E003	10/10/2023	Fluoride, total	0.530	mg/L
APW05	Background	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW05	Background	E003	10/10/2023	Lithium, total	0.00900	mg/L
APW05	Background	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW05	Background	E003	10/10/2023	Molybdenum, total	0.0127	mg/L
APW05	Background	E003	10/10/2023	Oxidation Reduction Potential	-134	mV
APW05	Background	E003	10/10/2023	pH (field)	7.4	SU
APW05	Background	E003	10/10/2023	Radium 226 + Radium 228, total	0.915 U*	pCi/L
APW05	Background	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW05	Background	E003	10/10/2023	Specific Conductance @ 25C (field)	988	micromhos/cm
APW05	Background	E003	10/10/2023	Sulfate, total	8 J	mg/L
APW05	Background	E003	10/10/2023	Temperature	15.1	degrees C
APW05	Background	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW05	Background	E003	10/10/2023	Total Dissolved Solids	562	mg/L
APW05	Background	E003	10/10/2023	Turbidity, field	31.0	NTU
APW06	Background	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW06	Background	E003	10/10/2023	Arsenic, total	0.00830	mg/L
APW06	Background	E003	10/10/2023	Barium, total	0.304	mg/L
APW06	Background	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW06	Background	E003	10/10/2023	Boron, total	0.0750	mg/L
APW06	Background	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW06	Background	E003	10/10/2023	Calcium, total	56.8	mg/L
APW06	Background	E003	10/10/2023	Chloride, total	23.0	mg/L
APW06	Background	E003	10/10/2023	Chromium, total	0.0007 U	mg/L
APW06	Background	E003	10/10/2023	Cobalt, total	0.0002 J	mg/L
APW06	Background	E003	10/10/2023	Dissolved Oxygen	0.680	mg/L
APW06	Background	E003	10/10/2023	Fluoride, total	0.550	mg/L
APW06	Background	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW06	Background	E003	10/10/2023	Lithium, total	0.0106	mg/L
APW06	Background	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW06	Background	E003	10/10/2023	Molybdenum, total	0.0116	mg/L
APW06	Background	E003	10/10/2023	Oxidation Reduction Potential	-99.0	mV
APW06	Background	E003	10/10/2023	pH (field)	7.1	SU
APW06	Background	E003	10/10/2023	Radium 226 + Radium 228, total	0.577 U*	pCi/L
APW06	Background	E003	10/10/2023	Selenium, total	0.0006 U	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW06	Background	E003	10/10/2023	Specific Conductance @ 25C (field)	894	micromhos/cm
APW06	Background	E003	10/10/2023	Sulfate, total	11.0	mg/L
APW06	Background	E003	10/10/2023	Temperature	14.4	degrees C
APW06	Background	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW06	Background	E003	10/10/2023	Total Dissolved Solids	526	mg/L
APW06	Background	E003	10/10/2023	Turbidity, field	70.0	NTU
APW02	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW02	Compliance	E003	10/10/2023	Arsenic, total	0.0006 J	mg/L
APW02	Compliance	E003	10/10/2023	Barium, total	0.0136	mg/L
APW02	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW02	Compliance	E003	10/10/2023	Boron, total	0.111	mg/L
APW02	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW02	Compliance	E003	10/10/2023	Calcium, total	506	mg/L
APW02	Compliance	E003	10/10/2023	Chloride, total	100	mg/L
APW02	Compliance	E003	10/10/2023	Chromium, total	0.0009 J	mg/L
APW02	Compliance	E003	10/10/2023	Cobalt, total	0.0004 J	mg/L
APW02	Compliance	E003	10/10/2023	Dissolved Oxygen	0.280	mg/L
APW02	Compliance	E003	10/10/2023	Fluoride, total	0.230	mg/L
APW02	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW02	Compliance	E003	10/10/2023	Lithium, total	0.105	mg/L
APW02	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW02	Compliance	E003	10/10/2023	Molybdenum, total	0.00160	mg/L
APW02	Compliance	E003	10/10/2023	Oxidation Reduction Potential	11.0	mV
APW02	Compliance	E003	10/10/2023	pH (field)	6.7	SU
APW02	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	0.843 U*	pCi/L
APW02	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW02	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	4,390	micromhos/cm
APW02	Compliance	E003	10/10/2023	Sulfate, total	2,900	mg/L
APW02	Compliance	E003	10/10/2023	Temperature	17.3	degrees C
APW02	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW02	Compliance	E003	10/10/2023	Total Dissolved Solids	3,890	mg/L
APW02	Compliance	E003	10/10/2023	Turbidity, field	6.40	NTU
APW03	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW03	Compliance	E003	10/10/2023	Arsenic, total	0.0007 J	mg/L
APW03	Compliance	E003	10/10/2023	Barium, total	0.110	mg/L
APW03	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW03	Compliance	E003	10/10/2023	Boron, total	0.440	mg/L
APW03	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW03	Compliance	E003	10/10/2023	Calcium, total	92.5	mg/L
APW03	Compliance	E003	10/10/2023	Chloride, total	7.00	mg/L
APW03	Compliance	E003	10/10/2023	Chromium, total	0.00300	mg/L
APW03	Compliance	E003	10/10/2023	Cobalt, total	0.0003 J	mg/L
APW03	Compliance	E003	10/10/2023	Dissolved Oxygen	0.510	mg/L
APW03	Compliance	E003	10/10/2023	Fluoride, total	0.260	mg/L
APW03	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW03	Compliance	E003	10/10/2023	Lithium, total	0.0111	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW03	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW03	Compliance	E003	10/10/2023	Molybdenum, total	0.0009 J	mg/L
APW03	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-10.0	mV
APW03	Compliance	E003	10/10/2023	pH (field)	6.9	SU
APW03	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	0.564 U*	pCi/L
APW03	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW03	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	840	micromhos/cm
APW03	Compliance	E003	10/10/2023	Sulfate, total	113	mg/L
APW03	Compliance	E003	10/10/2023	Temperature	19.8	degrees C
APW03	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW03	Compliance	E003	10/10/2023	Total Dissolved Solids	628	mg/L
APW03	Compliance	E003	10/10/2023	Turbidity, field	6.80	NTU
APW04	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW04	Compliance	E003	10/10/2023	Arsenic, total	0.0006 J	mg/L
APW04	Compliance	E003	10/10/2023	Barium, total	0.0200	mg/L
APW04	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW04	Compliance	E003	10/10/2023	Boron, total	0.0322	mg/L
APW04	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW04	Compliance	E003	10/10/2023	Calcium, total	206	mg/L
APW04	Compliance	E003	10/10/2023	Chloride, total	34.0	mg/L
APW04	Compliance	E003	10/10/2023	Chromium, total	0.00290	mg/L
APW04	Compliance	E003	10/10/2023	Cobalt, total	0.0002 J	mg/L
APW04	Compliance	E003	10/10/2023	Dissolved Oxygen	0.470	mg/L
APW04	Compliance	E003	10/10/2023	Fluoride, total	0.200	mg/L
APW04	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW04	Compliance	E003	10/10/2023	Lithium, total	0.0218	mg/L
APW04	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW04	Compliance	E003	10/10/2023	Molybdenum, total	0.001 J	mg/L
APW04	Compliance	E003	10/10/2023	Oxidation Reduction Potential	19.0	mV
APW04	Compliance	E003	10/10/2023	pH (field)	6.8	SU
APW04	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	1.08 U*	pCi/L
APW04	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW04	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	1,810	micromhos/cm
APW04	Compliance	E003	10/10/2023	Sulfate, total	808	mg/L
APW04	Compliance	E003	10/10/2023	Temperature	17.8	degrees C
APW04	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW04	Compliance	E003	10/10/2023	Total Dissolved Solids	1,710	mg/L
APW04	Compliance	E003	10/10/2023	Turbidity, field	9.80	NTU
APW05S	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW05S	Compliance	E003	10/10/2023	Arsenic, total	0.00140	mg/L
APW05S	Compliance	E003	10/10/2023	Barium, total	0.0478	mg/L
APW05S	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW05S	Compliance	E003	10/10/2023	Boron, total	0.0380	mg/L
APW05S	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW05S	Compliance	E003	10/10/2023	Calcium, total	373	mg/L
APW05S	Compliance	E003	10/10/2023	Chloride, total	112	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW05S	Compliance	E003	10/10/2023	Chromium, total	0.00260	mg/L
APW05S	Compliance	E003	10/10/2023	Cobalt, total	0.0007 J	mg/L
APW05S	Compliance	E003	10/10/2023	Dissolved Oxygen	0.720	mg/L
APW05S	Compliance	E003	10/10/2023	Fluoride, total	0.410	mg/L
APW05S	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW05S	Compliance	E003	10/10/2023	Lithium, total	0.0328	mg/L
APW05S	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW05S	Compliance	E003	10/10/2023	Molybdenum, total	0.00330	mg/L
APW05S	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-2.00	mV
APW05S	Compliance	E003	10/10/2023	pH (field)	6.7	SU
APW05S	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	0.624	pCi/L
APW05S	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW05S	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	3,800	micromhos/cm
APW05S	Compliance	E003	10/10/2023	Sulfate, total	1,700	mg/L
APW05S	Compliance	E003	10/10/2023	Temperature	16.5	degrees C
APW05S	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW05S	Compliance	E003	10/10/2023	Total Dissolved Solids	3,240	mg/L
APW05S	Compliance	E003	10/10/2023	Turbidity, field	61.0	NTU
APW07	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW07	Compliance	E003	10/10/2023	Arsenic, total	0.0225	mg/L
APW07	Compliance	E003	10/10/2023	Barium, total	0.808	mg/L
APW07	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW07	Compliance	E003	10/10/2023	Boron, total	0.0680	mg/L
APW07	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW07	Compliance	E003	10/10/2023	Calcium, total	96.2	mg/L
APW07	Compliance	E003	10/10/2023	Chloride, total	67.0	mg/L
APW07	Compliance	E003	10/10/2023	Chromium, total	0.00170	mg/L
APW07	Compliance	E003	10/10/2023	Cobalt, total	0.0002 J	mg/L
APW07	Compliance	E003	10/10/2023	Dissolved Oxygen	9.16	mg/L
APW07	Compliance	E003	10/10/2023	Fluoride, total	0.420	mg/L
APW07	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW07	Compliance	E003	10/10/2023	Lithium, total	0.0025 J	mg/L
APW07	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW07	Compliance	E003	10/10/2023	Molybdenum, total	0.00310	mg/L
APW07	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-68.0	mV
APW07	Compliance	E003	10/10/2023	pH (field)	7.6	SU
APW07	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	2.8 U*	pCi/L
APW07	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW07	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	894	micromhos/cm
APW07	Compliance	E003	10/10/2023	Sulfate, total	16.0	mg/L
APW07	Compliance	E003	10/10/2023	Temperature	13.3	degrees C
APW07	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW07	Compliance	E003	10/10/2023	Total Dissolved Solids	630	mg/L
APW07	Compliance	E003	10/10/2023	Turbidity, field	10.0	NTU
APW08	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW08	Compliance	E003	10/10/2023	Arsenic, total	0.0366	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

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 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW08	Compliance	E003	10/10/2023	Barium, total	0.777	mg/L
APW08	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW08	Compliance	E003	10/10/2023	Boron, total	0.0710	mg/L
APW08	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW08	Compliance	E003	10/10/2023	Calcium, total	103	mg/L
APW08	Compliance	E003	10/10/2023	Chloride, total	60.0	mg/L
APW08	Compliance	E003	10/10/2023	Chromium, total	0.001 J	mg/L
APW08	Compliance	E003	10/10/2023	Cobalt, total	0.0002 J	mg/L
APW08	Compliance	E003	10/10/2023	Dissolved Oxygen	0.640	mg/L
APW08	Compliance	E003	10/10/2023	Fluoride, total	0.480	mg/L
APW08	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW08	Compliance	E003	10/10/2023	Lithium, total	0.0022 J	mg/L
APW08	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW08	Compliance	E003	10/10/2023	Molybdenum, total	0.00580	mg/L
APW08	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-64.0	mV
APW08	Compliance	E003	10/10/2023	pH (field)	7.4	SU
APW08	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	2.04 U*	pCi/L
APW08	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW08	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	952	micromhos/cm
APW08	Compliance	E003	10/10/2023	Sulfate, total	57.0	mg/L
APW08	Compliance	E003	10/10/2023	Temperature	14.9	degrees C
APW08	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW08	Compliance	E003	10/10/2023	Total Dissolved Solids	615	mg/L
APW08	Compliance	E003	10/10/2023	Turbidity, field	4.20	NTU
APW09	Compliance	E003	10/10/2023	Antimony, total	0.00180	mg/L
APW09	Compliance	E003	10/10/2023	Arsenic, total	0.0114	mg/L
APW09	Compliance	E003	10/10/2023	Barium, total	0.406	mg/L
APW09	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW09	Compliance	E003	10/10/2023	Boron, total	0.0780	mg/L
APW09	Compliance	E003	10/10/2023	Cadmium, total	0.0003 J	mg/L
APW09	Compliance	E003	10/10/2023	Calcium, total	69.2	mg/L
APW09	Compliance	E003	10/10/2023	Chloride, total	94.0	mg/L
APW09	Compliance	E003	10/10/2023	Chromium, total	0.00330	mg/L
APW09	Compliance	E003	10/10/2023	Cobalt, total	0.0005 J	mg/L
APW09	Compliance	E003	10/10/2023	Dissolved Oxygen	0.190	mg/L
APW09	Compliance	E003	10/10/2023	Fluoride, total	0.630	mg/L
APW09	Compliance	E003	10/10/2023	Lead, total	0.0008 J	mg/L
APW09	Compliance	E003	10/10/2023	Lithium, total	0.00660	mg/L
APW09	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW09	Compliance	E003	10/10/2023	Molybdenum, total	0.0165	mg/L
APW09	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-46.0	mV
APW09	Compliance	E003	10/10/2023	pH (field)	7.6	SU
APW09	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	0.571	pCi/L
APW09	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW09	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	988	micromhos/cm
APW09	Compliance	E003	10/10/2023	Sulfate, total	32.0	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW09	Compliance	E003	10/10/2023	Temperature	14.5	degrees C
APW09	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW09	Compliance	E003	10/10/2023	Total Dissolved Solids	760	mg/L
APW09	Compliance	E003	10/10/2023	Turbidity, field	5.90	NTU
APW10	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW10	Compliance	E003	10/10/2023	Arsenic, total	0.0120	mg/L
APW10	Compliance	E003	10/10/2023	Barium, total	0.0397	mg/L
APW10	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW10	Compliance	E003	10/10/2023	Boron, total	0.0626	mg/L
APW10	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW10	Compliance	E003	10/10/2023	Calcium, total	146	mg/L
APW10	Compliance	E003	10/10/2023	Chloride, total	43.0	mg/L
APW10	Compliance	E003	10/10/2023	Chromium, total	0.0009 J	mg/L
APW10	Compliance	E003	10/10/2023	Cobalt, total	0.0002 J	mg/L
APW10	Compliance	E003	10/10/2023	Dissolved Oxygen	2.77	mg/L
APW10	Compliance	E003	10/10/2023	Fluoride, total	0.340	mg/L
APW10	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW10	Compliance	E003	10/10/2023	Lithium, total	0.0182	mg/L
APW10	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW10	Compliance	E003	10/10/2023	Molybdenum, total	0.0112	mg/L
APW10	Compliance	E003	10/10/2023	Oxidation Reduction Potential	3.00	mV
APW10	Compliance	E003	10/10/2023	pH (field)	7.3	SU
APW10	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	1.01 U*	pCi/L
APW10	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW10	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	1,280	micromhos/cm
APW10	Compliance	E003	10/10/2023	Sulfate, total	399	mg/L
APW10	Compliance	E003	10/10/2023	Temperature	14.2	degrees C
APW10	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW10	Compliance	E003	10/10/2023	Total Dissolved Solids	1,050	mg/L
APW10	Compliance	E003	10/10/2023	Turbidity, field	8.00	NTU
APW11	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW11	Compliance	E003	10/10/2023	Arsenic, total	0.00490	mg/L
APW11	Compliance	E003	10/10/2023	Barium, total	0.0448	mg/L
APW11	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW11	Compliance	E003	10/10/2023	Boron, total	0.0578	mg/L
APW11	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW11	Compliance	E003	10/10/2023	Calcium, total	126	mg/L
APW11	Compliance	E003	10/10/2023	Chloride, total	26.0	mg/L
APW11	Compliance	E003	10/10/2023	Chromium, total	0.0014 J	mg/L
APW11	Compliance	E003	10/10/2023	Cobalt, total	0.0003 J	mg/L
APW11	Compliance	E003	10/10/2023	Dissolved Oxygen	0.630	mg/L
APW11	Compliance	E003	10/10/2023	Fluoride, total	0.370	mg/L
APW11	Compliance	E003	10/10/2023	Lead, total	0.0008 J	mg/L
APW11	Compliance	E003	10/10/2023	Lithium, total	0.0201	mg/L
APW11	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW11	Compliance	E003	10/10/2023	Molybdenum, total	0.00510	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

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 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW11	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-117	mV
APW11	Compliance	E003	10/10/2023	pH (field)	7.5	SU
APW11	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	0.854 U*	pCi/L
APW11	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW11	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	1,310	micromhos/cm
APW11	Compliance	E003	10/10/2023	Sulfate, total	277	mg/L
APW11	Compliance	E003	10/10/2023	Temperature	15.6	degrees C
APW11	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW11	Compliance	E003	10/10/2023	Total Dissolved Solids	835	mg/L
APW11	Compliance	E003	10/10/2023	Turbidity, field	54.0	NTU
APW12	Compliance	E003	10/11/2023	Antimony, total	0.0004 U	mg/L
APW12	Compliance	E003	10/11/2023	Arsenic, total	0.0008 J	mg/L
APW12	Compliance	E003	10/11/2023	Barium, total	0.0345	mg/L
APW12	Compliance	E003	10/11/2023	Beryllium, total	0.0002 U	mg/L
APW12	Compliance	E003	10/11/2023	Boron, total	0.724	mg/L
APW12	Compliance	E003	10/11/2023	Cadmium, total	0.0002 U	mg/L
APW12	Compliance	E003	10/11/2023	Calcium, total	275	mg/L
APW12	Compliance	E003	10/11/2023	Chloride, total	31.0	mg/L
APW12	Compliance	E003	10/11/2023	Chromium, total	0.0008 J	mg/L
APW12	Compliance	E003	10/11/2023	Cobalt, total	0.00120	mg/L
APW12	Compliance	E003	10/11/2023	Dissolved Oxygen	0.710	mg/L
APW12	Compliance	E003	10/11/2023	Fluoride, total	0.220	mg/L
APW12	Compliance	E003	10/11/2023	Lead, total	0.0006 U	mg/L
APW12	Compliance	E003	10/11/2023	Lithium, total	0.0365	mg/L
APW12	Compliance	E003	10/11/2023	Mercury, total	0.00006 U	mg/L
APW12	Compliance	E003	10/11/2023	Molybdenum, total	0.0006 U	mg/L
APW12	Compliance	E003	10/11/2023	Oxidation Reduction Potential	6.00	mV
APW12	Compliance	E003	10/11/2023	pH (field)	6.1	SU
APW12	Compliance	E003	10/11/2023	Radium 226 + Radium 228, total	0.891 U*	pCi/L
APW12	Compliance	E003	10/11/2023	Selenium, total	0.0006 U	mg/L
APW12	Compliance	E003	10/11/2023	Specific Conductance @ 25C (field)	2,190	micromhos/cm
APW12	Compliance	E003	10/11/2023	Sulfate, total	712	mg/L
APW12	Compliance	E003	10/11/2023	Temperature	14.6	degrees C
APW12	Compliance	E003	10/11/2023	Thallium, total	0.001 U	mg/L
APW12	Compliance	E003	10/11/2023	Total Dissolved Solids	1,740	mg/L
APW12	Compliance	E003	10/11/2023	Turbidity, field	11.0	NTU
APW13	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW13	Compliance	E003	10/10/2023	Arsenic, total	0.00440	mg/L
APW13	Compliance	E003	10/10/2023	Barium, total	0.0642	mg/L
APW13	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW13	Compliance	E003	10/10/2023	Boron, total	0.102	mg/L
APW13	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW13	Compliance	E003	10/10/2023	Calcium, total	120	mg/L
APW13	Compliance	E003	10/10/2023	Chloride, total	53.0	mg/L
APW13	Compliance	E003	10/10/2023	Chromium, total	0.0007 U	mg/L
APW13	Compliance	E003	10/10/2023	Cobalt, total	0.0001 U	mg/L



**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

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Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW13	Compliance	E003	10/10/2023	Dissolved Oxygen	0.290	mg/L
APW13	Compliance	E003	10/10/2023	Fluoride, total	0.440	mg/L
APW13	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW13	Compliance	E003	10/10/2023	Lithium, total	0.0240	mg/L
APW13	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW13	Compliance	E003	10/10/2023	Molybdenum, total	0.00870	mg/L
APW13	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-31.0	mV
APW13	Compliance	E003	10/10/2023	pH (field)	7.2	SU
APW13	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	0.663	pCi/L
APW13	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW13	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	1,190	micromhos/cm
APW13	Compliance	E003	10/10/2023	Sulfate, total	234	mg/L
APW13	Compliance	E003	10/10/2023	Temperature	13.8	degrees C
APW13	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW13	Compliance	E003	10/10/2023	Total Dissolved Solids	936	mg/L
APW13	Compliance	E003	10/10/2023	Turbidity, field	1.30	NTU
APW14	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW14	Compliance	E003	10/10/2023	Arsenic, total	0.00940	mg/L
APW14	Compliance	E003	10/10/2023	Barium, total	0.0758	mg/L
APW14	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW14	Compliance	E003	10/10/2023	Boron, total	0.0888	mg/L
APW14	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW14	Compliance	E003	10/10/2023	Calcium, total	138	mg/L
APW14	Compliance	E003	10/10/2023	Chloride, total	41.0	mg/L
APW14	Compliance	E003	10/10/2023	Chromium, total	0.00150 J	mg/L
APW14	Compliance	E003	10/10/2023	Cobalt, total	0.0003 J	mg/L
APW14	Compliance	E003	10/10/2023	Dissolved Oxygen	0.190	mg/L
APW14	Compliance	E003	10/10/2023	Fluoride, total	0.330	mg/L
APW14	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW14	Compliance	E003	10/10/2023	Lithium, total	0.0205	mg/L
APW14	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW14	Compliance	E003	10/10/2023	Molybdenum, total	0.00580	mg/L
APW14	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-68.0	mV
APW14	Compliance	E003	10/10/2023	pH (field)	7.3	SU
APW14	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	1.57 U*	pCi/L
APW14	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW14	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	1,280	micromhos/cm
APW14	Compliance	E003	10/10/2023	Sulfate, total	358	mg/L
APW14	Compliance	E003	10/10/2023	Temperature	13.8	degrees C
APW14	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW14	Compliance	E003	10/10/2023	Total Dissolved Solids	990	mg/L
APW14	Compliance	E003	10/10/2023	Turbidity, field	7.00	NTU
APW15	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW15	Compliance	E003	10/10/2023	Arsenic, total	0.0319	mg/L
APW15	Compliance	E003	10/10/2023	Barium, total	0.708	mg/L
APW15	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

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 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW15	Compliance	E003	10/10/2023	Boron, total	0.123	mg/L
APW15	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW15	Compliance	E003	10/10/2023	Calcium, total	96.0	mg/L
APW15	Compliance	E003	10/10/2023	Chloride, total	227	mg/L
APW15	Compliance	E003	10/10/2023	Chromium, total	0.00710	mg/L
APW15	Compliance	E003	10/10/2023	Cobalt, total	0.00160	mg/L
APW15	Compliance	E003	10/10/2023	Dissolved Oxygen	0 U	mg/L
APW15	Compliance	E003	10/10/2023	Fluoride, total	0.480	mg/L
APW15	Compliance	E003	10/10/2023	Lead, total	0.00270	mg/L
APW15	Compliance	E003	10/10/2023	Lithium, total	0.00730	mg/L
APW15	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW15	Compliance	E003	10/10/2023	Molybdenum, total	0.00730	mg/L
APW15	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-104	mV
APW15	Compliance	E003	10/10/2023	pH (field)	7.1	SU
APW15	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	3.51 U*	pCi/L
APW15	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW15	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	1,700	micromhos/cm
APW15	Compliance	E003	10/10/2023	Sulfate, total	12.0	mg/L
APW15	Compliance	E003	10/10/2023	Temperature	15.0	degrees C
APW15	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW15	Compliance	E003	10/10/2023	Total Dissolved Solids	1,140	mg/L
APW15	Compliance	E003	10/10/2023	Turbidity, field	56.0	NTU
APW16	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW16	Compliance	E003	10/10/2023	Arsenic, total	0.0253	mg/L
APW16	Compliance	E003	10/10/2023	Barium, total	0.597	mg/L
APW16	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW16	Compliance	E003	10/10/2023	Boron, total	0.126	mg/L
APW16	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW16	Compliance	E003	10/10/2023	Calcium, total	92.9	mg/L
APW16	Compliance	E003	10/10/2023	Chloride, total	69.0	mg/L
APW16	Compliance	E003	10/10/2023	Chromium, total	0.0009 J	mg/L
APW16	Compliance	E003	10/10/2023	Cobalt, total	0.0002 J	mg/L
APW16	Compliance	E003	10/10/2023	Dissolved Oxygen	0.250	mg/L
APW16	Compliance	E003	10/10/2023	Fluoride, total	0.770	mg/L
APW16	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW16	Compliance	E003	10/10/2023	Lithium, total	0.0029 J	mg/L
APW16	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW16	Compliance	E003	10/10/2023	Molybdenum, total	0.0006 U	mg/L
APW16	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-70.0	mV
APW16	Compliance	E003	10/10/2023	pH (field)	7.4	SU
APW16	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	2.55 U*	pCi/L
APW16	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW16	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	1,090	micromhos/cm
APW16	Compliance	E003	10/10/2023	Sulfate, total	8 J	mg/L
APW16	Compliance	E003	10/10/2023	Temperature	13.2	degrees C
APW16	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

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 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW16	Compliance	E003	10/10/2023	Total Dissolved Solids	768	mg/L
APW16	Compliance	E003	10/10/2023	Turbidity, field	1.40	NTU
APW17	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW17	Compliance	E003	10/10/2023	Arsenic, total	0.0320	mg/L
APW17	Compliance	E003	10/10/2023	Barium, total	0.741	mg/L
APW17	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW17	Compliance	E003	10/10/2023	Boron, total	0.0788	mg/L
APW17	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW17	Compliance	E003	10/10/2023	Calcium, total	107	mg/L
APW17	Compliance	E003	10/10/2023	Chloride, total	59.0	mg/L
APW17	Compliance	E003	10/10/2023	Chromium, total	0.001 J	mg/L
APW17	Compliance	E003	10/10/2023	Cobalt, total	0.0003 J	mg/L
APW17	Compliance	E003	10/10/2023	Dissolved Oxygen	0.270	mg/L
APW17	Compliance	E003	10/10/2023	Fluoride, total	0.540	mg/L
APW17	Compliance	E003	10/10/2023	Lead, total	0.0006 U	mg/L
APW17	Compliance	E003	10/10/2023	Lithium, total	0.0024 J	mg/L
APW17	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW17	Compliance	E003	10/10/2023	Molybdenum, total	0.0172	mg/L
APW17	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-73.0	mV
APW17	Compliance	E003	10/10/2023	pH (field)	7.5	SU
APW17	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	2.3 U*	pCi/L
APW17	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW17	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	993	micromhos/cm
APW17	Compliance	E003	10/10/2023	Sulfate, total	64.0	mg/L
APW17	Compliance	E003	10/10/2023	Temperature	13.7	degrees C
APW17	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW17	Compliance	E003	10/10/2023	Total Dissolved Solids	692	mg/L
APW17	Compliance	E003	10/10/2023	Turbidity, field	7.50	NTU
APW18	Compliance	E003	10/10/2023	Antimony, total	0.0004 U	mg/L
APW18	Compliance	E003	10/10/2023	Arsenic, total	0.00260	mg/L
APW18	Compliance	E003	10/10/2023	Barium, total	0.443	mg/L
APW18	Compliance	E003	10/10/2023	Beryllium, total	0.0002 U	mg/L
APW18	Compliance	E003	10/10/2023	Boron, total	0.0971	mg/L
APW18	Compliance	E003	10/10/2023	Cadmium, total	0.0002 U	mg/L
APW18	Compliance	E003	10/10/2023	Calcium, total	75.5	mg/L
APW18	Compliance	E003	10/10/2023	Chloride, total	23.0	mg/L
APW18	Compliance	E003	10/10/2023	Chromium, total	0.001 J	mg/L
APW18	Compliance	E003	10/10/2023	Cobalt, total	0.0002 J	mg/L
APW18	Compliance	E003	10/10/2023	Dissolved Oxygen	0.220	mg/L
APW18	Compliance	E003	10/10/2023	Fluoride, total	0.590	mg/L
APW18	Compliance	E003	10/10/2023	Lead, total	0.00330	mg/L
APW18	Compliance	E003	10/10/2023	Lithium, total	0.00520	mg/L
APW18	Compliance	E003	10/10/2023	Mercury, total	0.00006 U	mg/L
APW18	Compliance	E003	10/10/2023	Molybdenum, total	0.00430	mg/L
APW18	Compliance	E003	10/10/2023	Oxidation Reduction Potential	-100	mV
APW18	Compliance	E003	10/10/2023	pH (field)	8.1	SU

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 4, 2023**

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 NEWTON POWER PLANT  
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 NEWTON, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
APW18	Compliance	E003	10/10/2023	Radium 226 + Radium 228, total	1.26 U*	pCi/L
APW18	Compliance	E003	10/10/2023	Selenium, total	0.0006 U	mg/L
APW18	Compliance	E003	10/10/2023	Specific Conductance @ 25C (field)	866	micromhos/cm
APW18	Compliance	E003	10/10/2023	Sulfate, total	49.0	mg/L
APW18	Compliance	E003	10/10/2023	Temperature	13.5	degrees C
APW18	Compliance	E003	10/10/2023	Thallium, total	0.001 U	mg/L
APW18	Compliance	E003	10/10/2023	Total Dissolved Solids	614	mg/L
APW18	Compliance	E003	10/10/2023	Turbidity, field	8.50	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.

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

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW02	UD	E001	Antimony, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW02	UD	E001	Arsenic, total	mg/L	02/17/21 - 04/27/23	10	70	CI around median	0.001	0.059	Background	No Exceedance
APW02	UD	E001	Barium, total	mg/L	02/17/21 - 04/27/23	10	0	CB around linear reg	0.00275	2	Standard	No Exceedance
APW02	UD	E001	Beryllium, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW02	UD	E001	Boron, total	mg/L	02/17/21 - 04/27/23	10	0	CI around geomean	0.105	2	Standard	No Exceedance
APW02	UD	E001	Cadmium, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW02	UD	E001	Chloride, total	mg/L	02/17/21 - 04/27/23	10	0	CI around mean	100	200	Standard	No Exceedance
APW02	UD	E001	Chromium, total	mg/L	02/17/21 - 04/27/23	10	90	Most recent sample	0.004	0.1	Standard	No Exceedance
APW02	UD	E001	Cobalt, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.002	0.006	Standard	No Exceedance
APW02	UD	E001	Fluoride, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.25	4	Standard	No Exceedance
APW02	UD	E001	Lead, total	mg/L	02/17/21 - 04/27/23	10	90	CI around median	0.001	0.0075	Standard	No Exceedance
APW02	UD	E001	Lithium, total	mg/L	02/17/21 - 04/27/23	10	0	CI around geomean	0.0888	0.04	Standard	Determined
APW02	UD	E001	Mercury, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW02	UD	E001	Molybdenum, total	mg/L	02/17/21 - 04/27/23	9	67	CI around median	0.001	0.1	Standard	No Exceedance
APW02	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 04/27/23	9	0	CI around mean	0.227	6.9	Background	No Exceedance
APW02	UD	E001	Selenium, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW02	UD	E001	Sulfate, total	mg/L	02/17/21 - 04/27/23	10	0	CI around median	2,900	400	Standard	Determined
APW02	UD	E001	Thallium, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW02	UD	E001	Total Dissolved Solids	mg/L	02/17/21 - 04/27/23	16	0	CB around linear reg	5,180	1,200	Standard	Determined
APW02	UD	E001	pH (field)	SU	02/17/21 - 04/27/23	16	0	CI around mean	6.6/6.8	6.4/9	Background/Standard	No Exceedance
APW03	UD	E001	Antimony, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW03	UD	E001	Arsenic, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.059	Background	No Exceedance
APW03	UD	E001	Barium, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	0.0648	2	Standard	No Exceedance
APW03	UD	E001	Beryllium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW03	UD	E001	Boron, total	mg/L	02/18/21 - 04/25/23	10	0	CI around geomean	0.377	2	Standard	No Exceedance
APW03	UD	E001	Cadmium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW03	UD	E001	Chloride, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	7.35	200	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW03	UD	E001	Chromium, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.004	0.1	Standard	No Exceedance
APW03	UD	E001	Cobalt, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.002	0.006	Standard	No Exceedance
APW03	UD	E001	Fluoride, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.25	4	Standard	No Exceedance
APW03	UD	E001	Lead, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.001	0.0075	Standard	No Exceedance
APW03	UD	E001	Lithium, total	mg/L	02/18/21 - 04/25/23	10	40	CI around median	0.02	0.04	Standard	No Exceedance
APW03	UD	E001	Mercury, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.0002	0.002	Standard	No Exceedance
APW03	UD	E001	Molybdenum, total	mg/L	02/18/21 - 04/25/23	9	11	CI around mean	0.000992	0.1	Standard	No Exceedance
APW03	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 04/25/23	9	0	CI around mean	0.123	6.9	Background	No Exceedance
APW03	UD	E001	Selenium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW03	UD	E001	Sulfate, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	139	400	Standard	No Exceedance
APW03	UD	E001	Thallium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW03	UD	E001	Total Dissolved Solids	mg/L	02/18/21 - 04/25/23	16	0	CI around mean	628	1,200	Standard	No Exceedance
APW03	UD	E001	pH (field)	SU	02/18/21 - 04/25/23	16	0	CI around mean	6.8/7.2	6.4/9	Background/Standard	No Exceedance
APW04	UD	E001	Antimony, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW04	UD	E001	Arsenic, total	mg/L	02/18/21 - 04/25/23	10	40	CI around geomean	0.000941	0.059	Background	No Exceedance
APW04	UD	E001	Barium, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	0.0181	2	Standard	No Exceedance
APW04	UD	E001	Beryllium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW04	UD	E001	Boron, total	mg/L	02/18/21 - 04/25/23	10	0	CI around median	0.024	2	Standard	No Exceedance
APW04	UD	E001	Cadmium, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.001	0.005	Standard	No Exceedance
APW04	UD	E001	Chloride, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	29.3	200	Standard	No Exceedance
APW04	UD	E001	Chromium, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.004	0.1	Standard	No Exceedance
APW04	UD	E001	Cobalt, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.002	0.006	Standard	No Exceedance
APW04	UD	E001	Fluoride, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.25	4	Standard	No Exceedance
APW04	UD	E001	Lead, total	mg/L	02/18/21 - 04/25/23	10	60	CI around median	0.001	0.0075	Standard	No Exceedance
APW04	UD	E001	Lithium, total	mg/L	02/18/21 - 04/25/23	10	30	CI around median	0.02	0.04	Standard	No Exceedance
APW04	UD	E001	Mercury, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.0002	0.002	Standard	No Exceedance
APW04	UD	E001	Molybdenum, total	mg/L	02/18/21 - 04/25/23	9	89	CI around median	0.001	0.1	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW04	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 04/25/23	9	0	CI around mean	0.0207	6.9	Background	No Exceedance
APW04	UD	E001	Selenium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW04	UD	E001	Sulfate, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	844	400	Standard	Determined
APW04	UD	E001	Thallium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW04	UD	E001	Total Dissolved Solids	mg/L	02/18/21 - 04/25/23	16	0	CI around mean	1,710	1,200	Standard	Determined
APW04	UD	E001	pH (field)	SU	02/18/21 - 04/25/23	16	0	CB around linear reg	6.9/8.0	6.4/9	Background/Standard	No Exceedance
APW05S	UD	E001	Antimony, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW05S	UD	E001	Arsenic, total	mg/L	02/17/21 - 04/26/23	9	33	CI around mean	0.00105	0.059	Background	No Exceedance
APW05S	UD	E001	Barium, total	mg/L	02/17/21 - 04/26/23	9	0	CI around median	0.048	2	Standard	No Exceedance
APW05S	UD	E001	Beryllium, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW05S	UD	E001	Boron, total	mg/L	02/17/21 - 04/26/23	9	0	CI around median	0.04	2	Standard	No Exceedance
APW05S	UD	E001	Cadmium, total	mg/L	02/17/21 - 04/26/23	9	89	CI around median	0.001	0.005	Standard	No Exceedance
APW05S	UD	E001	Chloride, total	mg/L	02/17/21 - 04/26/23	9	0	CI around median	190	200	Standard	No Exceedance
APW05S	UD	E001	Chromium, total	mg/L	02/17/21 - 04/26/23	9	89	CI around median	0.004	0.1	Standard	No Exceedance
APW05S	UD	E001	Cobalt, total	mg/L	02/17/21 - 04/26/23	9	33	CI around geomean	0.00185	0.006	Standard	No Exceedance
APW05S	UD	E001	Fluoride, total	mg/L	02/17/21 - 04/26/23	9	0	CI around mean	0.349	4	Standard	No Exceedance
APW05S	UD	E001	Lead, total	mg/L	02/17/21 - 04/26/23	9	89	CI around median	0.001	0.0075	Standard	No Exceedance
APW05S	UD	E001	Lithium, total	mg/L	02/17/21 - 04/26/23	9	0	CI around geomean	0.0332	0.04	Standard	No Exceedance
APW05S	UD	E001	Mercury, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW05S	UD	E001	Molybdenum, total	mg/L	02/17/21 - 04/26/23	8	0	CB around linear reg	-0.000835	0.1	Standard	No Exceedance
APW05S	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 04/26/23	8	0	CI around geomean	0.128	6.9	Background	No Exceedance
APW05S	UD	E001	Selenium, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW05S	UD	E001	Sulfate, total	mg/L	02/17/21 - 04/26/23	9	0	CI around median	640	400	Standard	Determined
APW05S	UD	E001	Thallium, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW05S	UD	E001	Total Dissolved Solids	mg/L	02/17/21 - 04/26/23	9	0	CI around mean	3,450	1,200	Standard	Determined
APW05S	UD	E001	pH (field)	SU	02/17/21 - 04/26/23	9	0	CI around mean	6.7/7.0	6.4/9	Background/Standard	No Exceedance
APW07	UA	E001	Antimony, total	mg/L	12/15/15 - 04/27/23	11	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  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW07	UA	E001	Arsenic, total	mg/L	12/15/15 - 04/27/23	12	0	CB around linear reg	0.0127	0.059	Background	No Exceedance
APW07	UA	E001	Barium, total	mg/L	12/15/15 - 04/27/23	12	0	CB around linear reg	0.465	2	Standard	No Exceedance
APW07	UA	E001	Beryllium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW07	UA	E001	Boron, total	mg/L	12/15/15 - 04/27/23	22	0	CB around T-S line	0.0841	2	Standard	No Exceedance
APW07	UA	E001	Cadmium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW07	UA	E001	Chloride, total	mg/L	12/15/15 - 04/27/23	24	0	CB around T-S line	57.5	200	Standard	No Exceedance
APW07	UA	E001	Chromium, total	mg/L	12/15/15 - 04/27/23	12	75	CI around median	0.004	0.1	Standard	No Exceedance
APW07	UA	E001	Cobalt, total	mg/L	12/15/15 - 04/27/23	11	82	CI around median	0.002	0.006	Standard	No Exceedance
APW07	UA	E001	Fluoride, total	mg/L	12/15/15 - 04/27/23	22	4	CI around mean	0.36	4	Standard	No Exceedance
APW07	UA	E001	Lead, total	mg/L	12/15/15 - 04/27/23	12	58	CI around median	0.001	0.0075	Standard	No Exceedance
APW07	UA	E001	Lithium, total	mg/L	12/15/15 - 04/27/23	12	100	All ND - Last	0.02	0.04	Standard	No Exceedance
APW07	UA	E001	Mercury, total	mg/L	12/15/15 - 04/27/23	12	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW07	UA	E001	Molybdenum, total	mg/L	12/15/15 - 04/27/23	11	0	CB around linear reg	-0.00442	0.1	Standard	No Exceedance
APW07	UA	E001	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 04/27/23	12	0	CI around mean	1.31	6.9	Background	No Exceedance
APW07	UA	E001	Selenium, total	mg/L	12/15/15 - 04/27/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW07	UA	E001	Sulfate, total	mg/L	12/15/15 - 04/27/23	23	17	CB around T-S line	6.15	400	Standard	No Exceedance
APW07	UA	E001	Thallium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW07	UA	E001	Total Dissolved Solids	mg/L	12/15/15 - 04/27/23	22	0	CI around mean	486	1,200	Standard	No Exceedance
APW07	UA	E001	pH (field)	SU	12/15/15 - 04/27/23	24	0	CI around mean	7.1/7.3	6.4/9	Background/Standard	No Exceedance
APW08	UA	E001	Antimony, total	mg/L	12/15/15 - 04/26/23	11	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW08	UA	E001	Arsenic, total	mg/L	12/15/15 - 04/26/23	12	0	CB around linear reg	0.0188	0.059	Background	No Exceedance
APW08	UA	E001	Barium, total	mg/L	12/15/15 - 04/26/23	12	0	CB around linear reg	0.444	2	Standard	No Exceedance
APW08	UA	E001	Beryllium, total	mg/L	12/15/15 - 04/26/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW08	UA	E001	Boron, total	mg/L	12/15/15 - 04/26/23	22	0	CI around geomean	0.0816	2	Standard	No Exceedance
APW08	UA	E001	Cadmium, total	mg/L	12/15/15 - 04/26/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW08	UA	E001	Chloride, total	mg/L	12/15/15 - 04/26/23	24	0	CI around mean	54.7	200	Standard	No Exceedance
APW08	UA	E001	Chromium, total	mg/L	12/15/15 - 04/26/23	12	58	CI around median	0.004	0.1	Standard	No Exceedance



**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW08	UA	E001	Cobalt, total	mg/L	12/15/15 - 04/26/23	11	73	CI around median	0.002	0.006	Standard	No Exceedance
APW08	UA	E001	Fluoride, total	mg/L	12/15/15 - 04/26/23	22	9	CI around median	0.373	4	Standard	No Exceedance
APW08	UA	E001	Lead, total	mg/L	12/15/15 - 04/26/23	12	50	CI around median	0.001	0.0075	Standard	No Exceedance
APW08	UA	E001	Lithium, total	mg/L	12/15/15 - 04/26/23	12	67	CI around median	0.01	0.04	Standard	No Exceedance
APW08	UA	E001	Mercury, total	mg/L	12/15/15 - 04/26/23	12	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW08	UA	E001	Molybdenum, total	mg/L	12/15/15 - 04/26/23	11	0	CI around mean	0.00453	0.1	Standard	No Exceedance
APW08	UA	E001	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 04/26/23	12	0	CI around mean	1.03	6.9	Background	No Exceedance
APW08	UA	E001	Selenium, total	mg/L	12/15/15 - 04/26/23	12	92	CI around median	0.001	0.05	Standard	No Exceedance
APW08	UA	E001	Sulfate, total	mg/L	12/15/15 - 04/26/23	23	0	CB around linear reg	44	400	Standard	No Exceedance
APW08	UA	E001	Thallium, total	mg/L	12/15/15 - 04/26/23	11	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW08	UA	E001	Total Dissolved Solids	mg/L	12/15/15 - 04/26/23	22	0	CB around linear reg	592	1,200	Standard	No Exceedance
APW08	UA	E001	pH (field)	SU	12/15/15 - 04/26/23	25	0	CI around mean	7.2/7.4	6.4/9	Background/Standard	No Exceedance
APW09	UA	E001	Antimony, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW09	UA	E001	Arsenic, total	mg/L	12/15/15 - 04/27/23	12	0	CB around linear reg	0.0223	0.059	Background	No Exceedance
APW09	UA	E001	Barium, total	mg/L	12/15/15 - 04/27/23	12	0	CI around mean	0.277	2	Standard	No Exceedance
APW09	UA	E001	Beryllium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW09	UA	E001	Boron, total	mg/L	12/15/15 - 04/27/23	22	0	CB around T-S line	0.0809	2	Standard	No Exceedance
APW09	UA	E001	Cadmium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW09	UA	E001	Chloride, total	mg/L	12/15/15 - 04/27/23	24	0	CI around median	95	200	Standard	No Exceedance
APW09	UA	E001	Chromium, total	mg/L	12/15/15 - 04/27/23	12	67	CB around T-S line	0.004	0.1	Standard	No Exceedance
APW09	UA	E001	Cobalt, total	mg/L	12/15/15 - 04/27/23	11	91	CI around median	0.002	0.006	Standard	No Exceedance
APW09	UA	E001	Fluoride, total	mg/L	12/15/15 - 04/27/23	22	4	CI around mean	0.438	4	Standard	No Exceedance
APW09	UA	E001	Lead, total	mg/L	12/15/15 - 04/27/23	12	50	CI around median	0.001	0.0075	Standard	No Exceedance
APW09	UA	E001	Lithium, total	mg/L	12/15/15 - 04/27/23	12	100	All ND - Last	0.02	0.04	Standard	No Exceedance
APW09	UA	E001	Mercury, total	mg/L	12/15/15 - 04/27/23	12	83	CI around median	0.0002	0.002	Standard	No Exceedance
APW09	UA	E001	Molybdenum, total	mg/L	12/15/15 - 04/27/23	11	0	CB around linear reg	-0.00854	0.1	Standard	No Exceedance
APW09	UA	E001	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 04/27/23	12	0	CI around geomean	0.828	6.9	Background	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW09	UA	E001	Selenium, total	mg/L	12/15/15 - 04/27/23	12	92	CI around median	0.001	0.05	Standard	No Exceedance
APW09	UA	E001	Sulfate, total	mg/L	12/15/15 - 04/27/23	23	9	CI around geomean	4	400	Standard	No Exceedance
APW09	UA	E001	Thallium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW09	UA	E001	Total Dissolved Solids	mg/L	12/15/15 - 04/27/23	23	0	CB around T-S line	734	1,200	Standard	No Exceedance
APW09	UA	E001	pH (field)	SU	12/15/15 - 04/27/23	24	0	CI around median	7.4/7.5	6.4/9	Background/Standard	No Exceedance
APW10	UA	E001	Antimony, total	mg/L	12/16/15 - 04/27/23	13	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW10	UA	E001	Arsenic, total	mg/L	12/16/15 - 04/27/23	14	0	CI around mean	0.0059	0.059	Background	No Exceedance
APW10	UA	E001	Barium, total	mg/L	12/16/15 - 04/27/23	14	0	CI around mean	0.0286	2	Standard	No Exceedance
APW10	UA	E001	Beryllium, total	mg/L	12/16/15 - 04/27/23	13	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW10	UA	E001	Boron, total	mg/L	12/16/15 - 04/27/23	24	0	CB around linear reg	0.0764	2	Standard	No Exceedance
APW10	UA	E001	Cadmium, total	mg/L	12/16/15 - 04/27/23	13	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW10	UA	E001	Chloride, total	mg/L	12/16/15 - 04/27/23	25	0	CI around mean	45.4	200	Standard	No Exceedance
APW10	UA	E001	Chromium, total	mg/L	12/16/15 - 04/27/23	14	100	All ND - Last	0.004	0.1	Standard	No Exceedance
APW10	UA	E001	Cobalt, total	mg/L	12/16/15 - 04/27/23	13	92	CI around median	0.002	0.006	Standard	No Exceedance
APW10	UA	E001	Fluoride, total	mg/L	12/16/15 - 04/27/23	24	21	CI around mean	0.298	4	Standard	No Exceedance
APW10	UA	E001	Lead, total	mg/L	12/16/15 - 04/27/23	14	86	CI around median	0.001	0.0075	Standard	No Exceedance
APW10	UA	E001	Lithium, total	mg/L	12/16/15 - 04/27/23	14	7	CB around linear reg	0.0132	0.04	Standard	No Exceedance
APW10	UA	E001	Mercury, total	mg/L	12/16/15 - 04/27/23	14	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW10	UA	E001	Molybdenum, total	mg/L	12/16/15 - 04/27/23	13	0	CB around linear reg	0.00524	0.1	Standard	No Exceedance
APW10	UA	E001	Radium 226 + Radium 228, total	pCi/L	12/16/15 - 04/27/23	14	0	CI around mean	0.442	6.9	Background	No Exceedance
APW10	UA	E001	Selenium, total	mg/L	12/16/15 - 04/27/23	14	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW10	UA	E001	Sulfate, total	mg/L	12/16/15 - 04/27/23	25	0	CI around median	410	400	Standard	Determined
APW10	UA	E001	Thallium, total	mg/L	12/16/15 - 04/27/23	13	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW10	UA	E001	Total Dissolved Solids	mg/L	12/16/15 - 04/27/23	26	0	CB around linear reg	1,030	1,200	Standard	No Exceedance
APW10	UA	E001	pH (field)	SU	12/16/15 - 04/27/23	27	0	CB around linear reg	7.2/7.5	6.4/9	Background/Standard	No Exceedance
APW11	UA	E001	Antimony, total	mg/L	02/18/21 - 04/26/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW11	UA	E001	Arsenic, total	mg/L	02/18/21 - 04/26/23	10	0	CI around mean	0.0015	0.059	Background	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW11	UA	E001	Barium, total	mg/L	02/18/21 - 04/26/23	10	0	CB around T-S line	-0.566	2	Standard	No Exceedance
APW11	UA	E001	Beryllium, total	mg/L	02/18/21 - 04/26/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW11	UA	E001	Boron, total	mg/L	02/18/21 - 04/26/23	10	0	CI around median	0.063	2	Standard	No Exceedance
APW11	UA	E001	Cadmium, total	mg/L	02/18/21 - 04/26/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW11	UA	E001	Chloride, total	mg/L	02/18/21 - 04/26/23	10	0	CI around median	26	200	Standard	No Exceedance
APW11	UA	E001	Chromium, total	mg/L	02/18/21 - 04/26/23	10	70	CI around median	0.004	0.1	Standard	No Exceedance
APW11	UA	E001	Cobalt, total	mg/L	02/18/21 - 04/26/23	10	70	CI around median	0.002	0.006	Standard	No Exceedance
APW11	UA	E001	Fluoride, total	mg/L	02/18/21 - 04/26/23	10	50	CI around geomean	0.245	4	Standard	No Exceedance
APW11	UA	E001	Lead, total	mg/L	02/18/21 - 04/26/23	10	60	CI around median	0.001	0.0075	Standard	No Exceedance
APW11	UA	E001	Lithium, total	mg/L	02/18/21 - 04/26/23	10	10	CI around mean	0.0175	0.04	Standard	No Exceedance
APW11	UA	E001	Mercury, total	mg/L	02/18/21 - 04/26/23	10	80	CI around median	0.0002	0.002	Standard	No Exceedance
APW11	UA	E001	Molybdenum, total	mg/L	02/18/21 - 04/26/23	9	0	CB around T-S line	-0.0661	0.1	Standard	No Exceedance
APW11	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 04/26/23	9	0	CI around mean	0.424	6.9	Background	No Exceedance
APW11	UA	E001	Selenium, total	mg/L	02/18/21 - 04/26/23	10	80	CI around median	0.001	0.05	Standard	No Exceedance
APW11	UA	E001	Sulfate, total	mg/L	02/18/21 - 04/26/23	10	0	CI around median	260	400	Standard	No Exceedance
APW11	UA	E001	Thallium, total	mg/L	02/18/21 - 04/26/23	10	90	CI around median	0.001	0.002	Standard	No Exceedance
APW11	UA	E001	Total Dissolved Solids	mg/L	02/18/21 - 04/26/23	10	0	CI around mean	809	1,200	Standard	No Exceedance
APW11	UA	E001	pH (field)	SU	02/18/21 - 04/26/23	10	0	CI around median	6.6/7.2	6.4/9	Background/Standard	No Exceedance
APW12	UD	E001	Antimony, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW12	UD	E001	Arsenic, total	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	0.00155	0.059	Background	No Exceedance
APW12	UD	E001	Barium, total	mg/L	02/17/21 - 04/26/23	10	0	CB around linear reg	0.0133	2	Standard	No Exceedance
APW12	UD	E001	Beryllium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW12	UD	E001	Boron, total	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	0.18	2	Standard	No Exceedance
APW12	UD	E001	Cadmium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW12	UD	E001	Chloride, total	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	21.3	200	Standard	No Exceedance
APW12	UD	E001	Chromium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.004	0.1	Standard	No Exceedance
APW12	UD	E001	Cobalt, total	mg/L	02/17/21 - 04/26/23	10	20	CB around linear reg	-0.00198	0.006	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW12	UD	E001	Fluoride, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.25	4	Standard	No Exceedance
APW12	UD	E001	Lead, total	mg/L	02/17/21 - 04/26/23	10	90	CI around median	0.001	0.0075	Standard	No Exceedance
APW12	UD	E001	Lithium, total	mg/L	02/17/21 - 04/26/23	10	0	CI around geomean	0.0244	0.04	Standard	No Exceedance
APW12	UD	E001	Mercury, total	mg/L	02/17/21 - 04/26/23	10	90	CI around median	0.0002	0.002	Standard	No Exceedance
APW12	UD	E001	Molybdenum, total	mg/L	02/17/21 - 04/26/23	9	44	CI around geomean	0.000964	0.1	Standard	No Exceedance
APW12	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 04/26/23	9	0	CI around geomean	0.14	6.9	Background	No Exceedance
APW12	UD	E001	Selenium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW12	UD	E001	Sulfate, total	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	253	400	Standard	No Exceedance
APW12	UD	E001	Thallium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW12	UD	E001	Total Dissolved Solids	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	1,160	1,200	Standard	No Exceedance
APW12	UD	E001	pH (field)	SU	02/17/21 - 04/26/23	10	0	CI around mean	6.2/6.6	6.4/9	Background/Standard	No Exceedance
APW13	UA	E001	Antimony, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW13	UA	E001	Arsenic, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	0.00314	0.059	Background	No Exceedance
APW13	UA	E001	Barium, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	0.05	2	Standard	No Exceedance
APW13	UA	E001	Beryllium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW13	UA	E001	Boron, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	0.105	2	Standard	No Exceedance
APW13	UA	E001	Cadmium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW13	UA	E001	Chloride, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	46.2	200	Standard	No Exceedance
APW13	UA	E001	Chromium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.004	0.1	Standard	No Exceedance
APW13	UA	E001	Cobalt, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.002	0.006	Standard	No Exceedance
APW13	UA	E001	Fluoride, total	mg/L	02/22/21 - 04/27/23	10	10	CI around mean	0.285	4	Standard	No Exceedance
APW13	UA	E001	Lead, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.0075	Standard	No Exceedance
APW13	UA	E001	Lithium, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	0.0262	0.04	Standard	No Exceedance
APW13	UA	E001	Mercury, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW13	UA	E001	Molybdenum, total	mg/L	02/22/21 - 04/27/23	9	0	CB around linear reg	-0.00498	0.1	Standard	No Exceedance
APW13	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 04/27/23	9	0	CI around mean	0.245	6.9	Background	No Exceedance
APW13	UA	E001	Selenium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW13	UA	E001	Sulfate, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	210	400	Standard	No Exceedance
APW13	UA	E001	Thallium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW13	UA	E001	Total Dissolved Solids	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	801	1,200	Standard	No Exceedance
APW13	UA	E001	pH (field)	SU	02/22/21 - 04/27/23	10	0	CI around median	7.1/7.3	6.4/9	Background/Standard	No Exceedance
APW14	UA	E001	Antimony, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW14	UA	E001	Arsenic, total	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	0.00506	0.059	Background	No Exceedance
APW14	UA	E001	Barium, total	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	0.0752	2	Standard	No Exceedance
APW14	UA	E001	Beryllium, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW14	UA	E001	Boron, total	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	0.0949	2	Standard	No Exceedance
APW14	UA	E001	Cadmium, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW14	UA	E001	Chloride, total	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	41.8	200	Standard	No Exceedance
APW14	UA	E001	Chromium, total	mg/L	02/22/21 - 04/28/23	10	90	CI around median	0.004	0.1	Standard	No Exceedance
APW14	UA	E001	Cobalt, total	mg/L	02/22/21 - 04/28/23	10	90	CI around median	0.002	0.006	Standard	No Exceedance
APW14	UA	E001	Fluoride, total	mg/L	02/22/21 - 04/28/23	10	30	CI around mean	0.266	4	Standard	No Exceedance
APW14	UA	E001	Lead, total	mg/L	02/22/21 - 04/28/23	10	70	CI around median	0.001	0.0075	Standard	No Exceedance
APW14	UA	E001	Lithium, total	mg/L	02/22/21 - 04/28/23	10	20	CB around linear reg	-0.00217	0.04	Standard	No Exceedance
APW14	UA	E001	Mercury, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW14	UA	E001	Molybdenum, total	mg/L	02/22/21 - 04/28/23	9	0	CB around linear reg	-0.0066	0.1	Standard	No Exceedance
APW14	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 04/28/23	9	0	CI around mean	0.372	6.9	Background	No Exceedance
APW14	UA	E001	Selenium, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW14	UA	E001	Sulfate, total	mg/L	02/22/21 - 04/28/23	10	0	CI around median	320	400	Standard	No Exceedance
APW14	UA	E001	Thallium, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW14	UA	E001	Total Dissolved Solids	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	892	1,200	Standard	No Exceedance
APW14	UA	E001	pH (field)	SU	02/22/21 - 04/28/23	10	0	CI around median	7.3/7.5	6.4/9	Background/Standard	No Exceedance
APW15	UA	E001	Antimony, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW15	UA	E001	Arsenic, total	mg/L	02/23/21 - 04/26/23	10	0	CI around mean	0.0166	0.059	Background	No Exceedance
APW15	UA	E001	Barium, total	mg/L	02/23/21 - 04/26/23	10	0	CI around mean	0.559	2	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW15	UA	E001	Beryllium, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW15	UA	E001	Boron, total	mg/L	02/23/21 - 04/26/23	10	0	CI around mean	0.128	2	Standard	No Exceedance
APW15	UA	E001	Cadmium, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW15	UA	E001	Chloride, total	mg/L	02/23/21 - 04/26/23	10	0	CI around median	230	200	Standard	Determined
APW15	UA	E001	Chromium, total	mg/L	02/23/21 - 04/26/23	10	80	CI around median	0.004	0.1	Standard	No Exceedance
APW15	UA	E001	Cobalt, total	mg/L	02/23/21 - 04/26/23	10	80	CI around median	0.002	0.006	Standard	No Exceedance
APW15	UA	E001	Fluoride, total	mg/L	02/23/21 - 04/26/23	10	0	CI around geomean	0.6	4	Standard	No Exceedance
APW15	UA	E001	Lead, total	mg/L	02/23/21 - 04/26/23	10	50	CI around median	0.001	0.0075	Standard	No Exceedance
APW15	UA	E001	Lithium, total	mg/L	02/23/21 - 04/26/23	10	80	CI around median	0.02	0.04	Standard	No Exceedance
APW15	UA	E001	Mercury, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW15	UA	E001	Molybdenum, total	mg/L	02/23/21 - 04/26/23	9	0	CI around mean	0.00846	0.1	Standard	No Exceedance
APW15	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 04/26/23	9	0	CI around mean	1.5	6.9	Background	No Exceedance
APW15	UA	E001	Selenium, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW15	UA	E001	Sulfate, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	1	400	Standard	No Exceedance
APW15	UA	E001	Thallium, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW15	UA	E001	Total Dissolved Solids	mg/L	02/23/21 - 04/26/23	10	0	CI around mean	1,020	1,200	Standard	No Exceedance
APW15	UA	E001	pH (field)	SU	02/23/21 - 04/26/23	10	0	CI around median	7.0/7.3	6.4/9	Background/Standard	No Exceedance
APW16	UA	E001	Antimony, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW16	UA	E001	Arsenic, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.00767	0.059	Background	No Exceedance
APW16	UA	E001	Barium, total	mg/L	02/23/21 - 04/25/23	10	0	CB around linear reg	0.434	2	Standard	No Exceedance
APW16	UA	E001	Beryllium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW16	UA	E001	Boron, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.128	2	Standard	No Exceedance
APW16	UA	E001	Cadmium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW16	UA	E001	Chloride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	66.1	200	Standard	No Exceedance
APW16	UA	E001	Chromium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.004	0.1	Standard	No Exceedance
APW16	UA	E001	Cobalt, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.002	0.006	Standard	No Exceedance
APW16	UA	E001	Fluoride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.605	4	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW16	UA	E001	Lead, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.0075	Standard	No Exceedance
APW16	UA	E001	Lithium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.02	0.04	Standard	No Exceedance
APW16	UA	E001	Mercury, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW16	UA	E001	Molybdenum, total	mg/L	02/23/21 - 04/25/23	9	44	CB around linear reg	-0.00408	0.1	Standard	No Exceedance
APW16	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 04/25/23	9	0	CI around geomean	1.22	6.9	Background	No Exceedance
APW16	UA	E001	Selenium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW16	UA	E001	Sulfate, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	1	400	Standard	No Exceedance
APW16	UA	E001	Thallium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW16	UA	E001	Total Dissolved Solids	mg/L	02/23/21 - 04/25/23	10	0	CI around median	690	1,200	Standard	No Exceedance
APW16	UA	E001	pH (field)	SU	02/23/21 - 04/25/23	10	0	CI around mean	7.2/7.6	6.4/9	Background/Standard	No Exceedance
APW17	UA	E001	Antimony, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
APW17	UA	E001	Arsenic, total	mg/L	02/23/21 - 04/25/23	10	0	CB around linear reg	0.0181	0.059	Background	No Exceedance
APW17	UA	E001	Barium, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.565	2	Standard	No Exceedance
APW17	UA	E001	Beryllium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW17	UA	E001	Boron, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.0839	2	Standard	No Exceedance
APW17	UA	E001	Cadmium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW17	UA	E001	Chloride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	43.9	200	Standard	No Exceedance
APW17	UA	E001	Chromium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.004	0.1	Standard	No Exceedance
APW17	UA	E001	Cobalt, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.002	0.006	Standard	No Exceedance
APW17	UA	E001	Fluoride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.394	4	Standard	No Exceedance
APW17	UA	E001	Lead, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.0075	Standard	No Exceedance
APW17	UA	E001	Lithium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.02	0.04	Standard	No Exceedance
APW17	UA	E001	Mercury, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW17	UA	E001	Molybdenum, total	mg/L	02/23/21 - 04/25/23	9	0	CI around median	0.0048	0.1	Standard	No Exceedance
APW17	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 04/25/23	9	0	CI around mean	0.644	6.9	Background	No Exceedance
APW17	UA	E001	Selenium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW17	UA	E001	Sulfate, total	mg/L	02/23/21 - 04/25/23	10	10	CI around mean	26.7	400	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Exceedance Type
APW17	UA	E001	Thallium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
APW17	UA	E001	Total Dissolved Solids	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	631	1,200	Standard	No Exceedance
APW17	UA	E001	pH (field)	SU	02/23/21 - 04/25/23	10	0	CI around mean	7.3/7.6	6.4/9	Background/Standard	No Exceedance
APW18	UA	E001	Antimony, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.003	0.006	Standard	No Exceedance
APW18	UA	E001	Arsenic, total	mg/L	02/23/21 - 04/25/23	10	10	CI around mean	0.00144	0.059	Background	No Exceedance
APW18	UA	E001	Barium, total	mg/L	02/23/21 - 04/25/23	10	0	CI around median	0.33	2	Standard	No Exceedance
APW18	UA	E001	Beryllium, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.001	0.004	Standard	No Exceedance
APW18	UA	E001	Boron, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.103	2	Standard	No Exceedance
APW18	UA	E001	Cadmium, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.001	0.005	Standard	No Exceedance
APW18	UA	E001	Chloride, total	mg/L	02/23/21 - 04/25/23	10	0	CB around T-S line	-243	200	Standard	No Exceedance
APW18	UA	E001	Chromium, total	mg/L	02/23/21 - 04/25/23	10	70	CI around median	0.004	0.1	Standard	No Exceedance
APW18	UA	E001	Cobalt, total	mg/L	02/23/21 - 04/25/23	10	70	CI around median	0.002	0.006	Standard	No Exceedance
APW18	UA	E001	Fluoride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.677	4	Standard	No Exceedance
APW18	UA	E001	Lead, total	mg/L	02/23/21 - 04/25/23	10	50	CB around linear reg	-0.00473	0.0075	Standard	No Exceedance
APW18	UA	E001	Lithium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.02	0.04	Standard	No Exceedance
APW18	UA	E001	Mercury, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.0002	0.002	Standard	No Exceedance
APW18	UA	E001	Molybdenum, total	mg/L	02/23/21 - 04/25/23	9	0	CB around linear reg	-0.0288	0.1	Standard	No Exceedance
APW18	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 04/25/23	9	0	CI around mean	1.38	6.9	Background	No Exceedance
APW18	UA	E001	Selenium, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.001	0.05	Standard	No Exceedance
APW18	UA	E001	Sulfate, total	mg/L	02/23/21 - 04/25/23	10	20	CI around geomean	1.82	400	Standard	No Exceedance
APW18	UA	E001	Thallium, total	mg/L	02/23/21 - 04/25/23	10	80	CI around median	0.001	0.002	Standard	No Exceedance
APW18	UA	E001	Total Dissolved Solids	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	508	1,200	Standard	No Exceedance
APW18	UA	E001	pH (field)	SU	02/23/21 - 04/25/23	10	0	CI around mean	7.5/7.8	6.4/9	Background/Standard	No Exceedance



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

845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

**Notes:**

**Determined: An exceedance was determined upon without resampling**

HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UD = Upper Drift

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 Statistical Analysis Plan using constituent concentrations observed at 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  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW02	UD	E002	Antimony, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW02	UD	E002	Arsenic, total	mg/L	02/17/21 - 08/17/23	11	73	CI around median	0.001	0.0590	Background	No Exceedance
APW02	UD	E002	Barium, total	mg/L	02/17/21 - 08/17/23	11	0	CI around mean	0.0094	2.0	Standard	No Exceedance
APW02	UD	E002	Beryllium, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW02	UD	E002	Boron, total	mg/L	02/17/21 - 08/17/23	11	0	CI around geomean	0.111	2	Standard	No Exceedance
APW02	UD	E002	Cadmium, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW02	UD	E002	Chloride, total	mg/L	02/17/21 - 08/17/23	11	0	CI around mean	100	200	Standard	No Exceedance
APW02	UD	E002	Chromium, total	mg/L	02/17/21 - 08/17/23	11	82	CI around median	0.004	0.1	Standard	No Exceedance
APW02	UD	E002	Cobalt, total	mg/L	02/17/21 - 08/17/23	11	91	CI around median	0.002	0.006	Standard	No Exceedance
APW02	UD	E002	Fluoride, total	mg/L	02/17/21 - 08/17/23	11	91	CI around median	0.25	4.0	Standard	No Exceedance
APW02	UD	E002	Lead, total	mg/L	02/17/21 - 08/17/23	11	91	CI around median	0.001	0.0075	Standard	No Exceedance
APW02	UD	E002	Lithium, total	mg/L	02/17/21 - 08/17/23	11	0	CI around geomean	0.0944	0.04	Standard	Exceedance
APW02	UD	E002	Mercury, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW02	UD	E002	Molybdenum, total	mg/L	02/17/21 - 08/17/23	10	60	CI around median	0.001	0.1	Standard	No Exceedance
APW02	UD	E002	pH (field)	SU	02/17/21 - 08/17/23	17	0	CI around mean	6.7/6.8	6.4/9.0	Background/Standard	No Exceedance
APW02	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 08/17/23	10	0	CI around mean	0.271	6.90	Background	No Exceedance
APW02	UD	E002	Selenium, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW02	UD	E002	Sulfate, total	mg/L	02/17/21 - 08/17/23	11	0	CI around median	2,860	400	Standard	Exceedance
APW02	UD	E002	Thallium, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW02	UD	E002	Total Dissolved Solids	mg/L	02/17/21 - 08/17/23	17	0	CI around median	5,000	1,200	Standard	Exceedance
APW03	UD	E002	Antimony, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW03	UD	E002	Arsenic, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.0590	Background	No Exceedance
APW03	UD	E002	Barium, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	0.065	2.0	Standard	No Exceedance
APW03	UD	E002	Beryllium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW03	UD	E002	Boron, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	0.381	2	Standard	No Exceedance
APW03	UD	E002	Cadmium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW03	UD	E002	Chloride, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	7.52	200	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW03	UD	E002	Chromium, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.004	0.1	Standard	No Exceedance
APW03	UD	E002	Cobalt, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW03	UD	E002	Fluoride, total	mg/L	02/18/21 - 07/31/23	11	82	CI around median	0.25	4.0	Standard	No Exceedance
APW03	UD	E002	Lead, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.001	0.0075	Standard	No Exceedance
APW03	UD	E002	Lithium, total	mg/L	02/18/21 - 07/31/23	11	36	CI around mean	0.0129	0.04	Standard	No Exceedance
APW03	UD	E002	Mercury, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.0002	0.002	Standard	No Exceedance
APW03	UD	E002	Molybdenum, total	mg/L	02/18/21 - 07/31/23	10	20	CI around mean	0.00109	0.1	Standard	No Exceedance
APW03	UD	E002	pH (field)	SU	02/18/21 - 07/31/23	17	0	CI around mean	6.8/7.2	6.4/9.0	Background/Standard	No Exceedance
APW03	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 07/31/23	10	0	CI around mean	0.185	6.90	Background	No Exceedance
APW03	UD	E002	Selenium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW03	UD	E002	Sulfate, total	mg/L	02/18/21 - 07/31/23	11	0	CB around linear reg	91.4	400	Standard	No Exceedance
APW03	UD	E002	Thallium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW03	UD	E002	Total Dissolved Solids	mg/L	02/18/21 - 07/31/23	17	0	CI around mean	627	1,200	Standard	No Exceedance
APW04	UD	E002	Antimony, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW04	UD	E002	Arsenic, total	mg/L	02/18/21 - 07/31/23	11	46	CI around median	0.001	0.0590	Background	No Exceedance
APW04	UD	E002	Barium, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	0.0189	2.0	Standard	No Exceedance
APW04	UD	E002	Beryllium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW04	UD	E002	Boron, total	mg/L	02/18/21 - 07/31/23	11	0	CI around median	0.024	2	Standard	No Exceedance
APW04	UD	E002	Cadmium, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.001	0.005	Standard	No Exceedance
APW04	UD	E002	Chloride, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	29.8	200	Standard	No Exceedance
APW04	UD	E002	Chromium, total	mg/L	02/18/21 - 07/31/23	11	82	CI around median	0.004	0.1	Standard	No Exceedance
APW04	UD	E002	Cobalt, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW04	UD	E002	Fluoride, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.25	4.0	Standard	No Exceedance
APW04	UD	E002	Lead, total	mg/L	02/18/21 - 07/31/23	11	64	CI around median	0.001	0.0075	Standard	No Exceedance
APW04	UD	E002	Lithium, total	mg/L	02/18/21 - 07/31/23	11	27	CI around median	0.02	0.04	Standard	No Exceedance
APW04	UD	E002	Mercury, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.0002	0.002	Standard	No Exceedance
APW04	UD	E002	Molybdenum, total	mg/L	02/18/21 - 07/31/23	10	90	CI around median	0.001	0.1	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW04	UD	E002	pH (field)	SU	02/18/21 - 07/31/23	17	0	CI around mean	6.6/7.2	6.4/9.0	Background/Standard	No Exceedance
APW04	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 07/31/23	10	0	CI around mean	0.0973	6.90	Background	No Exceedance
APW04	UD	E002	Selenium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW04	UD	E002	Sulfate, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	837	400	Standard	Exceedance
APW04	UD	E002	Thallium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW04	UD	E002	Total Dissolved Solids	mg/L	02/18/21 - 07/31/23	17	0	CI around mean	1,720	1,200	Standard	Exceedance
APW05S	UD	E002	Antimony, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW05S	UD	E002	Arsenic, total	mg/L	02/17/21 - 07/25/23	10	40	CI around mean	0.00103	0.0590	Background	No Exceedance
APW05S	UD	E002	Barium, total	mg/L	02/17/21 - 07/25/23	10	0	CI around geomean	0.0386	2.0	Standard	No Exceedance
APW05S	UD	E002	Beryllium, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW05S	UD	E002	Boron, total	mg/L	02/17/21 - 07/25/23	10	0	CI around median	0.04	2	Standard	No Exceedance
APW05S	UD	E002	Cadmium, total	mg/L	02/17/21 - 07/25/23	10	90	CI around median	0.001	0.005	Standard	No Exceedance
APW05S	UD	E002	Chloride, total	mg/L	02/17/21 - 07/25/23	10	0	CI around median	180	200	Standard	No Exceedance
APW05S	UD	E002	Chromium, total	mg/L	02/17/21 - 07/25/23	10	90	CI around median	0.004	0.1	Standard	No Exceedance
APW05S	UD	E002	Cobalt, total	mg/L	02/17/21 - 07/25/23	10	30	CI around median	0.002	0.006	Standard	No Exceedance
APW05S	UD	E002	Fluoride, total	mg/L	02/17/21 - 07/25/23	10	0	CI around mean	0.356	4.0	Standard	No Exceedance
APW05S	UD	E002	Lead, total	mg/L	02/17/21 - 07/25/23	10	90	CI around median	0.001	0.0075	Standard	No Exceedance
APW05S	UD	E002	Lithium, total	mg/L	02/17/21 - 07/25/23	10	0	CI around median	0.035	0.04	Standard	No Exceedance
APW05S	UD	E002	Mercury, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW05S	UD	E002	Molybdenum, total	mg/L	02/17/21 - 07/25/23	9	11	CB around linear reg	-0.000408	0.1	Standard	No Exceedance
APW05S	UD	E002	pH (field)	SU	02/17/21 - 07/25/23	10	0	CI around mean	6.7/7.0	6.4/9.0	Background/Standard	No Exceedance
APW05S	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 07/25/23	9	0	CI around geomean	0.153	6.90	Background	No Exceedance
APW05S	UD	E002	Selenium, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW05S	UD	E002	Sulfate, total	mg/L	02/17/21 - 07/25/23	10	0	CI around median	640	400	Standard	Exceedance
APW05S	UD	E002	Thallium, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW05S	UD	E002	Total Dissolved Solids	mg/L	02/17/21 - 07/25/23	10	0	CI around mean	3,390	1,200	Standard	Exceedance
APW07	UA	E002	Antimony, total	mg/L	12/15/15 - 07/25/23	12	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  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW07	UA	E002	Arsenic, total	mg/L	12/15/15 - 07/25/23	13	0	CB around linear reg	0.0131	0.0590	Background	No Exceedance
APW07	UA	E002	Barium, total	mg/L	12/15/15 - 07/25/23	13	0	CB around linear reg	0.475	2.0	Standard	No Exceedance
APW07	UA	E002	Beryllium, total	mg/L	12/15/15 - 07/25/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW07	UA	E002	Boron, total	mg/L	12/15/15 - 07/25/23	23	0	CB around T-S line	0.0863	2	Standard	No Exceedance
APW07	UA	E002	Cadmium, total	mg/L	12/15/15 - 07/25/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW07	UA	E002	Chloride, total	mg/L	12/15/15 - 07/25/23	26	0	CB around T-S line	55.2	200	Standard	No Exceedance
APW07	UA	E002	Chromium, total	mg/L	12/15/15 - 07/25/23	13	69	CI around median	0.004	0.1	Standard	No Exceedance
APW07	UA	E002	Cobalt, total	mg/L	12/15/15 - 07/25/23	12	83	CI around median	0.002	0.006	Standard	No Exceedance
APW07	UA	E002	Fluoride, total	mg/L	12/15/15 - 07/25/23	23	4	CI around mean	0.363	4.0	Standard	No Exceedance
APW07	UA	E002	Lead, total	mg/L	12/15/15 - 07/25/23	13	62	CI around median	0.001	0.0075	Standard	No Exceedance
APW07	UA	E002	Lithium, total	mg/L	12/15/15 - 07/25/23	13	92	CI around median	0.01	0.04	Standard	No Exceedance
APW07	UA	E002	Mercury, total	mg/L	12/15/15 - 07/25/23	13	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW07	UA	E002	Molybdenum, total	mg/L	12/15/15 - 07/25/23	12	0	CB around linear reg	-0.00329	0.1	Standard	No Exceedance
APW07	UA	E002	pH (field)	SU	12/15/15 - 07/25/23	25	0	CI around mean	7.2/7.3	6.4/9.0	Background/Standard	No Exceedance
APW07	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 07/25/23	13	0	CB around linear reg	1.5	6.90	Background	No Exceedance
APW07	UA	E002	Selenium, total	mg/L	12/15/15 - 07/25/23	13	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW07	UA	E002	Sulfate, total	mg/L	12/15/15 - 07/25/23	24	17	CB around T-S line	8.94	400	Standard	No Exceedance
APW07	UA	E002	Thallium, total	mg/L	12/15/15 - 07/25/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW07	UA	E002	Total Dissolved Solids	mg/L	12/15/15 - 07/25/23	23	0	CB around T-S line	523	1,200	Standard	No Exceedance
APW08	UA	E002	Antimony, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW08	UA	E002	Arsenic, total	mg/L	12/15/15 - 07/31/23	13	0	CB around linear reg	0.0208	0.0590	Background	No Exceedance
APW08	UA	E002	Barium, total	mg/L	12/15/15 - 07/31/23	13	0	CB around linear reg	0.463	2.0	Standard	No Exceedance
APW08	UA	E002	Beryllium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW08	UA	E002	Boron, total	mg/L	12/15/15 - 07/31/23	23	0	CB around T-S line	0.0867	2	Standard	No Exceedance
APW08	UA	E002	Cadmium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW08	UA	E002	Chloride, total	mg/L	12/15/15 - 07/31/23	25	0	CI around mean	54.7	200	Standard	No Exceedance
APW08	UA	E002	Chromium, total	mg/L	12/15/15 - 07/31/23	13	54	CI around median	0.004	0.1	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW08	UA	E002	Cobalt, total	mg/L	12/15/15 - 07/31/23	12	75	CI around median	0.002	0.006	Standard	No Exceedance
APW08	UA	E002	Fluoride, total	mg/L	12/15/15 - 07/31/23	23	9	CI around median	0.373	4.0	Standard	No Exceedance
APW08	UA	E002	Lead, total	mg/L	12/15/15 - 07/31/23	13	54	CI around median	0.001	0.0075	Standard	No Exceedance
APW08	UA	E002	Lithium, total	mg/L	12/15/15 - 07/31/23	13	69	CI around median	0.01	0.04	Standard	No Exceedance
APW08	UA	E002	Mercury, total	mg/L	12/15/15 - 07/31/23	13	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW08	UA	E002	Molybdenum, total	mg/L	12/15/15 - 07/31/23	12	0	CI around mean	0.0046	0.1	Standard	No Exceedance
APW08	UA	E002	pH (field)	SU	12/15/15 - 07/31/23	26	0	CI around mean	7.2/7.4	6.4/9.0	Background/Standard	No Exceedance
APW08	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 07/31/23	13	0	CI around mean	0.989	6.90	Background	No Exceedance
APW08	UA	E002	Selenium, total	mg/L	12/15/15 - 07/31/23	13	92	CI around median	0.001	0.05	Standard	No Exceedance
APW08	UA	E002	Sulfate, total	mg/L	12/15/15 - 07/31/23	25	0	CB around linear reg	45.4	400	Standard	No Exceedance
APW08	UA	E002	Thallium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW08	UA	E002	Total Dissolved Solids	mg/L	12/15/15 - 07/31/23	23	0	CB around linear reg	590	1,200	Standard	No Exceedance
APW09	UA	E002	Antimony, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW09	UA	E002	Arsenic, total	mg/L	12/15/15 - 07/31/23	13	0	CB around linear reg	0.025	0.0590	Background	No Exceedance
APW09	UA	E002	Barium, total	mg/L	12/15/15 - 07/31/23	13	0	CB around linear reg	0.336	2.0	Standard	No Exceedance
APW09	UA	E002	Beryllium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW09	UA	E002	Boron, total	mg/L	12/15/15 - 07/31/23	23	0	CB around T-S line	0.0876	2	Standard	No Exceedance
APW09	UA	E002	Cadmium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW09	UA	E002	Chloride, total	mg/L	12/15/15 - 07/31/23	25	0	CB around T-S line	121	200	Standard	No Exceedance
APW09	UA	E002	Chromium, total	mg/L	12/15/15 - 07/31/23	13	69	CI around median	0.004	0.1	Standard	No Exceedance
APW09	UA	E002	Cobalt, total	mg/L	12/15/15 - 07/31/23	12	92	CI around median	0.002	0.006	Standard	No Exceedance
APW09	UA	E002	Fluoride, total	mg/L	12/15/15 - 07/31/23	24	4	CI around mean	0.45	4.0	Standard	No Exceedance
APW09	UA	E002	Lead, total	mg/L	12/15/15 - 07/31/23	13	54	CI around median	0.001	0.0075	Standard	No Exceedance
APW09	UA	E002	Lithium, total	mg/L	12/15/15 - 07/31/23	13	92	CI around median	0.01	0.04	Standard	No Exceedance
APW09	UA	E002	Mercury, total	mg/L	12/15/15 - 07/31/23	13	85	CI around median	0.0002	0.002	Standard	No Exceedance
APW09	UA	E002	Molybdenum, total	mg/L	12/15/15 - 07/31/23	12	0	CB around linear reg	-0.00632	0.1	Standard	No Exceedance
APW09	UA	E002	pH (field)	SU	12/15/15 - 07/31/23	25	0	CI around median	7.4/7.5	6.4/9.0	Background/Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW09	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 07/31/23	13	0	CI around geomean	0.878	6.90	Background	No Exceedance
APW09	UA	E002	Selenium, total	mg/L	12/15/15 - 07/31/23	13	92	CI around median	0.001	0.05	Standard	No Exceedance
APW09	UA	E002	Sulfate, total	mg/L	12/15/15 - 07/31/23	25	8	CI around geomean	4.68	400	Standard	No Exceedance
APW09	UA	E002	Thallium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW09	UA	E002	Total Dissolved Solids	mg/L	12/15/15 - 07/31/23	24	0	CB around T-S line	755	1,200	Standard	No Exceedance
APW10	UA	E002	Antimony, total	mg/L	12/16/15 - 07/31/23	14	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW10	UA	E002	Arsenic, total	mg/L	12/16/15 - 07/31/23	15	0	CI around mean	0.00612	0.0590	Background	No Exceedance
APW10	UA	E002	Barium, total	mg/L	12/16/15 - 07/31/23	15	0	CI around mean	0.0289	2.0	Standard	No Exceedance
APW10	UA	E002	Beryllium, total	mg/L	12/16/15 - 07/31/23	14	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW10	UA	E002	Boron, total	mg/L	12/16/15 - 07/31/23	25	0	CB around linear reg	0.0782	2	Standard	No Exceedance
APW10	UA	E002	Cadmium, total	mg/L	12/16/15 - 07/31/23	14	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW10	UA	E002	Chloride, total	mg/L	12/16/15 - 07/31/23	26	0	CI around mean	45.4	200	Standard	No Exceedance
APW10	UA	E002	Chromium, total	mg/L	12/16/15 - 07/31/23	15	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW10	UA	E002	Cobalt, total	mg/L	12/16/15 - 07/31/23	14	93	CI around median	0.002	0.006	Standard	No Exceedance
APW10	UA	E002	Fluoride, total	mg/L	12/16/15 - 07/31/23	25	20	CI around mean	0.299	4.0	Standard	No Exceedance
APW10	UA	E002	Lead, total	mg/L	12/16/15 - 07/31/23	15	87	CI around median	0.001	0.0075	Standard	No Exceedance
APW10	UA	E002	Lithium, total	mg/L	12/16/15 - 07/31/23	15	7	CB around linear reg	0.014	0.04	Standard	No Exceedance
APW10	UA	E002	Mercury, total	mg/L	12/16/15 - 07/31/23	15	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW10	UA	E002	Molybdenum, total	mg/L	12/16/15 - 07/31/23	14	0	CB around linear reg	0.00554	0.1	Standard	No Exceedance
APW10	UA	E002	pH (field)	SU	12/16/15 - 07/31/23	28	0	CB around linear reg	7.2/7.5	6.4/9.0	Background/Standard	No Exceedance
APW10	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/16/15 - 07/31/23	15	0	CI around mean	0.453	6.90	Background	No Exceedance
APW10	UA	E002	Selenium, total	mg/L	12/16/15 - 07/31/23	15	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW10	UA	E002	Sulfate, total	mg/L	12/16/15 - 07/31/23	27	0	CI around median	410	400	Standard	Exceedance
APW10	UA	E002	Thallium, total	mg/L	12/16/15 - 07/31/23	14	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW10	UA	E002	Total Dissolved Solids	mg/L	12/16/15 - 07/31/23	27	0	CB around linear reg	1,030	1,200	Standard	No Exceedance
APW11	UA	E002	Antimony, total	mg/L	02/18/21 - 07/24/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW11	UA	E002	Arsenic, total	mg/L	02/18/21 - 07/24/23	11	0	CI around mean	0.00182	0.0590	Background	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW11	UA	E002	Barium, total	mg/L	02/18/21 - 07/24/23	11	0	CB around T-S line	-0.375	2.0	Standard	No Exceedance
APW11	UA	E002	Beryllium, total	mg/L	02/18/21 - 07/24/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW11	UA	E002	Boron, total	mg/L	02/18/21 - 07/24/23	11	0	CI around median	0.063	2	Standard	No Exceedance
APW11	UA	E002	Cadmium, total	mg/L	02/18/21 - 07/24/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW11	UA	E002	Chloride, total	mg/L	02/18/21 - 07/24/23	11	0	CI around median	25	200	Standard	No Exceedance
APW11	UA	E002	Chromium, total	mg/L	02/18/21 - 07/24/23	11	64	CI around median	0.004	0.1	Standard	No Exceedance
APW11	UA	E002	Cobalt, total	mg/L	02/18/21 - 07/24/23	11	64	CI around median	0.002	0.006	Standard	No Exceedance
APW11	UA	E002	Fluoride, total	mg/L	02/18/21 - 07/24/23	11	46	CI around mean	0.248	4.0	Standard	No Exceedance
APW11	UA	E002	Lead, total	mg/L	02/18/21 - 07/24/23	11	54	CI around median	0.001	0.0075	Standard	No Exceedance
APW11	UA	E002	Lithium, total	mg/L	02/18/21 - 07/24/23	11	9	CI around mean	0.0178	0.04	Standard	No Exceedance
APW11	UA	E002	Mercury, total	mg/L	02/18/21 - 07/24/23	11	82	CI around median	0.0002	0.002	Standard	No Exceedance
APW11	UA	E002	Molybdenum, total	mg/L	02/18/21 - 07/24/23	10	0	CB around T-S line	-0.0654	0.1	Standard	No Exceedance
APW11	UA	E002	pH (field)	SU	02/18/21 - 07/24/23	11	0	CI around median	6.6/7.2	6.4/9.0	Background/Standard	No Exceedance
APW11	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 07/24/23	10	0	CI around geomean	0.529	6.90	Background	No Exceedance
APW11	UA	E002	Selenium, total	mg/L	02/18/21 - 07/24/23	11	82	CI around median	0.001	0.05	Standard	No Exceedance
APW11	UA	E002	Sulfate, total	mg/L	02/18/21 - 07/24/23	11	0	CI around median	260	400	Standard	No Exceedance
APW11	UA	E002	Thallium, total	mg/L	02/18/21 - 07/24/23	11	91	CI around median	0.001	0.002	Standard	No Exceedance
APW11	UA	E002	Total Dissolved Solids	mg/L	02/18/21 - 07/24/23	11	0	CI around mean	813	1,200	Standard	No Exceedance
APW12	UD	E002	Antimony, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW12	UD	E002	Arsenic, total	mg/L	02/17/21 - 07/24/23	11	9	CI around mean	0.0013	0.0590	Background	No Exceedance
APW12	UD	E002	Barium, total	mg/L	02/17/21 - 07/24/23	11	0	CB around linear reg	0.0162	2.0	Standard	No Exceedance
APW12	UD	E002	Beryllium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW12	UD	E002	Boron, total	mg/L	02/17/21 - 07/24/23	11	0	CI around mean	0.192	2	Standard	No Exceedance
APW12	UD	E002	Cadmium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW12	UD	E002	Chloride, total	mg/L	02/17/21 - 07/24/23	11	0	CI around mean	21.7	200	Standard	No Exceedance
APW12	UD	E002	Chromium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW12	UD	E002	Cobalt, total	mg/L	02/17/21 - 07/24/23	11	18	CB around linear reg	-0.0016	0.006	Standard	No Exceedance



**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW12	UD	E002	Fluoride, total	mg/L	02/17/21 - 07/24/23	11	91	CI around median	0.25	4.0	Standard	No Exceedance
APW12	UD	E002	Lead, total	mg/L	02/17/21 - 07/24/23	11	91	CI around median	0.001	0.0075	Standard	No Exceedance
APW12	UD	E002	Lithium, total	mg/L	02/17/21 - 07/24/23	11	0	CI around geomean	0.0248	0.04	Standard	No Exceedance
APW12	UD	E002	Mercury, total	mg/L	02/17/21 - 07/24/23	11	91	CI around median	0.0002	0.002	Standard	No Exceedance
APW12	UD	E002	Molybdenum, total	mg/L	02/17/21 - 07/24/23	10	50	CI around geomean	0.000968	0.1	Standard	No Exceedance
APW12	UD	E002	pH (field)	SU	02/17/21 - 07/24/23	11	0	CI around mean	6.3/6.5	6.4/9.0	Background/Standard	No Exceedance
APW12	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 07/24/23	10	0	CI around geomean	0.165	6.90	Background	No Exceedance
APW12	UD	E002	Selenium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW12	UD	E002	Sulfate, total	mg/L	02/17/21 - 07/24/23	11	0	CI around mean	271	400	Standard	No Exceedance
APW12	UD	E002	Thallium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW12	UD	E002	Total Dissolved Solids	mg/L	02/17/21 - 07/24/23	11	0	CI around mean	1,170	1,200	Standard	No Exceedance
APW13	UA	E002	Antimony, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW13	UA	E002	Arsenic, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	0.00331	0.0590	Background	No Exceedance
APW13	UA	E002	Barium, total	mg/L	02/22/21 - 07/31/23	11	0	CI around median	0.05	2.0	Standard	No Exceedance
APW13	UA	E002	Beryllium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW13	UA	E002	Boron, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	0.107	2	Standard	No Exceedance
APW13	UA	E002	Cadmium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW13	UA	E002	Chloride, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	46.4	200	Standard	No Exceedance
APW13	UA	E002	Chromium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW13	UA	E002	Cobalt, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW13	UA	E002	Fluoride, total	mg/L	02/22/21 - 07/31/23	11	9	CI around mean	0.299	4.0	Standard	No Exceedance
APW13	UA	E002	Lead, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.0075	Standard	No Exceedance
APW13	UA	E002	Lithium, total	mg/L	02/22/21 - 07/31/23	11	0	CB around linear reg	0.00549	0.04	Standard	No Exceedance
APW13	UA	E002	Mercury, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW13	UA	E002	Molybdenum, total	mg/L	02/22/21 - 07/31/23	10	0	CB around linear reg	-0.000226	0.1	Standard	No Exceedance
APW13	UA	E002	pH (field)	SU	02/22/21 - 07/31/23	11	0	CI around median	6.9/7.3	6.4/9.0	Background/Standard	No Exceedance
APW13	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 07/31/23	10	0	CI around mean	0.304	6.90	Background	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW13	UA	E002	Selenium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW13	UA	E002	Sulfate, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	212	400	Standard	No Exceedance
APW13	UA	E002	Thallium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW13	UA	E002	Total Dissolved Solids	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	809	1,200	Standard	No Exceedance
APW14	UA	E002	Antimony, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW14	UA	E002	Arsenic, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	0.00533	0.0590	Background	No Exceedance
APW14	UA	E002	Barium, total	mg/L	02/22/21 - 07/31/23	11	0	CB around linear reg	0.0314	2.0	Standard	No Exceedance
APW14	UA	E002	Beryllium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW14	UA	E002	Boron, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	0.0958	2	Standard	No Exceedance
APW14	UA	E002	Cadmium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW14	UA	E002	Chloride, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	41.8	200	Standard	No Exceedance
APW14	UA	E002	Chromium, total	mg/L	02/22/21 - 07/31/23	11	91	CI around median	0.004	0.1	Standard	No Exceedance
APW14	UA	E002	Cobalt, total	mg/L	02/22/21 - 07/31/23	11	91	CI around median	0.002	0.006	Standard	No Exceedance
APW14	UA	E002	Fluoride, total	mg/L	02/22/21 - 07/31/23	11	27	CI around mean	0.271	4.0	Standard	No Exceedance
APW14	UA	E002	Lead, total	mg/L	02/22/21 - 07/31/23	11	73	CI around median	0.001	0.0075	Standard	No Exceedance
APW14	UA	E002	Lithium, total	mg/L	02/22/21 - 07/31/23	11	18	CB around linear reg	0.00124	0.04	Standard	No Exceedance
APW14	UA	E002	Mercury, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW14	UA	E002	Molybdenum, total	mg/L	02/22/21 - 07/31/23	10	0	CB around linear reg	-0.00289	0.1	Standard	No Exceedance
APW14	UA	E002	pH (field)	SU	02/22/21 - 07/31/23	11	0	CI around median	7.0/7.5	6.4/9.0	Background/Standard	No Exceedance
APW14	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 07/31/23	10	0	CI around mean	0.41	6.90	Background	No Exceedance
APW14	UA	E002	Selenium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW14	UA	E002	Sulfate, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	317	400	Standard	No Exceedance
APW14	UA	E002	Thallium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW14	UA	E002	Total Dissolved Solids	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	900	1,200	Standard	No Exceedance
APW15	UA	E002	Antimony, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW15	UA	E002	Arsenic, total	mg/L	02/23/21 - 08/01/23	11	0	CI around mean	0.0169	0.0590	Background	No Exceedance
APW15	UA	E002	Barium, total	mg/L	02/23/21 - 08/01/23	11	0	CI around mean	0.564	2.0	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW15	UA	E002	Beryllium, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW15	UA	E002	Boron, total	mg/L	02/23/21 - 08/01/23	11	0	CI around mean	0.126	2	Standard	No Exceedance
APW15	UA	E002	Cadmium, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW15	UA	E002	Chloride, total	mg/L	02/23/21 - 08/01/23	11	0	CI around median	230	200	Standard	Exceedance
APW15	UA	E002	Chromium, total	mg/L	02/23/21 - 08/01/23	11	73	CI around median	0.004	0.1	Standard	No Exceedance
APW15	UA	E002	Cobalt, total	mg/L	02/23/21 - 08/01/23	11	73	CI around median	0.002	0.006	Standard	No Exceedance
APW15	UA	E002	Fluoride, total	mg/L	02/23/21 - 08/01/23	11	0	CI around geomean	0.568	4.0	Standard	No Exceedance
APW15	UA	E002	Lead, total	mg/L	02/23/21 - 08/01/23	11	46	CI around median	0.001	0.0075	Standard	No Exceedance
APW15	UA	E002	Lithium, total	mg/L	02/23/21 - 08/01/23	11	73	CI around median	0.02	0.04	Standard	No Exceedance
APW15	UA	E002	Mercury, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW15	UA	E002	Molybdenum, total	mg/L	02/23/21 - 08/01/23	10	0	CB around linear reg	-0.000246	0.1	Standard	No Exceedance
APW15	UA	E002	pH (field)	SU	02/23/21 - 08/01/23	11	0	CI around median	6.9/7.3	6.4/9.0	Background/Standard	No Exceedance
APW15	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 08/01/23	10	0	CI around mean	1.55	6.90	Background	No Exceedance
APW15	UA	E002	Selenium, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW15	UA	E002	Sulfate, total	mg/L	02/23/21 - 08/01/23	11	91	CI around median	1	400	Standard	No Exceedance
APW15	UA	E002	Thallium, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW15	UA	E002	Total Dissolved Solids	mg/L	02/23/21 - 08/01/23	11	0	CI around mean	1,030	1,200	Standard	No Exceedance
APW16	UA	E002	Antimony, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW16	UA	E002	Arsenic, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	0.00821	0.0590	Background	No Exceedance
APW16	UA	E002	Barium, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	0.554	2.0	Standard	No Exceedance
APW16	UA	E002	Beryllium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW16	UA	E002	Boron, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	0.13	2	Standard	No Exceedance
APW16	UA	E002	Cadmium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW16	UA	E002	Chloride, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	65.6	200	Standard	No Exceedance
APW16	UA	E002	Chromium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW16	UA	E002	Cobalt, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW16	UA	E002	Fluoride, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	0.617	4.0	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW16	UA	E002	Lead, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.0075	Standard	No Exceedance
APW16	UA	E002	Lithium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.003	0.04	Standard	No Exceedance
APW16	UA	E002	Mercury, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW16	UA	E002	Molybdenum, total	mg/L	02/23/21 - 07/31/23	10	50	CB around linear reg	-0.00225	0.1	Standard	No Exceedance
APW16	UA	E002	pH (field)	SU	02/23/21 - 07/31/23	11	0	CI around mean	7.2/7.5	6.4/9.0	Background/Standard	No Exceedance
APW16	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 07/31/23	10	0	CI around geomean	1.28	6.90	Background	No Exceedance
APW16	UA	E002	Selenium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW16	UA	E002	Sulfate, total	mg/L	02/23/21 - 07/31/23	11	82	CI around median	1	400	Standard	No Exceedance
APW16	UA	E002	Thallium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW16	UA	E002	Total Dissolved Solids	mg/L	02/23/21 - 07/31/23	11	0	CI around median	665	1,200	Standard	No Exceedance
APW17	UA	E002	Antimony, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW17	UA	E002	Arsenic, total	mg/L	02/23/21 - 07/25/23	11	0	CB around linear reg	0.0221	0.0590	Background	No Exceedance
APW17	UA	E002	Barium, total	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	0.57	2.0	Standard	No Exceedance
APW17	UA	E002	Beryllium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW17	UA	E002	Boron, total	mg/L	02/23/21 - 07/25/23	11	0	CI around median	0.083	2	Standard	No Exceedance
APW17	UA	E002	Cadmium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW17	UA	E002	Chloride, total	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	44.9	200	Standard	No Exceedance
APW17	UA	E002	Chromium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW17	UA	E002	Cobalt, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW17	UA	E002	Fluoride, total	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	0.414	4.0	Standard	No Exceedance
APW17	UA	E002	Lead, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.0075	Standard	No Exceedance
APW17	UA	E002	Lithium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.003	0.04	Standard	No Exceedance
APW17	UA	E002	Mercury, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW17	UA	E002	Molybdenum, total	mg/L	02/23/21 - 07/25/23	10	0	CI around median	0.0048	0.1	Standard	No Exceedance
APW17	UA	E002	pH (field)	SU	02/23/21 - 07/25/23	11	0	CI around mean	7.2/7.6	6.4/9.0	Background/Standard	No Exceedance
APW17	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 07/25/23	10	0	CI around mean	0.787	6.90	Background	No Exceedance
APW17	UA	E002	Selenium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW17	UA	E002	Sulfate, total	mg/L	02/23/21 - 07/25/23	11	9	CB around T-S line	-74	400	Standard	No Exceedance
APW17	UA	E002	Thallium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW17	UA	E002	Total Dissolved Solids	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	634	1,200	Standard	No Exceedance
APW18	UA	E002	Antimony, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.003	0.006	Standard	No Exceedance
APW18	UA	E002	Arsenic, total	mg/L	02/23/21 - 07/25/23	11	9	CI around mean	0.00154	0.0590	Background	No Exceedance
APW18	UA	E002	Barium, total	mg/L	02/23/21 - 07/25/23	11	0	CI around median	0.33	2.0	Standard	No Exceedance
APW18	UA	E002	Beryllium, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.001	0.004	Standard	No Exceedance
APW18	UA	E002	Boron, total	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	0.106	2	Standard	No Exceedance
APW18	UA	E002	Cadmium, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.001	0.005	Standard	No Exceedance
APW18	UA	E002	Chloride, total	mg/L	02/23/21 - 07/25/23	11	0	CB around T-S line	-217	200	Standard	No Exceedance
APW18	UA	E002	Chromium, total	mg/L	02/23/21 - 07/25/23	11	73	CB around T-S line	-0.0376	0.1	Standard	No Exceedance
APW18	UA	E002	Cobalt, total	mg/L	02/23/21 - 07/25/23	11	73	CI around median	0.002	0.006	Standard	No Exceedance
APW18	UA	E002	Fluoride, total	mg/L	02/23/21 - 07/25/23	11	0	CI around geomean	0.663	4.0	Standard	No Exceedance
APW18	UA	E002	Lead, total	mg/L	02/23/21 - 07/25/23	11	54	CB around T-S line	-0.0485	0.0075	Standard	No Exceedance
APW18	UA	E002	Lithium, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.02	0.04	Standard	No Exceedance
APW18	UA	E002	Mercury, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.0002	0.002	Standard	No Exceedance
APW18	UA	E002	Molybdenum, total	mg/L	02/23/21 - 07/25/23	10	0	CB around linear reg	-0.0188	0.1	Standard	No Exceedance
APW18	UA	E002	pH (field)	SU	02/23/21 - 07/25/23	11	0	CI around mean	7.4/7.8	6.4/9.0	Background/Standard	No Exceedance
APW18	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 07/25/23	10	0	CI around mean	1.47	6.90	Background	No Exceedance
APW18	UA	E002	Selenium, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.001	0.05	Standard	No Exceedance
APW18	UA	E002	Sulfate, total	mg/L	02/23/21 - 07/25/23	11	18	CI around geomean	2.29	400	Standard	No Exceedance
APW18	UA	E002	Thallium, total	mg/L	02/23/21 - 07/25/23	11	82	CI around median	0.001	0.002	Standard	No Exceedance
APW18	UA	E002	Total Dissolved Solids	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	511	1,200	Standard	No Exceedance

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

845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

**Notes:**

Compliance Result:

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

Exceedance: The statistical result exceeded the GWPS.

HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UD = Upper Drift

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

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 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW02	UD	E003	Antimony, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW02	UD	E003	Arsenic, total	mg/L	02/17/21 - 10/10/23	12	75	CI around median	0.001	0.0590	Background	No Exceedance
APW02	UD	E003	Barium, total	mg/L	02/17/21 - 10/10/23	12	0	CI around mean	0.00985	2.0	Standard	No Exceedance
APW02	UD	E003	Beryllium, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW02	UD	E003	Boron, total	mg/L	02/17/21 - 10/10/23	12	0	CI around geomean	0.111	2	Standard	No Exceedance
APW02	UD	E003	Cadmium, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW02	UD	E003	Chloride, total	mg/L	02/17/21 - 10/10/23	12	0	CI around mean	100	200	Standard	No Exceedance
APW02	UD	E003	Chromium, total	mg/L	02/17/21 - 10/10/23	12	83	CI around median	0.0022	0.1	Standard	No Exceedance
APW02	UD	E003	Cobalt, total	mg/L	02/17/21 - 10/10/23	12	92	CI around median	0.0016	0.006	Standard	No Exceedance
APW02	UD	E003	Fluoride, total	mg/L	02/17/21 - 10/10/23	12	83	CI around median	0.23	4.0	Standard	No Exceedance
APW02	UD	E003	Lead, total	mg/L	02/17/21 - 10/10/23	12	92	CI around median	0.001	0.0075	Standard	No Exceedance
APW02	UD	E003	Lithium, total	mg/L	02/17/21 - 10/10/23	12	0	CI around geomean	0.0954	0.04	Standard	Exceedance
APW02	UD	E003	Mercury, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW02	UD	E003	Molybdenum, total	mg/L	02/17/21 - 10/10/23	11	54	CI around median	0.001	0.1	Standard	No Exceedance
APW02	UD	E003	pH (field)	SU	02/17/21 - 10/10/23	18	0	CI around mean	6.7/6.8	6.4/9.0	Background/Standard	No Exceedance
APW02	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 10/10/23	11	0	CI around mean	0.323	6.90	Background	No Exceedance
APW02	UD	E003	Selenium, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW02	UD	E003	Sulfate, total	mg/L	02/17/21 - 10/10/23	12	0	CI around median	2,860	400	Standard	Exceedance
APW02	UD	E003	Thallium, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW02	UD	E003	Total Dissolved Solids	mg/L	02/17/21 - 10/10/23	18	0	CI around median	5,000	1,200	Standard	Exceedance
APW03	UD	E003	Antimony, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW03	UD	E003	Arsenic, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.0590	Background	No Exceedance
APW03	UD	E003	Barium, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	0.0651	2.0	Standard	No Exceedance
APW03	UD	E003	Beryllium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW03	UD	E003	Boron, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	0.387	2	Standard	No Exceedance
APW03	UD	E003	Cadmium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW03	UD	E003	Chloride, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	7.43	200	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW03	UD	E003	Chromium, total	mg/L	02/18/21 - 10/10/23	12	83	CI around median	0.003	0.1	Standard	No Exceedance
APW03	UD	E003	Cobalt, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW03	UD	E003	Fluoride, total	mg/L	02/18/21 - 10/10/23	12	75	CI around median	0.25	4.0	Standard	No Exceedance
APW03	UD	E003	Lead, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.001	0.0075	Standard	No Exceedance
APW03	UD	E003	Lithium, total	mg/L	02/18/21 - 10/10/23	12	33	CI around mean	0.0116	0.04	Standard	No Exceedance
APW03	UD	E003	Mercury, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.0002	0.002	Standard	No Exceedance
APW03	UD	E003	Molybdenum, total	mg/L	02/18/21 - 10/10/23	11	27	CI around mean	0.0011	0.1	Standard	No Exceedance
APW03	UD	E003	pH (field)	SU	02/18/21 - 10/10/23	18	0	CI around mean	6.8/7.2	6.4/9.0	Background/Standard	No Exceedance
APW03	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 10/10/23	11	0	CI around mean	0.227	6.90	Background	No Exceedance
APW03	UD	E003	Selenium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW03	UD	E003	Sulfate, total	mg/L	02/18/21 - 10/10/23	12	0	CB around linear reg	91.3	400	Standard	No Exceedance
APW03	UD	E003	Thallium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW03	UD	E003	Total Dissolved Solids	mg/L	02/18/21 - 10/10/23	18	0	CI around mean	627	1,200	Standard	No Exceedance
APW04	UD	E003	Antimony, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW04	UD	E003	Arsenic, total	mg/L	02/18/21 - 10/10/23	12	50	CI around median	0.001	0.0590	Background	No Exceedance
APW04	UD	E003	Barium, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	0.019	2.0	Standard	No Exceedance
APW04	UD	E003	Beryllium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW04	UD	E003	Boron, total	mg/L	02/18/21 - 10/10/23	12	0	CI around median	0.024	2	Standard	No Exceedance
APW04	UD	E003	Cadmium, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.001	0.005	Standard	No Exceedance
APW04	UD	E003	Chloride, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	30.2	200	Standard	No Exceedance
APW04	UD	E003	Chromium, total	mg/L	02/18/21 - 10/10/23	12	75	CI around median	0.004	0.1	Standard	No Exceedance
APW04	UD	E003	Cobalt, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW04	UD	E003	Fluoride, total	mg/L	02/18/21 - 10/10/23	12	83	CI around median	0.2	4.0	Standard	No Exceedance
APW04	UD	E003	Lead, total	mg/L	02/18/21 - 10/10/23	12	67	CI around median	0.001	0.0075	Standard	No Exceedance
APW04	UD	E003	Lithium, total	mg/L	02/18/21 - 10/10/23	12	25	CI around median	0.02	0.04	Standard	No Exceedance
APW04	UD	E003	Mercury, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.0002	0.002	Standard	No Exceedance
APW04	UD	E003	Molybdenum, total	mg/L	02/18/21 - 10/10/23	11	91	CI around median	0.001	0.1	Standard	No Exceedance



**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW04	UD	E003	pH (field)	SU	02/18/21 - 10/10/23	18	0	CI around geomean	6.6/7.2	6.4/9.0	Background/Standard	No Exceedance
APW04	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 10/10/23	11	0	CI around mean	0.165	6.90	Background	No Exceedance
APW04	UD	E003	Selenium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW04	UD	E003	Sulfate, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	832	400	Standard	Exceedance
APW04	UD	E003	Thallium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW04	UD	E003	Total Dissolved Solids	mg/L	02/18/21 - 10/10/23	18	0	CI around mean	1,720	1,200	Standard	Exceedance
APW05S	UD	E003	Antimony, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW05S	UD	E003	Arsenic, total	mg/L	02/17/21 - 10/10/23	11	36	CI around mean	0.00107	0.0590	Background	No Exceedance
APW05S	UD	E003	Barium, total	mg/L	02/17/21 - 10/10/23	11	0	CI around geomean	0.0396	2.0	Standard	No Exceedance
APW05S	UD	E003	Beryllium, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW05S	UD	E003	Boron, total	mg/L	02/17/21 - 10/10/23	11	0	CI around median	0.039	2	Standard	No Exceedance
APW05S	UD	E003	Cadmium, total	mg/L	02/17/21 - 10/10/23	11	91	CI around median	0.001	0.005	Standard	No Exceedance
APW05S	UD	E003	Chloride, total	mg/L	02/17/21 - 10/10/23	11	0	CI around geomean	143	200	Standard	No Exceedance
APW05S	UD	E003	Chromium, total	mg/L	02/17/21 - 10/10/23	11	82	CI around median	0.0026	0.1	Standard	No Exceedance
APW05S	UD	E003	Cobalt, total	mg/L	02/17/21 - 10/10/23	11	36	CI around geomean	0.000958	0.006	Standard	No Exceedance
APW05S	UD	E003	Fluoride, total	mg/L	02/17/21 - 10/10/23	11	0	CI around mean	0.361	4.0	Standard	No Exceedance
APW05S	UD	E003	Lead, total	mg/L	02/17/21 - 10/10/23	11	91	CI around median	0.001	0.0075	Standard	No Exceedance
APW05S	UD	E003	Lithium, total	mg/L	02/17/21 - 10/10/23	11	0	CI around median	0.033	0.04	Standard	No Exceedance
APW05S	UD	E003	Mercury, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW05S	UD	E003	Molybdenum, total	mg/L	02/17/21 - 10/10/23	10	10	CI around mean	0.000892	0.1	Standard	No Exceedance
APW05S	UD	E003	pH (field)	SU	02/17/21 - 10/10/23	11	0	CI around mean	6.7/6.9	6.4/9.0	Background/Standard	No Exceedance
APW05S	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 10/10/23	10	0	CI around geomean	0.177	6.90	Background	No Exceedance
APW05S	UD	E003	Selenium, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW05S	UD	E003	Sulfate, total	mg/L	02/17/21 - 10/10/23	11	0	CI around median	640	400	Standard	Exceedance
APW05S	UD	E003	Thallium, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW05S	UD	E003	Total Dissolved Solids	mg/L	02/17/21 - 10/10/23	11	0	CI around mean	3,360	1,200	Standard	Exceedance
APW07	UA	E003	Antimony, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.006	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW07	UA	E003	Arsenic, total	mg/L	12/15/15 - 10/10/23	14	0	CB around linear reg	0.0141	0.0590	Background	No Exceedance
APW07	UA	E003	Barium, total	mg/L	12/15/15 - 10/10/23	14	0	CB around T-S line	0.515	2.0	Standard	No Exceedance
APW07	UA	E003	Beryllium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW07	UA	E003	Boron, total	mg/L	12/15/15 - 10/10/23	24	0	CI around geomean	0.0745	2	Standard	No Exceedance
APW07	UA	E003	Cadmium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW07	UA	E003	Chloride, total	mg/L	12/15/15 - 10/10/23	27	0	CB around T-S line	55.2	200	Standard	No Exceedance
APW07	UA	E003	Chromium, total	mg/L	12/15/15 - 10/10/23	14	64	CI around median	0.004	0.1	Standard	No Exceedance
APW07	UA	E003	Cobalt, total	mg/L	12/15/15 - 10/10/23	13	85	CI around median	0.002	0.006	Standard	No Exceedance
APW07	UA	E003	Fluoride, total	mg/L	12/15/15 - 10/10/23	24	4	CI around mean	0.366	4.0	Standard	No Exceedance
APW07	UA	E003	Lead, total	mg/L	12/15/15 - 10/10/23	14	64	CI around median	0.001	0.0075	Standard	No Exceedance
APW07	UA	E003	Lithium, total	mg/L	12/15/15 - 10/10/23	14	93	CI around median	0.01	0.04	Standard	No Exceedance
APW07	UA	E003	Mercury, total	mg/L	12/15/15 - 10/10/23	14	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW07	UA	E003	Molybdenum, total	mg/L	12/15/15 - 10/10/23	13	0	CB around linear reg	-0.00235	0.1	Standard	No Exceedance
APW07	UA	E003	pH (field)	SU	12/15/15 - 10/10/23	26	0	CI around mean	7.2/7.3	6.4/9.0	Background/Standard	No Exceedance
APW07	UA	E003	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 10/10/23	14	0	CB around linear reg	1.69	6.90	Background	No Exceedance
APW07	UA	E003	Selenium, total	mg/L	12/15/15 - 10/10/23	14	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW07	UA	E003	Sulfate, total	mg/L	12/15/15 - 10/10/23	25	16	CB around T-S line	9.72	400	Standard	No Exceedance
APW07	UA	E003	Thallium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW07	UA	E003	Total Dissolved Solids	mg/L	12/15/15 - 10/10/23	24	0	CB around T-S line	529	1,200	Standard	No Exceedance
APW08	UA	E003	Antimony, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW08	UA	E003	Arsenic, total	mg/L	12/15/15 - 10/10/23	14	0	CB around linear reg	0.0225	0.0590	Background	No Exceedance
APW08	UA	E003	Barium, total	mg/L	12/15/15 - 10/10/23	14	0	CB around linear reg	0.485	2.0	Standard	No Exceedance
APW08	UA	E003	Beryllium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW08	UA	E003	Boron, total	mg/L	12/15/15 - 10/10/23	24	0	CI around geomean	0.0818	2	Standard	No Exceedance
APW08	UA	E003	Cadmium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW08	UA	E003	Chloride, total	mg/L	12/15/15 - 10/10/23	26	0	CI around mean	54.9	200	Standard	No Exceedance
APW08	UA	E003	Chromium, total	mg/L	12/15/15 - 10/10/23	14	57	CI around median	0.004	0.1	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW08	UA	E003	Cobalt, total	mg/L	12/15/15 - 10/10/23	13	77	CI around median	0.002	0.006	Standard	No Exceedance
APW08	UA	E003	Fluoride, total	mg/L	12/15/15 - 10/10/23	24	8	CI around median	0.393	4.0	Standard	No Exceedance
APW08	UA	E003	Lead, total	mg/L	12/15/15 - 10/10/23	14	57	CI around median	0.001	0.0075	Standard	No Exceedance
APW08	UA	E003	Lithium, total	mg/L	12/15/15 - 10/10/23	14	71	CI around median	0.01	0.04	Standard	No Exceedance
APW08	UA	E003	Mercury, total	mg/L	12/15/15 - 10/10/23	14	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW08	UA	E003	Molybdenum, total	mg/L	12/15/15 - 10/10/23	13	0	CI around mean	0.00471	0.1	Standard	No Exceedance
APW08	UA	E003	pH (field)	SU	12/15/15 - 10/10/23	27	0	CI around mean	7.2/7.4	6.4/9.0	Background/Standard	No Exceedance
APW08	UA	E003	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 10/10/23	14	0	CI around mean	1.06	6.90	Background	No Exceedance
APW08	UA	E003	Selenium, total	mg/L	12/15/15 - 10/10/23	14	93	CI around median	0.001	0.05	Standard	No Exceedance
APW08	UA	E003	Sulfate, total	mg/L	12/15/15 - 10/10/23	26	0	CB around linear reg	46.7	400	Standard	No Exceedance
APW08	UA	E003	Thallium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW08	UA	E003	Total Dissolved Solids	mg/L	12/15/15 - 10/10/23	24	0	CB around linear reg	592	1,200	Standard	No Exceedance
APW09	UA	E003	Antimony, total	mg/L	12/15/15 - 10/10/23	13	92	CI around median	0.003	0.006	Standard	No Exceedance
APW09	UA	E003	Arsenic, total	mg/L	12/15/15 - 10/10/23	14	0	CB around linear reg	0.0187	0.0590	Background	No Exceedance
APW09	UA	E003	Barium, total	mg/L	12/15/15 - 10/10/23	14	0	CI around mean	0.301	2.0	Standard	No Exceedance
APW09	UA	E003	Beryllium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW09	UA	E003	Boron, total	mg/L	12/15/15 - 10/10/23	24	0	CB around T-S line	0.0835	2	Standard	No Exceedance
APW09	UA	E003	Cadmium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW09	UA	E003	Chloride, total	mg/L	12/15/15 - 10/10/23	26	0	CI around median	95	200	Standard	No Exceedance
APW09	UA	E003	Chromium, total	mg/L	12/15/15 - 10/10/23	14	64	CI around median	0.004	0.1	Standard	No Exceedance
APW09	UA	E003	Cobalt, total	mg/L	12/15/15 - 10/10/23	13	92	CI around median	0.002	0.006	Standard	No Exceedance
APW09	UA	E003	Fluoride, total	mg/L	12/15/15 - 10/10/23	25	4	CI around mean	0.457	4.0	Standard	No Exceedance
APW09	UA	E003	Lead, total	mg/L	12/15/15 - 10/10/23	14	57	CI around median	0.001	0.0075	Standard	No Exceedance
APW09	UA	E003	Lithium, total	mg/L	12/15/15 - 10/10/23	14	86	CI around median	0.01	0.04	Standard	No Exceedance
APW09	UA	E003	Mercury, total	mg/L	12/15/15 - 10/10/23	14	86	CI around median	0.0002	0.002	Standard	No Exceedance
APW09	UA	E003	Molybdenum, total	mg/L	12/15/15 - 10/10/23	13	0	CB around linear reg	-0.00379	0.1	Standard	No Exceedance
APW09	UA	E003	pH (field)	SU	12/15/15 - 10/10/23	26	0	CI around median	7.4/7.5	6.4/9.0	Background/Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW09	UA	E003	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 10/10/23	14	0	CI around geomean	0.83	6.90	Background	No Exceedance
APW09	UA	E003	Selenium, total	mg/L	12/15/15 - 10/10/23	14	93	CI around median	0.001	0.05	Standard	No Exceedance
APW09	UA	E003	Sulfate, total	mg/L	12/15/15 - 10/10/23	26	8	CI around geomean	5.02	400	Standard	No Exceedance
APW09	UA	E003	Thallium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW09	UA	E003	Total Dissolved Solids	mg/L	12/15/15 - 10/10/23	25	0	CB around T-S line	775	1,200	Standard	No Exceedance
APW10	UA	E003	Antimony, total	mg/L	12/16/15 - 10/10/23	15	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW10	UA	E003	Arsenic, total	mg/L	12/16/15 - 10/10/23	16	0	CI around mean	0.00635	0.0590	Background	No Exceedance
APW10	UA	E003	Barium, total	mg/L	12/16/15 - 10/10/23	16	0	CI around mean	0.0296	2.0	Standard	No Exceedance
APW10	UA	E003	Beryllium, total	mg/L	12/16/15 - 10/10/23	15	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW10	UA	E003	Boron, total	mg/L	12/16/15 - 10/10/23	26	0	CI around mean	0.0716	2	Standard	No Exceedance
APW10	UA	E003	Cadmium, total	mg/L	12/16/15 - 10/10/23	15	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW10	UA	E003	Chloride, total	mg/L	12/16/15 - 10/10/23	27	0	CI around mean	45.3	200	Standard	No Exceedance
APW10	UA	E003	Chromium, total	mg/L	12/16/15 - 10/10/23	16	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW10	UA	E003	Cobalt, total	mg/L	12/16/15 - 10/10/23	15	93	CI around median	0.002	0.006	Standard	No Exceedance
APW10	UA	E003	Fluoride, total	mg/L	12/16/15 - 10/10/23	26	19	CI around mean	0.3	4.0	Standard	No Exceedance
APW10	UA	E003	Lead, total	mg/L	12/16/15 - 10/10/23	16	88	CI around median	0.001	0.0075	Standard	No Exceedance
APW10	UA	E003	Lithium, total	mg/L	12/16/15 - 10/10/23	16	6	CB around linear reg	0.0143	0.04	Standard	No Exceedance
APW10	UA	E003	Mercury, total	mg/L	12/16/15 - 10/10/23	16	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW10	UA	E003	Molybdenum, total	mg/L	12/16/15 - 10/10/23	15	0	CB around linear reg	0.00579	0.1	Standard	No Exceedance
APW10	UA	E003	pH (field)	SU	12/16/15 - 10/10/23	29	0	CB around linear reg	7.2/7.5	6.4/9.0	Background/Standard	No Exceedance
APW10	UA	E003	Radium 226 + Radium 228, total	pCi/L	12/16/15 - 10/10/23	16	0	CI around mean	0.477	6.90	Background	No Exceedance
APW10	UA	E003	Selenium, total	mg/L	12/16/15 - 10/10/23	16	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW10	UA	E003	Sulfate, total	mg/L	12/16/15 - 10/10/23	28	0	CI around median	410	400	Standard	Exceedance
APW10	UA	E003	Thallium, total	mg/L	12/16/15 - 10/10/23	15	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW10	UA	E003	Total Dissolved Solids	mg/L	12/16/15 - 10/10/23	28	0	CB around linear reg	1,030	1,200	Standard	No Exceedance
APW11	UA	E003	Antimony, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW11	UA	E003	Arsenic, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	0.00208	0.0590	Background	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW11	UA	E003	Barium, total	mg/L	02/18/21 - 10/10/23	12	0	CB around T-S line	-0.246	2.0	Standard	No Exceedance
APW11	UA	E003	Beryllium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW11	UA	E003	Boron, total	mg/L	02/18/21 - 10/10/23	12	0	CB around T-S line	-0.0992	2	Standard	No Exceedance
APW11	UA	E003	Cadmium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW11	UA	E003	Chloride, total	mg/L	02/18/21 - 10/10/23	12	0	CI around median	25	200	Standard	No Exceedance
APW11	UA	E003	Chromium, total	mg/L	02/18/21 - 10/10/23	12	67	CI around median	0.0039	0.1	Standard	No Exceedance
APW11	UA	E003	Cobalt, total	mg/L	02/18/21 - 10/10/23	12	67	CI around median	0.0013	0.006	Standard	No Exceedance
APW11	UA	E003	Fluoride, total	mg/L	02/18/21 - 10/10/23	12	42	CI around mean	0.258	4.0	Standard	No Exceedance
APW11	UA	E003	Lead, total	mg/L	02/18/21 - 10/10/23	12	58	CI around median	0.001	0.0075	Standard	No Exceedance
APW11	UA	E003	Lithium, total	mg/L	02/18/21 - 10/10/23	12	8	CI around mean	0.018	0.04	Standard	No Exceedance
APW11	UA	E003	Mercury, total	mg/L	02/18/21 - 10/10/23	12	83	CI around median	0.0002	0.002	Standard	No Exceedance
APW11	UA	E003	Molybdenum, total	mg/L	02/18/21 - 10/10/23	11	0	CI around median	0.0043	0.1	Standard	No Exceedance
APW11	UA	E003	pH (field)	SU	02/18/21 - 10/10/23	12	0	CI around median	6.6/7.4	6.4/9.0	Background/Standard	No Exceedance
APW11	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 10/10/23	11	0	CI around geomean	0.56	6.90	Background	No Exceedance
APW11	UA	E003	Selenium, total	mg/L	02/18/21 - 10/10/23	12	83	CI around median	0.001	0.05	Standard	No Exceedance
APW11	UA	E003	Sulfate, total	mg/L	02/18/21 - 10/10/23	12	0	CI around median	260	400	Standard	No Exceedance
APW11	UA	E003	Thallium, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.001	0.002	Standard	No Exceedance
APW11	UA	E003	Total Dissolved Solids	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	815	1,200	Standard	No Exceedance
APW12	UD	E003	Antimony, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW12	UD	E003	Arsenic, total	mg/L	02/17/21 - 10/11/23	12	17	CI around mean	0.0012	0.0590	Background	No Exceedance
APW12	UD	E003	Barium, total	mg/L	02/17/21 - 10/11/23	12	0	CB around linear reg	0.0187	2.0	Standard	No Exceedance
APW12	UD	E003	Beryllium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW12	UD	E003	Boron, total	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	0.196	2	Standard	No Exceedance
APW12	UD	E003	Cadmium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW12	UD	E003	Chloride, total	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	22	200	Standard	No Exceedance
APW12	UD	E003	Chromium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW12	UD	E003	Cobalt, total	mg/L	02/17/21 - 10/11/23	12	17	CB around linear reg	-0.00141	0.006	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW12	UD	E003	Fluoride, total	mg/L	02/17/21 - 10/11/23	12	83	CI around median	0.22	4.0	Standard	No Exceedance
APW12	UD	E003	Lead, total	mg/L	02/17/21 - 10/11/23	12	92	CI around median	0.001	0.0075	Standard	No Exceedance
APW12	UD	E003	Lithium, total	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	0.0252	0.04	Standard	No Exceedance
APW12	UD	E003	Mercury, total	mg/L	02/17/21 - 10/11/23	12	92	CI around median	0.0002	0.002	Standard	No Exceedance
APW12	UD	E003	Molybdenum, total	mg/L	02/17/21 - 10/11/23	11	54	CI around median	0.001	0.1	Standard	No Exceedance
APW12	UD	E003	pH (field)	SU	02/17/21 - 10/11/23	12	0	CI around mean	6.2/6.5	6.4/9.0	Background/Standard	No Exceedance
APW12	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 10/11/23	11	0	CI around mean	0.162	6.90	Background	No Exceedance
APW12	UD	E003	Selenium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW12	UD	E003	Sulfate, total	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	290	400	Standard	No Exceedance
APW12	UD	E003	Thallium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW12	UD	E003	Total Dissolved Solids	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	1,190	1,200	Standard	No Exceedance
APW13	UA	E003	Antimony, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW13	UA	E003	Arsenic, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	0.00341	0.0590	Background	No Exceedance
APW13	UA	E003	Barium, total	mg/L	02/22/21 - 10/10/23	12	0	CI around geomean	0.0501	2.0	Standard	No Exceedance
APW13	UA	E003	Beryllium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW13	UA	E003	Boron, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	0.106	2	Standard	No Exceedance
APW13	UA	E003	Cadmium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW13	UA	E003	Chloride, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	47.1	200	Standard	No Exceedance
APW13	UA	E003	Chromium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW13	UA	E003	Cobalt, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW13	UA	E003	Fluoride, total	mg/L	02/22/21 - 10/10/23	12	8	CI around mean	0.312	4.0	Standard	No Exceedance
APW13	UA	E003	Lead, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.0075	Standard	No Exceedance
APW13	UA	E003	Lithium, total	mg/L	02/22/21 - 10/10/23	12	0	CB around linear reg	0.0079	0.04	Standard	No Exceedance
APW13	UA	E003	Mercury, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW13	UA	E003	Molybdenum, total	mg/L	02/22/21 - 10/10/23	11	0	CB around linear reg	0.00174	0.1	Standard	No Exceedance
APW13	UA	E003	pH (field)	SU	02/22/21 - 10/10/23	12	0	CI around median	6.9/7.3	6.4/9.0	Background/Standard	No Exceedance
APW13	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 10/10/23	11	0	CI around mean	0.344	6.90	Background	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW13	UA	E003	Selenium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW13	UA	E003	Sulfate, total	mg/L	02/22/21 - 10/10/23	12	0	CB around linear reg	227	400	Standard	No Exceedance
APW13	UA	E003	Thallium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW13	UA	E003	Total Dissolved Solids	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	815	1,200	Standard	No Exceedance
APW14	UA	E003	Antimony, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW14	UA	E003	Arsenic, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	0.00561	0.0590	Background	No Exceedance
APW14	UA	E003	Barium, total	mg/L	02/22/21 - 10/10/23	12	0	CB around linear reg	0.0378	2.0	Standard	No Exceedance
APW14	UA	E003	Beryllium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW14	UA	E003	Boron, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	0.0946	2	Standard	No Exceedance
APW14	UA	E003	Cadmium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW14	UA	E003	Chloride, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	41.6	200	Standard	No Exceedance
APW14	UA	E003	Chromium, total	mg/L	02/22/21 - 10/10/23	12	83	CB around T-S line	0.000409	0.1	Standard	No Exceedance
APW14	UA	E003	Cobalt, total	mg/L	02/22/21 - 10/10/23	12	92	CB around T-S line	0.000846	0.006	Standard	No Exceedance
APW14	UA	E003	Fluoride, total	mg/L	02/22/21 - 10/10/23	12	25	CI around mean	0.277	4.0	Standard	No Exceedance
APW14	UA	E003	Lead, total	mg/L	02/22/21 - 10/10/23	12	75	CI around median	0.001	0.0075	Standard	No Exceedance
APW14	UA	E003	Lithium, total	mg/L	02/22/21 - 10/10/23	12	17	CB around linear reg	0.00367	0.04	Standard	No Exceedance
APW14	UA	E003	Mercury, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW14	UA	E003	Molybdenum, total	mg/L	02/22/21 - 10/10/23	11	0	CB around linear reg	-0.000924	0.1	Standard	No Exceedance
APW14	UA	E003	pH (field)	SU	02/22/21 - 10/10/23	12	0	CI around median	7.0/7.5	6.4/9.0	Background/Standard	No Exceedance
APW14	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 10/10/23	11	0	CI around mean	0.431	6.90	Background	No Exceedance
APW14	UA	E003	Selenium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW14	UA	E003	Sulfate, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	319	400	Standard	No Exceedance
APW14	UA	E003	Thallium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW14	UA	E003	Total Dissolved Solids	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	908	1,200	Standard	No Exceedance
APW15	UA	E003	Antimony, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW15	UA	E003	Arsenic, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.017	0.0590	Background	No Exceedance
APW15	UA	E003	Barium, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.565	2.0	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW15	UA	E003	Beryllium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW15	UA	E003	Boron, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.125	2	Standard	No Exceedance
APW15	UA	E003	Cadmium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW15	UA	E003	Chloride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around median	227	200	Standard	Exceedance
APW15	UA	E003	Chromium, total	mg/L	02/23/21 - 10/10/23	12	67	CI around median	0.004	0.1	Standard	No Exceedance
APW15	UA	E003	Cobalt, total	mg/L	02/23/21 - 10/10/23	12	67	CI around median	0.0016	0.006	Standard	No Exceedance
APW15	UA	E003	Fluoride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around geomean	0.55	4.0	Standard	No Exceedance
APW15	UA	E003	Lead, total	mg/L	02/23/21 - 10/10/23	12	42	CI around median	0.001	0.0075	Standard	No Exceedance
APW15	UA	E003	Lithium, total	mg/L	02/23/21 - 10/10/23	12	67	CI around median	0.0073	0.04	Standard	No Exceedance
APW15	UA	E003	Mercury, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW15	UA	E003	Molybdenum, total	mg/L	02/23/21 - 10/10/23	11	0	CB around linear reg	0.00127	0.1	Standard	No Exceedance
APW15	UA	E003	pH (field)	SU	02/23/21 - 10/10/23	12	0	CI around median	6.9/7.3	6.4/9.0	Background/Standard	No Exceedance
APW15	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 10/10/23	11	0	CI around mean	1.59	6.90	Background	No Exceedance
APW15	UA	E003	Selenium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW15	UA	E003	Sulfate, total	mg/L	02/23/21 - 10/10/23	12	83	CI around median	1	400	Standard	No Exceedance
APW15	UA	E003	Thallium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW15	UA	E003	Total Dissolved Solids	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	1,040	1,200	Standard	No Exceedance
APW16	UA	E003	Antimony, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW16	UA	E003	Arsenic, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.00912	0.0590	Background	No Exceedance
APW16	UA	E003	Barium, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.559	2.0	Standard	No Exceedance
APW16	UA	E003	Beryllium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW16	UA	E003	Boron, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.129	2	Standard	No Exceedance
APW16	UA	E003	Cadmium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW16	UA	E003	Chloride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	66	200	Standard	No Exceedance
APW16	UA	E003	Chromium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW16	UA	E003	Cobalt, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW16	UA	E003	Fluoride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.629	4.0	Standard	No Exceedance



**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW16	UA	E003	Lead, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.0075	Standard	No Exceedance
APW16	UA	E003	Lithium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.003	0.04	Standard	No Exceedance
APW16	UA	E003	Mercury, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW16	UA	E003	Molybdenum, total	mg/L	02/23/21 - 10/10/23	11	54	CI around median	0.001	0.1	Standard	No Exceedance
APW16	UA	E003	pH (field)	SU	02/23/21 - 10/10/23	12	0	CI around mean	7.2/7.5	6.4/9.0	Background/Standard	No Exceedance
APW16	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 10/10/23	11	0	CI around geomean	1.37	6.90	Background	No Exceedance
APW16	UA	E003	Selenium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance
APW16	UA	E003	Sulfate, total	mg/L	02/23/21 - 10/10/23	12	83	CI around median	1	400	Standard	No Exceedance
APW16	UA	E003	Thallium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW16	UA	E003	Total Dissolved Solids	mg/L	02/23/21 - 10/10/23	12	0	CI around median	665	1,200	Standard	No Exceedance
APW17	UA	E003	Antimony, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW17	UA	E003	Arsenic, total	mg/L	02/23/21 - 10/10/23	12	0	CB around linear reg	0.0256	0.0590	Background	No Exceedance
APW17	UA	E003	Barium, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.566	2.0	Standard	No Exceedance
APW17	UA	E003	Beryllium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.004	Standard	No Exceedance
APW17	UA	E003	Boron, total	mg/L	02/23/21 - 10/10/23	12	0	CI around median	0.083	2	Standard	No Exceedance
APW17	UA	E003	Cadmium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.005	Standard	No Exceedance
APW17	UA	E003	Chloride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	46.3	200	Standard	No Exceedance
APW17	UA	E003	Chromium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
APW17	UA	E003	Cobalt, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.006	Standard	No Exceedance
APW17	UA	E003	Fluoride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.427	4.0	Standard	No Exceedance
APW17	UA	E003	Lead, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.0075	Standard	No Exceedance
APW17	UA	E003	Lithium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.003	0.04	Standard	No Exceedance
APW17	UA	E003	Mercury, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
APW17	UA	E003	Molybdenum, total	mg/L	02/23/21 - 10/10/23	11	0	CI around median	0.0048	0.1	Standard	No Exceedance
APW17	UA	E003	pH (field)	SU	02/23/21 - 10/10/23	12	0	CI around mean	7.2/7.5	6.4/9.0	Background/Standard	No Exceedance
APW17	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 10/10/23	11	0	CI around mean	0.915	6.90	Background	No Exceedance
APW17	UA	E003	Selenium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.05	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**  
 845 QUARTERLY REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
APW17	UA	E003	Sulfate, total	mg/L	02/23/21 - 10/10/23	12	8	CB around T-S line	48.1	400	Standard	No Exceedance
APW17	UA	E003	Thallium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.002	0.002	Standard	No Exceedance
APW17	UA	E003	Total Dissolved Solids	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	638	1,200	Standard	No Exceedance
APW18	UA	E003	Antimony, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.001	0.006	Standard	No Exceedance
APW18	UA	E003	Arsenic, total	mg/L	02/23/21 - 10/10/23	12	8	CI around mean	0.00165	0.0590	Background	No Exceedance
APW18	UA	E003	Barium, total	mg/L	02/23/21 - 10/10/23	12	0	CI around median	0.33	2.0	Standard	No Exceedance
APW18	UA	E003	Beryllium, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.001	0.004	Standard	No Exceedance
APW18	UA	E003	Boron, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.104	2	Standard	No Exceedance
APW18	UA	E003	Cadmium, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.001	0.005	Standard	No Exceedance
APW18	UA	E003	Chloride, total	mg/L	02/23/21 - 10/10/23	12	0	CB around T-S line	-150	200	Standard	No Exceedance
APW18	UA	E003	Chromium, total	mg/L	02/23/21 - 10/10/23	12	75	CB around T-S line	-0.023	0.1	Standard	No Exceedance
APW18	UA	E003	Cobalt, total	mg/L	02/23/21 - 10/10/23	12	75	CB around T-S line	-0.00108	0.006	Standard	No Exceedance
APW18	UA	E003	Fluoride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around median	0.518	4.0	Standard	No Exceedance
APW18	UA	E003	Lead, total	mg/L	02/23/21 - 10/10/23	12	50	CI around geomean	0.00107	0.0075	Standard	No Exceedance
APW18	UA	E003	Lithium, total	mg/L	02/23/21 - 10/10/23	12	83	CI around median	0.0052	0.04	Standard	No Exceedance
APW18	UA	E003	Mercury, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.0002	0.002	Standard	No Exceedance
APW18	UA	E003	Molybdenum, total	mg/L	02/23/21 - 10/10/23	11	0	CB around linear reg	-0.0139	0.1	Standard	No Exceedance
APW18	UA	E003	pH (field)	SU	02/23/21 - 10/10/23	12	0	CI around mean	7.5/7.8	6.4/9.0	Background/Standard	No Exceedance
APW18	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 10/10/23	11	0	CI around mean	1.43	6.90	Background	No Exceedance
APW18	UA	E003	Selenium, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.001	0.05	Standard	No Exceedance
APW18	UA	E003	Sulfate, total	mg/L	02/23/21 - 10/10/23	12	17	CI around geomean	2.35	400	Standard	No Exceedance
APW18	UA	E003	Thallium, total	mg/L	02/23/21 - 10/10/23	12	83	CI around median	0.001	0.002	Standard	No Exceedance
APW18	UA	E003	Total Dissolved Solids	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	520	1,200	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 4, 2023**

845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

**Notes:**

Compliance Result:

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

Exceedance: The statistical result exceeded the GWPS.

HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UD = Upper Drift

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

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



- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

0 400 800  
Feet

**MONITORING WELL LOCATION  
MAP**

2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS

**FIGURE 1**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.



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



- TOTAL CHLORIDE EXCEEDANCE
- TOTAL SULFATE EXCEEDANCE
- COMPLIANCE WELL WITHOUT EXCEEDANCE
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

0 400 800  
Feet

**GWPS EXCEEDANCE MAP  
UPPERMOST AQUIFER -  
QUARTER 2-4, 2023**

2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS

**FIGURE 2**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.





- TOTAL LITHIUM EXCEEDANCE
- TOTAL SULFATE EXCEEDANCE
- TOTAL DISSOLVED SOLIDS EXCEEDANCE
- COMPLIANCE WELL WITHOUT EXCEEDANCE
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

0 400 800  
Feet

**GWPS EXCEEDANCE MAP  
UPPER DRIFT -  
QUARTER 2-4, 2023**

2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS

**FIGURE 3**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.





- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION
- ▭ REGULATED UNIT (SUBJECT UNIT)
- ▭ SITE FEATURE

**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 24, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS**

**FIGURE 4**







- COMPLIANCE MONITORING
- BACKGROUND MONITORING
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION
- GROUNDWATER FLOW
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

**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  
MAY 24, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS**

**FIGURE 5**





- COMPLIANCE MONITORING
- BACKGROUND MONITORING
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION
- GROUNDWATER FLOW
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

**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  
 JUNE 24, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
 AND CORRECTIVE ACTION REPORT  
 PRIMARY ASH POND  
 NEWTON POWER PLANT  
 NEWTON, ILLINOIS**

**FIGURE 6**



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



- COMPLIANCE MONITORING
- BACKGROUND MONITORING
- MONITORING WELL
- PORE WATER WELL
- ⊕ LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION
- GROUNDWATER FLOW
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

**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  
JULY 24-25, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS**

**FIGURE 7**



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



- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- ➔ GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

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

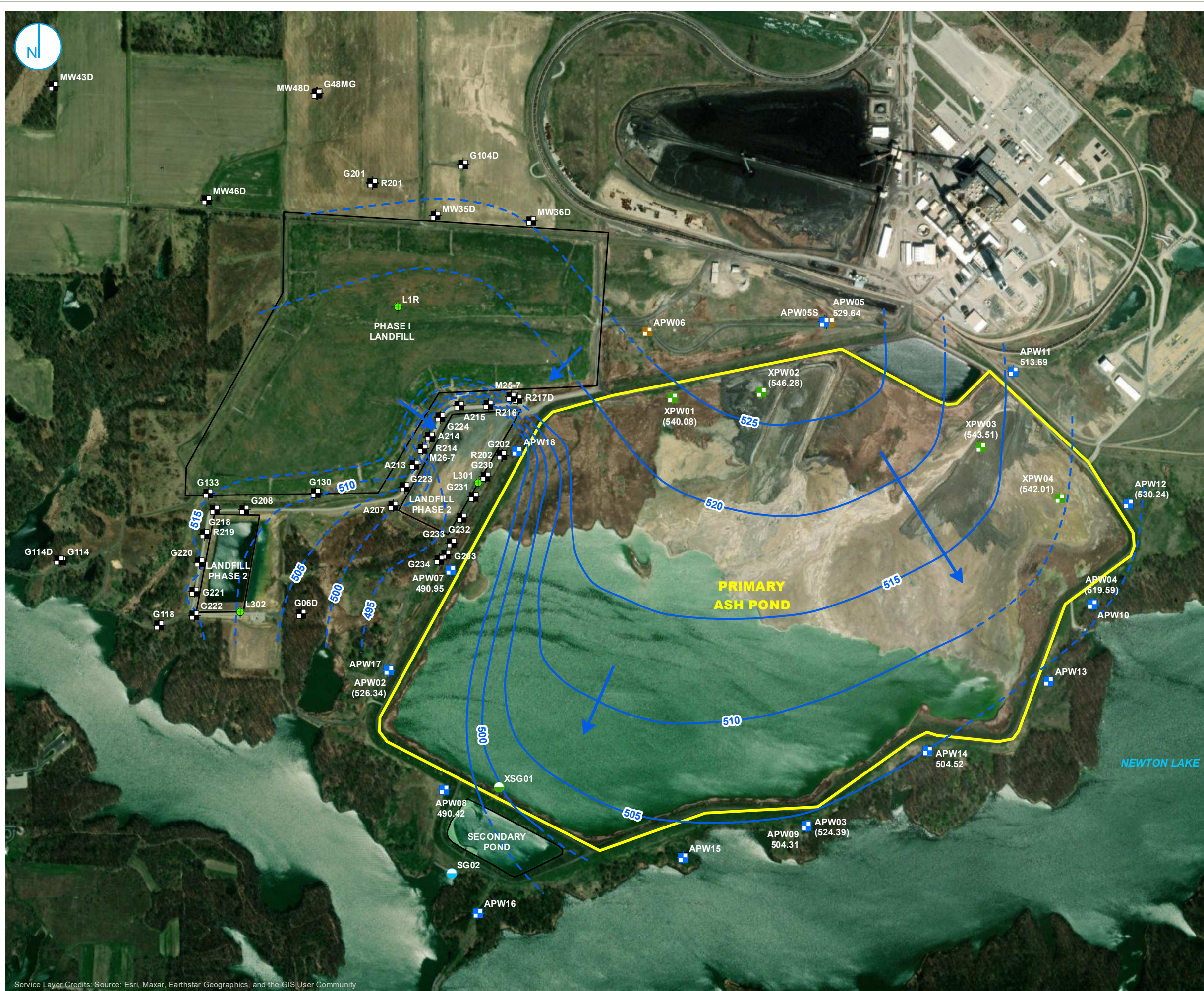
0 400 800  
 Feet

**POTENTIOMETRIC SURFACE MAP  
 AUGUST 9, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
 AND CORRECTIVE ACTION REPORT  
 PRIMARY ASH POND  
 NEWTON POWER PLANT  
 NEWTON, ILLINOIS**

**FIGURE 8**





- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

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

0 400 800  
 Feet

**POTENTIOMETRIC SURFACE MAP  
 SEPTEMBER 9, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
 AND CORRECTIVE ACTION REPORT  
 PRIMARY ASH POND  
 NEWTON POWER PLANT  
 NEWTON, ILLINOIS**

**FIGURE 9**





- COMPLIANCE MONITORING
- BACKGROUND MONITORING
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION
- GROUNDWATER FLOW
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

**NOTES:**

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



**POTENTIOMETRIC SURFACE MAP  
OCTOBER 9, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS**

**FIGURE 10**





- COMPLIANCE MONITORING
- BACKGROUND MONITORING
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION
- GROUNDWATER FLOW
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

**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  
 NOVEMBER 8-9, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
 AND CORRECTIVE ACTION REPORT  
 PRIMARY ASH POND  
 NEWTON POWER PLANT  
 NEWTON, ILLINOIS**

**FIGURE 11**



- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

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

0 400 800  
 Feet

**POTENTIOMETRIC SURFACE MAP  
 DECEMBER 13, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
 AND CORRECTIVE ACTION REPORT  
 PRIMARY ASH POND  
 NEWTON POWER PLANT  
 NEWTON, ILLINOIS**

**FIGURE 12**





## **ATTACHMENTS**

**ATTACHMENT A  
GROUNDWATER ELEVATION DATA**

**ATTACHMENT A  
GROUNDWATER ELEVATION DATA**

2023 35 I.A.C. § 845 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
APW02	Compliance	UD	04/24/2023	4.09	529.52
APW02	Compliance	UD	05/24/2023	4.13	529.47
APW02	Compliance	UD	07/24/2023	7.32	526.29
APW02	Compliance	UD	09/09/2023	7.26	526.34
APW02	Compliance	UD	10/09/2023	8.14	525.47
APW02	Compliance	UD	11/09/2023	8.59	525.02
APW02	Compliance	UD	12/13/2023	8.56	525.05
APW03	Compliance	UD	04/24/2023	11.92	520.49
APW03	Compliance	UD	05/24/2023	7.59	524.81
APW03	Compliance	UD	06/24/2023	8.32	524.08
APW03	Compliance	UD	07/24/2023	8.47	523.94
APW03	Compliance	UD	08/09/2023	7.04	525.36
APW03	Compliance	UD	09/09/2023	8.01	524.39
APW03	Compliance	UD	10/09/2023	8.04	524.37
APW03	Compliance	UD	11/09/2023	8.11	524.30
APW03	Compliance	UD	12/13/2023	8.35	524.06
APW04	Compliance	UD	04/24/2023	5.27	519.79
APW04	Compliance	UD	05/24/2023	5.35	519.70
APW04	Compliance	UD	06/24/2023	5.60	519.45
APW04	Compliance	UD	07/24/2023	5.93	519.13
APW04	Compliance	UD	08/09/2023	5.07	519.98
APW04	Compliance	UD	09/09/2023	5.46	519.59
APW04	Compliance	UD	10/09/2023	5.45	519.61
APW04	Compliance	UD	11/09/2023	5.59	519.47
APW04	Compliance	UD	12/13/2023	5.84	519.22
APW05	Background	UA	04/24/2023	14.08	529.99
APW05	Background	UA	05/24/2023	14.06	530.00
APW05	Background	UA	06/24/2023	14.15	529.91
APW05	Background	UA	07/24/2023	14.38	529.69
APW05	Background	UA	08/09/2023	14.20	529.87
APW05	Background	UA	09/09/2023	14.43	529.64
APW05	Background	UA	10/09/2023	14.25	529.82
APW05	Background	UA	11/08/2023	14.11	529.96
APW05	Background	UA	12/13/2023	14.69	529.38
APW05S	Compliance	UD	04/24/2023	11.78	532.16
APW05S	Compliance	UD	07/24/2023	13.32	530.62
APW05S	Compliance	UD	08/09/2023	13.18	530.76
APW05S	Compliance	UD	10/09/2023	13.82	530.12
APW05S	Compliance	UD	11/08/2023	13.57	530.37
APW05S	Compliance	UD	12/13/2023	13.91	530.03
APW06	Background	UA	04/24/2023	19.17	526.90
APW06	Background	UA	05/24/2023	19.05	527.02
APW06	Background	UA	06/24/2023	19.07	527.00
APW06	Background	UA	07/24/2023	19.40	526.67
APW06	Background	UA	10/09/2023	19.40	526.67
APW06	Background	UA	11/08/2023	19.33	526.74

**ATTACHMENT A  
GROUNDWATER ELEVATION DATA**

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

NEWTON POWER PLANT

PRIMARY ASH POND

NEWTON, IL

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
APW06	Background	UA	12/13/2023	20.04	526.03
APW07	Compliance	UA	04/24/2023	46.18	492.19
APW07	Compliance	UA	05/24/2023	47.01	491.36
APW07	Compliance	UA	06/24/2023	47.08	491.29
APW07	Compliance	UA	07/24/2023	47.36	491.01
APW07	Compliance	UA	08/09/2023	47.24	491.13
APW07	Compliance	UA	09/09/2023	47.42	490.95
APW07	Compliance	UA	10/09/2023	47.18	491.19
APW07	Compliance	UA	11/09/2023	47.61	490.76
APW07	Compliance	UA	12/13/2023	48.22	490.15
APW08	Compliance	UA	04/24/2023	36.99	490.80
APW08	Compliance	UA	05/24/2023	38.19	490.78
APW08	Compliance	UA	06/24/2023	38.21	490.76
APW08	Compliance	UA	07/24/2023	38.33	490.64
APW08	Compliance	UA	08/09/2023	38.55	490.42
APW08	Compliance	UA	09/09/2023	38.55	490.42
APW08	Compliance	UA	10/09/2023	38.01	490.96
APW08	Compliance	UA	11/09/2023	38.44	490.53
APW08	Compliance	UA	12/13/2023	39.08	489.89
APW09	Compliance	UA	04/24/2023	26.55	504.97
APW09	Compliance	UA	05/24/2023	26.47	505.05
APW09	Compliance	UA	06/24/2023	27.09	504.43
APW09	Compliance	UA	07/24/2023	27.85	503.67
APW09	Compliance	UA	08/09/2023	26.91	504.61
APW09	Compliance	UA	09/09/2023	27.21	504.31
APW09	Compliance	UA	10/09/2023	27.55	503.97
APW09	Compliance	UA	11/09/2023	28.12	503.40
APW09	Compliance	UA	12/13/2023	28.42	503.10
APW10	Compliance	UA	04/24/2023	17.60	506.65
APW10	Compliance	UA	05/24/2023	18.30	505.95
APW10	Compliance	UA	06/24/2023	18.97	505.28
APW10	Compliance	UA	07/24/2023	19.40	504.85
APW10	Compliance	UA	08/09/2023	18.87	505.38
APW10	Compliance	UA	10/09/2023	18.79	505.46
APW10	Compliance	UA	11/09/2023	19.20	505.05
APW10	Compliance	UA	12/13/2023	19.65	504.60
APW11	Compliance	UA	04/24/2023	24.26	514.37
APW11	Compliance	UA	06/24/2023	24.68	513.94
APW11	Compliance	UA	07/24/2023	25.09	513.54
APW11	Compliance	UA	08/09/2023	24.99	513.64
APW11	Compliance	UA	09/09/2023	24.93	513.69
APW11	Compliance	UA	10/09/2023	25.03	513.60
APW11	Compliance	UA	11/09/2023	25.25	513.38
APW11	Compliance	UA	12/13/2023	25.61	513.02
APW12	Compliance	UD	04/24/2023	14.59	531.70
APW12	Compliance	UD	07/24/2023	15.93	530.36

**ATTACHMENT A  
GROUNDWATER ELEVATION DATA**

2023 35 I.A.C. § 845 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
APW12	Compliance	UD	09/09/2023	16.05	530.24
APW12	Compliance	UD	10/09/2023	16.04	530.25
APW12	Compliance	UD	11/09/2023	16.36	529.93
APW12	Compliance	UD	12/13/2023	16.71	529.58
APW13	Compliance	UA	04/24/2023	32.00	505.99
APW13	Compliance	UA	05/24/2023	32.50	505.49
APW13	Compliance	UA	06/24/2023	33.05	504.94
APW13	Compliance	UA	07/24/2023	33.49	504.50
APW13	Compliance	UA	10/09/2023	33.06	504.93
APW13	Compliance	UA	11/09/2023	33.60	504.39
APW13	Compliance	UA	12/13/2023	34.24	503.75
APW14	Compliance	UA	04/24/2023	20.89	505.40
APW14	Compliance	UA	05/24/2023	21.12	505.16
APW14	Compliance	UA	06/24/2023	21.69	504.59
APW14	Compliance	UA	07/24/2023	22.12	504.17
APW14	Compliance	UA	08/09/2023	21.65	504.63
APW14	Compliance	UA	09/09/2023	21.76	504.52
APW14	Compliance	UA	10/09/2023	21.73	504.56
APW14	Compliance	UA	11/09/2023	22.33	503.96
APW14	Compliance	UA	12/13/2023	22.79	503.50
APW15	Compliance	UA	04/24/2023	21.51	503.18
APW15	Compliance	UA	05/24/2023	21.34	503.35
APW15	Compliance	UA	06/24/2023	21.13	503.56
APW15	Compliance	UA	07/24/2023	21.40	503.29
APW15	Compliance	UA	10/09/2023	21.00	503.69
APW15	Compliance	UA	11/09/2023	21.38	503.31
APW15	Compliance	UA	12/13/2023	21.89	502.80
APW16	Compliance	UA	04/24/2023	40.22	490.96
APW16	Compliance	UA	05/24/2023	40.22	490.96
APW16	Compliance	UA	06/24/2023	40.41	490.77
APW16	Compliance	UA	07/24/2023	40.89	490.29
APW16	Compliance	UA	10/09/2023	40.61	490.57
APW16	Compliance	UA	11/09/2023	41.03	490.15
APW16	Compliance	UA	12/13/2023	41.65	489.53
APW17	Compliance	UA	04/24/2023	41.16	491.36
APW17	Compliance	UA	07/24/2023	41.81	490.71
APW17	Compliance	UA	10/09/2023	41.58	490.94
APW17	Compliance	UA	11/09/2023	42.04	490.48
APW17	Compliance	UA	12/13/2023	42.69	489.83
APW18	Compliance	UA	04/24/2023	51.91	491.36
APW18	Compliance	UA	05/24/2023	51.88	491.39
APW18	Compliance	UA	06/24/2023	51.98	491.29
APW18	Compliance	UA	07/24/2023	52.25	491.02
APW18	Compliance	UA	08/09/2023	52.18	491.09
APW18	Compliance	UA	10/09/2023	52.08	491.19
APW18	Compliance	UA	11/09/2023	52.57	490.70

**ATTACHMENT A  
GROUNDWATER ELEVATION DATA**

2023 35 I.A.C. § 845 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
APW18	Compliance	UA	12/13/2023	52.22	491.05
XSG01	Water Level	CCR	04/24/2023	2.17	534.00
XSG01	Water Level	CCR	10/09/2023	6.04	530.13
XSG01	Water Level	CCR	11/09/2023	5.92	530.25
XSG01	Water Level	CCR	12/13/2023	5.94	530.23
SG02	Water Level	SW	04/24/2023	2.11	504.78
SG02	Water Level	SW	10/09/2023	3.33	503.56
SG02	Water Level	SW	11/09/2023	10.00	496.89
SG02	Water Level	SW	12/13/2023	10.24	496.65

**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

NAVD88 = North American Vertical Datum of 1988

Monitored Unit Abbreviations:

CCR = coal combustion residuals

SW = surface water

UA = uppermost aquifer

UD = upper drift

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**ATTACHMENT B  
ALTERNATIVE SOURCE DEMONSTRATION AND IEPA  
DENIAL LETTER**

Intended for  
**Illinois Power Generating Company**

Date  
**October 6, 2023**

Project No.  
**1940103649-013**

**35 I.A.C. § 845.650(E): ALTERNATIVE  
SOURCE DEMONSTRATION  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS  
IEPA ID: W0798070001-1**



## CERTIFICATIONS

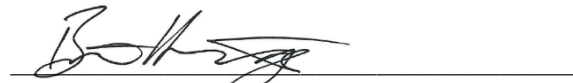
I, Anne Frances Ackerman, a qualified professional engineer in good standing in the State of Illinois, certify that the information in this report is accurate as of the date of my signature below. The content of this report is not to be used other than for its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.



Anne Frances Ackerman  
Qualified Professional Engineer  
062-060586  
Illinois  
Ramboll Americas Engineering Solutions, Inc.  
Date: October 6, 2023



I, Brian G. Hennings, a professional geologist in good standing in the State of Illinois, certify that the information in this report is accurate as of the date of my signature below. The content of this report is not to be used other than for its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.



Brian G. Hennings  
Professional Geologist  
196-001482  
Illinois  
Ramboll Americas Engineering Solutions, Inc.  
Date: October 6, 2023



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## TABLES (IN TEXT)

Table A	Summary Statistics for Chloride in APW15 and PAP Porewater (February 2021 to April 2023)
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## FIGURES (ATTACHED)

Figure 1	Sampling Locations and Potentiometric Surface Map – April 24, 2023
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## APPENDICES

Appendix A	Soil Boring B141 Location and Boring Log
Appendix B	Supporting Materials for LOE #1
Appendix C	Supplemental Analytical Data

## ACRONYMS AND ABBREVIATIONS

35 I.A.C.	Title 35 of the Illinois Administrative Code
ASD	Alternative Source Demonstration
bgs	below ground surface
CCR	coal combustion residuals
cm/s	centimeters per second
E001	Event 1
GWPS	groundwater protection standard
LCU	lower confining unit
LF2	Landfill 2
LOE(s)	Line(s) of evidence
M-K	Mann-Kendall
mg/L	milligrams per liter
NAVD88	North American Vertical Datum of 1988
NPDES	National Pollutant Discharge Elimination System
NPP	Newton Power Plant
NRT/OBG	Natural Resource Technology, an OBG Company
PAP	Primary Ash Pond
PMP	primary migration pathway
Ramboll	Ramboll Americas Engineering Solutions, Inc.
Rapps	Rapps Engineering and Applied Science
TDS	total dissolved solids
UA	uppermost aquifer
UCU	upper confining unit
UD	upper drift
UTL	Upper Tolerance Limit

## 1. INTRODUCTION

Under Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845.650(e), within 60 days from the date of determination of an exceedance of a groundwater protection standard (GWPS) for constituents listed in 35 I.A.C. § 845.600, an owner or operator of a coal combustion residuals (CCR) surface impoundment may complete a written demonstration that a source other than the CCR surface impoundment caused the contamination and the CCR surface impoundment did not contribute to the contamination, or that the exceedance of the GWPS resulted from error in sampling, analysis, statistical evaluation, natural variation in groundwater quality, or a change in the potentiometric surface and groundwater flow direction (Alternative Source Demonstration [ASD]).

This ASD has been prepared on behalf of Illinois Power Generating Company, by Ramboll Americas Engineering Solutions, Inc (Ramboll), to provide pertinent information pursuant to 35 I.A.C. § 845.650(e) for the Newton Power Plant (NPP) Primary Ash Pond (PAP) located near Newton, Illinois.

The most recent quarterly sampling event (Event 1 [E001]) was completed on April 28, 2023, and analytical data were received on June 8, 2023. In accordance with 35 I.A.C. § 845.610(b)(3)(C), comparison of statistically derived values with the GWPSs described in 35 I.A.C. § 845.600 to determine exceedances of the GWPS was completed by August 7, 2023, within 60 days of receipt of the analytical data (Ramboll, 2023). The statistical determination identified the following GWPS exceedances at compliance groundwater monitoring wells:

- Chloride at well APW15
- Lithium at well APW02
- Sulfate at wells APW02, APW04, APW05S, and APW10
- Total dissolved solids (TDS) at wells APW02, APW04, and APW05S

Pursuant to 35 I.A.C. § 845.650(e), the lines of evidence (LOEs) presented in **Section 3** demonstrate that sources other than the PAP were the cause of the chloride GWPS exceedance listed above. This ASD was completed by October 6, 2023, within 60 days of determination of the exceedances (August 7, 2023), as required by 35 I.A.C. § 845.650(e).

Lithium, sulfate, and TDS exceedances will be addressed in accordance with 35 I.A.C. § 845.660.

## 2. BACKGROUND

### 2.1 Site Location and Description

The NPP is located in Jasper County in the southeastern part of central Illinois, approximately 7 miles southwest of the town of Newton. The plant is located on the north side of Newton Lake. The area is bounded by Newton Lake and agricultural land to the west, south, and east, and agricultural land to the north. Beyond the lake is additional agricultural land.

### 2.2 Description of Primary Ash Pond CCR Unit

The NPP's sole CCR surface impoundment, the PAP, was constructed in 1977 and has a design capacity of approximately 9,715 acre-feet. The PAP has a surface area of 400 acres and a height of approximately 71 feet above grade. The PAP currently receives bottom ash, fly ash, and low-volume wastewater from the plant's two coal-fired boilers, and is operated per National Pollutant Discharge Elimination System (NPDES) Permit IL0049191, Outfall 001. The PAP was not excavated during construction, except for native borrow materials used to build the containment berms.

### 2.3 Geology and Hydrogeology

#### 2.3.1 Site Hydrogeology

The information used to describe the hydrogeology is based on the local geology obtained from published sources, hydrogeologic investigation data, and boring data collected during site investigations conducted from 1997 to 2021 (Natural Resource Technology, an OBG Company [NRT/OBG], 2017; Ramboll, 2021a).

Quaternary deposits in the Newton area consist mainly of diamictons and outwash deposits that were deposited during Illinoian and Pre-Illinoian glaciations (Lineback, 1979; Willman et al., 1975). The unconsolidated deposits include the following units (beginning at the ground surface):

- **Upper Drift (UD)/ Potential Migration Pathway (PMP):** The upper drift is composed of the low permeability silts and clays of the Peoria Silt and Sangamon Soil and the sandier soils of the Hagarstown Member. The hydraulic conductivity of this unit, calculated from field hydraulic test data from monitoring wells screened between 8 and 36 feet below ground surface (bgs), was observed to range from  $2.4 \times 10^{-6}$  to  $6.1 \times 10^{-5}$  centimeters per second (cm/s) with a geometric mean of  $1.3 \times 10^{-5}$  cm/s (Rapps Engineering and Applied Science [Rapps], 1997).
  - **Hagarstown Member/PMP:** The Hagarstown Member consists of the discontinuous, sandier deposits of the UD where present and overlies the Vandalia Till. Results of field hydraulic conductivity tests in wells screened within the Hagarstown PMP (APW05S and APW12) ranged from  $6.1 \times 10^{-4}$  to  $1.5 \times 10^{-2}$  cm/s, with a geometric mean hydraulic conductivity of  $3.1 \times 10^{-3}$  cm/s (Ramboll, 2021a).
- **Upper Confining Unit (UCU):** The UCU consists of a thick package of the low permeability clay and silt of the Vandalia Till Member. This unit is a laterally continuous layer between the base of the upper drift and the top of the uppermost aquifer (UA). The hydraulic conductivity of this unit was observed to range from  $6.3 \times 10^{-9}$  to  $2.1 \times 10^{-8}$  cm/s with a geometric mean of  $1.1 \times 10^{-8}$  cm/s (Rapps, 1997).

- **Uppermost Aquifer (UA):** The UA is composed of the Mulberry Grove Member, which has been classified as poorly graded sand, silty sand, clayey sand, and gravel. The top of the UA is highest in elevation in the north and east portions of the unit and slopes downward toward APW15. The top of unit elevations range from approximately 482 feet (APW05 and APW10) to 425 feet (APW15) North American Vertical Datum of 1988 (NAVD88). Field hydraulic conductivity tests conducted in 2021 at monitoring wells screened in the UA ranged from  $2.0 \times 10^{-4}$  to  $1.5 \times 10^{-1}$  cm/s with a geometric mean hydraulic conductivity of  $6.8 \times 10^{-3}$  cm/s. The highest conductivities are measured in APW15, APW16, and APW17 (Ramboll, 2021a).
- **Lower Confining Unit (LCU):** The LCU is comprised of low permeability silt and clay of the Smithboro Till Member and the Banner Formation. The hydraulic conductivity of this unit was observed to be  $1.4 \times 10^{-7}$  cm/s (Rapps, 1997).
- **Bedrock Unit:** Shale bedrock of the Pennsylvanian-age Mattoon Formation (Willman et al., 1967) was encountered at the NPP during recent and historical investigations. Based on boring logs, the bedrock surface elevation at the NPP ranges from 408 feet NAVD88 (B141) (**Appendix A**) to 445 feet NAVD88 (APW13) (Ramboll, 2021a). Bedrock was not encountered at APW15, which was advanced to approximately 412 feet NAVD88 (Ramboll, 2021a). This indicates that APW15, which is screened within the UA from 424 to 419 feet NAVD88, is located in close proximity to the bedrock surface.

### 2.3.2 Regional Bedrock Geology

Regional investigations of the Illinois Basin have identified bedrock (specifically brines within the bedrock formations) as a source of chloride in groundwater (Kelley et al, 2012; Panno et al, 2018). Studies by Cartwright (1970) and Siegel (1989) indicate that groundwater migrates toward the center of the Illinois Basin and discharges upward through overlying confining units. The "Saline groundwater and brines can be brought near or to the land surface by natural conditions, such as migrating up prominent fractures and/or faults in bedrock, or by anthropogenic activities, such as exploration for and exploitation of petroleum. The mixing of upward-migrating saline groundwater with fresh groundwater from shallow aquifers can make groundwater from private wells undrinkable and can present a very expensive problem for municipalities (Panno and Hackley, 2010). "A saline spring was identified in Clay County (Kelley et al, 2012) approximately 10 miles south of the NPP and is adjacent to the Clay City Anticline which runs north into Jasper County and east of the NPP. Concentrations of chloride in groundwater collected from the Pennsylvanian shale in Jasper County range from 100 to 5,000 milligrams per liter (mg/L) (Panno et al, 2017).

### 2.3.3 Water Table Elevation and Groundwater Flow Direction

Groundwater elevations in the UA (referenced to NAVD88) across the PAP ranged from approximately 491 to 530 feet during E001 (**Figure 1**). Depth to groundwater measurements used to generate the groundwater elevation contours shown on **Figure 1** were collected on April 24, 2023. Groundwater flow in the UA beneath the eastern portion of the PAP is generally to the south, with flow direction diverging to the southwest beneath the western portion of the PAP, toward Landfill 2 (LF2), where groundwater flow in the area is converging along the major axis of LF2 Cells 1 and 2.

## 2.4 Groundwater and PAP Monitoring

The monitoring system for the PAP is shown on **Figure 1** and consists of two background monitoring wells (APW05 and APW06), 16 compliance monitoring wells (APW02, APW03, APW04, APW05S, APW07, APW08, APW09, APW10, APW11, APW12, APW13, APW14, APW15, APW16, APW17, and APW18), and two temporary water level only surface water staff gages (XSG01 and SG02) to monitor potential impacts from the PAP (Ramboll, 2021b). These monitoring wells are screened within the UD (APW02, APW03, APW04, APW05S, and APW12) and the UA (APW05, APW06, APW07, APW08, APW09, APW10, APW11, APW13, APW14, APW15, APW16, APW17, and APW18) along the perimeter of the PAP. Porewater samples are collected from locations XPW01 and XPW02 on the northern side of the PAP, and from XPW03 and XPW04 on the northeastern side of the PAP (**Figure 1**).

### 3. ALTERNATIVE SOURCE DEMONSTRATION: LINES OF EVIDENCE

As allowed by 35 I.A.C. § 845.650(e), this ASD demonstrates that sources other than the PAP (the CCR unit) caused the chloride exceedance at APW15. LOEs supporting this ASD include the following:

1. The PAP is separated from the UA at APW15 by a thick layer of low permeability glacial till (UCU).
2. Concentrations of primary CCR indicators in APW15 do not exceed background limits and are not increasing.
3. Concentrations of chloride at APW15 are greater than source concentrations.

These LOEs are described and supported in greater detail below.

#### 3.1 LOE #1: The PAP is Separated from the UA at APW15 by a Thick Layer of Low Permeability Glacial Till (UCU)

Based on the boring log for monitoring well APW15, the top elevation of the UA is 424.9 feet NAVD88 (Ramboll, 2021a), which corresponds to 97.2 feet bgs on the boring log. At this location, the UA is overlain by the UCU, a low permeability ( $6.3 \times 10^{-9}$  to  $2.1 \times 10^{-8}$  cm/s) glacial till. The bottom of the PAP, as presented in drawing S-69, is situated within the UCU, generally consistent with ground surface topography at the time the PAP was constructed (AECOM, 2022). The estimated bottom elevation of CCR presented on profile B-B' of sheet 00C302 (HDR, 2022), which bisects the axis of a former drainage feature, is 485 feet and has been interpreted to be the minimum base of ash elevation across the PAP. Thus, separation between the UA and the base of ash is approximately 60 feet, which represents the thickness of the low permeability glacial till that comprises the UCU. Based upon these observations, there is no complete pathway for transport of CCR constituents to APW15, and the PAP is not the source of the chloride exceedance at that well. **Appendix B** includes the boring log for APW15, drawing S-69, and sheet 00C302 to support this LOE.

#### 3.2 LOE #2: Concentrations of Primary CCR Indicators in APW15 Do Not Exceed Background Limits and are Not Increasing

Boron and sulfate can be indicators of CCR impacts to groundwater due to their leachability from CCR and mobility in groundwater. Porewater in the NPP PAP is elevated in both boron and sulfate, indicating that these parameters are site-specific key indicators for CCR. If the groundwater in APW15 had been impacted by CCR from the unit, boron and sulfate concentrations would be expected to be elevated above their respective background Upper Tolerance Limits (UTLs). The UTL is an upper bound on background concentrations calculated for the purpose of comparing compliance measurements to background.

Mann-Kendall (M-K) trend analysis tests were performed to determine whether there are trends in the boron and sulfate concentrations in each well. If groundwater downgradient of the PAP was being affected by CCR but boron and sulfate did not yet exceed background concentrations, boron and sulfate concentrations would be expected to be increasing. No trends in boron or sulfate concentrations were identified by the M-K tests in compliance well APW15.



The concentration of boron in compliance well APW15 (0.13 mg/L) is less than the boron UTL (0.26 mg/L) and the concentration of sulfate in APW15 (0.40 mg/L) is also less than the sulfate UTL (35.84 mg/L), and the lack of increasing trends in boron and sulfate concentrations at monitoring well APW15 indicate that this well has not been affected by CCR impacts from the NPP PAP (Ramboll 2021b; Ramboll 2023). Analytical data to support this LOE are included in **Appendix C**.

### 3.3 LOE #3: Concentrations of Chloride at APW15 are Greater than Source Concentrations

**Table A** below provides summary statistics for chloride in APW15 and PAP porewater collected from XPW01, XPW02, XPW03, and XPW04.

**Table A. Summary Statistics for Chloride in APW15 and PAP Porewater (February 2021 to April 2023)**

Sample Location	Chloride (mg/L)		
	Minimum	Maximum	Median
Composite Porewater <sup>1</sup>	8.1	62.0	12.5
APW15	130	270	235

<sup>1</sup> Composite Porewater includes summary statistics of data collected at porewater locations XPW01, XPW02, XPW03, and XPW04

The following observations can be made from **Table A**:

- Concentrations of chloride in compliance monitoring well APW15 ranged from 130 mg/L to 270 mg/L, with a median chloride concentration of 235 mg/L.
- Concentrations of chloride within PAP porewater ranged from 8.1 mg/L to 62.0 mg/L, with a median chloride concentration of 12.5 mg/L.
- The median chloride concentration observed in porewater is an order of magnitude lower than the median chloride concentrations observed in compliance monitoring well APW15.
- The maximum observed chloride concentration in compliance monitoring well APW15 is approximately four times the concentration observed in porewater.

Analytical data to support the summary statistics presented in **Table A** are included in **Appendix C**. If the PAP was the source of chloride in downgradient groundwater, chloride concentrations in PAP porewater would be expected to be greater than the groundwater concentrations. However, the median chloride concentration observed in compliance groundwater monitoring well APW15 is greater than the median chloride concentrations observed porewater, indicating that chloride concentrations are not related to the PAP.

## 4. CONCLUSIONS

Based on the three LOEs presented below and described in the previous section, it has been demonstrated that the GWPS exceedance of chloride at APW15 is not due to the PAP but is from a source other than the CCR unit.

1. The PAP is separated from the UA at APW15 by a thick layer of low permeability glacial till (UCU).
2. Concentrations of primary CCR indicators in APW15 do not exceed background limits and are not increasing.
3. Concentrations of chloride at APW15 are greater than source concentrations.

Given the preponderance of evidence demonstrating that the PAP is not the source of elevated chloride in groundwater compliance well APW15, regional literature was reviewed to identify an alternative source. Based on the literature discussed in **Section 2.3.2**, elevated chloride concentrations (ranging 100 to 5,000 mg/L) are present in bedrock at concentrations above those detected in APW15. The UA was encountered at the lowest elevation onsite at APW15 (~425 feet NAVD88), and the screened elevation of this well (424 to 419 feet NAVD88) indicates that it is in close proximity to the bedrock surface, which is known to range between 408 and 445 feet NAVD88 at the NPP. Upward migration of chloride-containing groundwater from the shale bedrock into the overlying unlithified materials above the bedrock valley has the potential to impact groundwater within the UA.

Based on the review of regional literature and site-specific bedrock conditions, chloride concentrations in bedrock groundwater are a likely source of chloride observed in APW15 for the following reasons:

- Chloride is present in Pennsylvanian shale in Jasper County at concentrations ranging from 100 to 5,000 mg/L.
- Upward vertical hydraulic gradients and fractures near geologic features provide conduits for these chloride-rich waters to migrate. The Clay City Anticline is present east of the PAP and a saline spring has been mapped adjacent to this anticline approximately 10 miles south of the PAP in Clay County.
- Well APW15 is located in close proximity to bedrock and screened at a lower elevation than other wells monitoring the UA which could explain why this is the only affected well. The screened interval is estimated to be 10 to 15 feet lower than the top of bedrock in adjacent wells. The high hydraulic conductivity of the UA relative to the low hydraulic conductivity of underlying bedrock (Mehnert et al, 1990) at this location provides a potential pathway for interaction with upward-migrating chloride-containing bedrock groundwater.

This information serves as the written ASD prepared in accordance with 35 I.A.C. § 845.650(e), demonstrating that the chloride exceedance observed at APW15 during the E001 sampling event was not due to the PAP. Therefore, assessment of corrective measures is not required for chloride at the PAP.

Lithium, sulfate, and TDS exceedances will be addressed in accordance with 35 I.A.C. § 845.660.

## 5. REFERENCES

AECOM, 2016. Drawing S-69, Ash Pond and SO<sub>2</sub> Disposal Pond, included in the Construction Permit Application submitted to IEPA for Newton Power Plant Primary Ash Pond. July 28, 2022.

Cartwright, K., 1970. Groundwater discharge in the Illinois Basin as suggested by temperature anomalies. *Water Resources Research* 6, No. 3: 912-918.

Kelley, Walton R., Samuel V. Panno, and Keith Hackley, 2012. *The Sources, Distribution, and Trends of Chloride in the Waters of Illinois*. Prairie Research Institute. University of Illinois at Urbana-Champaign. March 2012.

HDR, 2022. Sheet 00C302, Cross Section B-B, Closure Drawing for Illinois Power Generating Company Newton Power Plant Primary Ash Pond Closure, included in the Construction Permit Application submitted to IEPA for Newton Power Plant Primary Ash Pond. July 28, 2022.

Lineback, J., 1979. Quaternary Deposits of Illinois: Illinois State Geological Survey map, scale 1:500,000.

Mehnert, Edward, Craig R. Gendron, and Ross D. Brower, 1990. *Investigation of the Hydraulic Effects of Deep-Well Injection of Industrial Wastes*. Champaign, Illinois: Illinois State Geological Survey.

Natural Resource Technology, an OBG Company (NRT/OBG), 2017. *Hydrogeologic Monitoring Plan, Newton Primary Ash Pond – CCR Unit ID 501, Newton Landfill 2 – CCR Unit ID 502, Newton Power Station, Canton, Illinois, Illinois Power Generating Company*. October 17, 2017.

Panno, S.V., and K.C. Hackley, 2010. Geologic influences on water quality. In *Geology of Illinois*, ed. D.R. Kolata and C.K. Nimz, 337-350. Champaign, Illinois: Illinois State Geological Survey.

Panno, S.V., Askari, Z., Kelly, W.R., Parris, T.M. and Hackley, K.C., 2018. Recharge and Groundwater Flow Within an Intracratonic Basin, Midwestern United States. *Groundwater*, 56: 32-45.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021a. *Hydrogeologic Site Characterization Report*. Newton Power Plant, Primary Ash Pond, Newton, Illinois. Illinois Power Generating Company. October 25, 2021.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021b. *Groundwater Monitoring Plan, Newton Power Plant, Primary Ash Pond, Newton, 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, Primary Ash Pond, Newton Power Plant, Newton, Illinois*. August 7, 2023.

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, Primary Ash Pond, Newton Power Plant, Newton, Illinois*. August 7, 2023.

Rapps Engineering and Applied Science (Rapps), 1997. *Hydrogeologic Investigation and Groundwater Monitoring, CIPS – Newton Power Station Landfill, Jasper County, Illinois, in Newton Power Station Landfill, Application for Landfill Permit*.

Siegel, D.I., 1989. Geochemistry of the Cambrian-Ordovician Aquifer System in the Northern Midwest, U.S. Geological Survey Professional Paper 1405-D, 76p.

Willman, H.B., J.C. Frye, J.A. Simon, K.E. Clegg, D.H. Swann, E. Atherton, C. Collinson, J.A. Lineback, T.C. Buschbach, and H.B. Willman, 1967. *Geologic Map of Illinois: Illinois State Geological Survey map, scale 1:500,000.*

Willman, H.B., E. Atherton, T.C. Buschbach, C. Collinson, J.C. Frye, M.E. Hopkins, J.A. Lineback, and J.A. Simon, 1975. *Handbook of Illinois Stratigraphy: Illinois State Geological Survey, Bulletin 95, 261 p.*

Figures



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

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, LAKE
- GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE

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



### SAMPLING LOCATIONS AND POTENTIOMETRIC SURFACE MAP APRIL 24, 2023

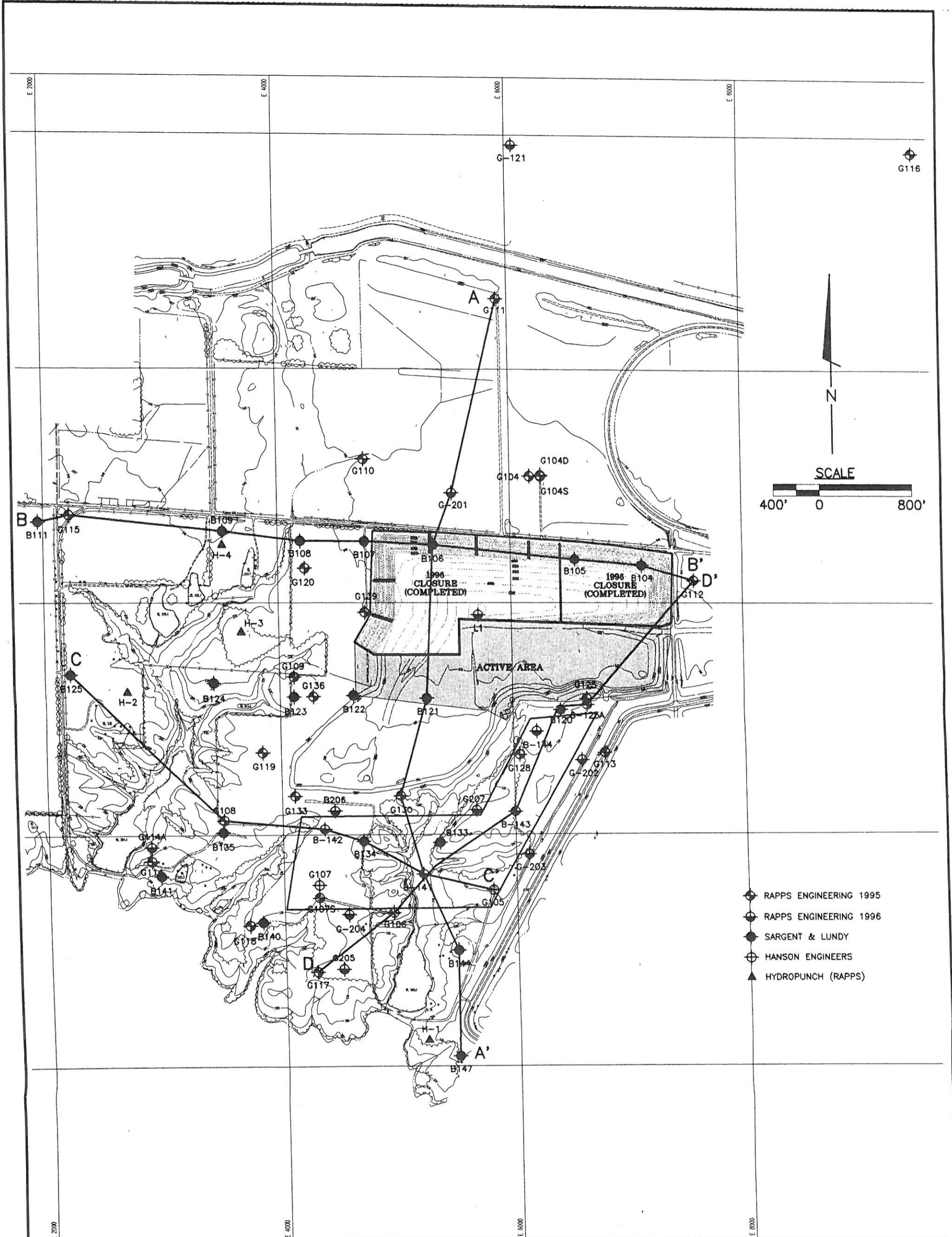
ALTERNATIVE SOURCE DEMONSTRATION  
PRIMARY ASH POND  
NEWTON POWER PLANT  
NEWTON, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.



Appendix A  
Soil Boring B141 Location and Boring Log



**RAPPS**  
 ENGINEERING & APPLIED SCIENCE  
 821 S. DURKIN DR. • SPRINGFIELD, IL 62704 • (217) 787-2118  
 1601 BROADWAY • MT. VERNON, IL 62864 • (618) 244-2611

**FIGURE 3-2**  
**CROSS SECTION**  
**KEY**  
 NEWTON POWER STATION LANDFILL  
 CENTRAL ILLINOIS PUBLIC SERVICE  
 NEWTON, ILLINOIS



# TEST BORING REPORT

# RAYMOND

## CONCRETE PILE DIVISION

By SARGENT & LUNDY  
 Location of Borings NORTON, ILLINOIS

Date FEBRUARY 14, 1974 Job No. CR-21241-XI  
PROPOSED POWER PLANT EXPANSION

All borings are plotted to a scale of 1" = 8' ft. using ELEVATIONS AS FURNISHED as a fixed datum.

No. 141

No. 142

GROUND SURFACE	
525	FLEV. 524.5' 0.0'
	LIGHT GREY SILTY TOP SOIL 0.5'
520	20
	BROWN CLAYEY SILT
515	9
	FINE SAND & SMALL TO MEDIUM GRAVEL 11.3'
	BROWN CLAYEY SANDY SILT 11.5'
510	43
	BROWN SANDY SILT 14.5'
	15.0'
505	60/6
	BROWN COMPACT SANDY CLAYEY SILT TR. GRAVEL
500	44
	27.0'
	27.9'
495	36
	BROWN SANDY SILTY CLAY TR. GRAVEL
	32.0'
	33.1'
490	34
	34.4'
485	38
480	47
	GREY SANDY
475	55
	CLAYEY SILT
470	47
	TR. GRAVEL
465	35

GROUND SURFACE	
	ELEV. 534.0' 0
	GREY SILTY TOP SOIL 0
	6
	BROWN & GREY SILTY CLAY
	14
	FINE SAND & GRAVEL 11
	BROWN & GREY SILTY CLAY 11
	16.0
	SAND & GRAVEL 18.0
	BROWN COMPACT FINE SAND 60/9
	22.0
	FINE TO COARSE SAND & MED. TO LARGE GRAVEL 60/11
	25.0
	60
	GREY COMPACT SANDY CLAYEY 60/11
	SILT TR. GRAVEL SOME 38
	SAND SEAMS 39
	48.0
	43
	BROWN & GREY SANDY SILTY CLAY TR. GRAVEL
	51
	56.0
	57.0
	58.0
	FINE SAND & SMALL TO MED. GRAVEL SEAM 41
	43
	GREY COMPACT 44

5	SAND & SMALL TO MED. GRAVEL	60/9	68.3' 69.0'						
	LIGHT GREY SANDY CLAYEY SILT TR. GRAVEL								37
450		60/8	74.0'						41
	COMPACT SANDY SILT								8
445	TR. GRAVEL & CLAY	60/7							37
440		21	83.0'						34
									9
435	GREY SILTY	25							36
430	CLAY TR. SAND	24							30
									106
425	& GRAVEL	20							108
	(TR. WOOD)	23							29
415		21							26
									24
									120
410	BLACK SILTY SAND & WOOD	60/11 60/1	114.0' 116.0'						
	SHALE OR BOULDER								
405	BORING ADVANCED BY AUGER. WATER ENCOUNTERED @ 15.0'. WATER LEVEL @ 12.0' 24 HRS. AFTER COMPLETION. USED 20.0' OF BX CASING.								

BORING ADVANCED BY AUGER TO 20.0'.  
 WATER ENCOUNTERED @ 16.0'.  
 WATER LEVEL @ 10.0' 24 HRS. AFTER  
 COMPLETION.  
 USED 20.0' OF BX CASING.

FIGURES IN RIGHT HAND COLUMN SHOWN AS FRACTIONS  
 NUMERATOR - NUMBER OF BLOWS  
 DENOMINATOR - PENETRATION (IN INCHES)

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 230.0'  
 Foreman A. McWHERRY  
 Classification by FOREMAN  
 Sheet of

Appendix B  
Supporting Materials for LOE#1

Facility/Project Name <b>Newton Power Station</b>		License/Permit/Monitoring Number		Boring Number <b>APW15</b>	
Boring Drilled By: Name of crew chief (first, last) and Firm <b>Adam Jochimsen Cascade Drilling</b>		Date Drilling Started <b>1/21/2021</b>		Date Drilling Completed <b>1/22/2021</b>	
Common Well Name <b>APW15</b>		Final Static Water Level Feet (NAVD88)		Surface Elevation <b>522.06 Feet (NAVD88)</b>	
				Borehole Diameter <b>6.0 inches</b>	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input checked="" type="checkbox"/>		State Plane <b>821,107.90 N, 997,938.87 E</b> <input checked="" type="checkbox"/> W		Local Grid Location	
1/4 of 1/4 of Section <b>26, T 6 N, R 8 E</b>		Lat <b>38° 55' 17.71"</b>		<input type="checkbox"/> N <input type="checkbox"/> E	
		Long <b>-88° 17' 6.79"</b>		<input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County <b>Jasper</b>		State <b>IL</b>	
				Civil Town/City/ or Village <b>Newton</b>	







Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties					RQD/ Comments	
									Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1 CS	60 54		1	0 - 6.3' <b>FILL, LEAN CLAY:</b> CL, brown (10YR 5/3), silt (15-25%) sand (0-5%), stiff, no dilatancy, low toughness, medium plasticity, moist.	(FILL) CL				1.75						CS= Core Sample
2 CS	60 40		5	6.3 - 20' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), silt (15-25%) sand (0-5%), gravel (0-5%), organic material (0-5%), very stiff to stiff, no dilatancy, medium toughness, medium plasticity, moist.	CL				1.75						
3 CS	60 50		10						2.25						
			11						4						
			12						1						

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

Signature 	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
---------------	-------------------------------------------------------------------	--------------------------------------------

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties					RQD/ Comments	
Number and Type	Length Att. & Recovered (in)								Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200		
4 CS	60 54		13	6.3 - 20' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), silt (15-25%) sand (0-5%), gravel (0-5%), organic material (0-5%), very stiff to stiff, no dilatancy, medium toughness, medium plasticity, moist. (continued)											
			14												
			15												
			16												
5 SH	24 23		17												
			18												
6 CS	96 96		19	19.2' brown (10YR 4/3), yellowish brown (10YR 5/6) mottling (10-15%), stiff.											
			20	20 - 22' <b>LEAN CLAY:</b> CL.	CL										
			21												
			22	22 - 23.5' <b>LEAN CLAY:</b> CL, brown (10YR 4/3), yellowish brown (10YR 5/6) mottling (10-15%), stiff, no dilatancy, medium toughness, medium plasticity, moist.	CL										
6 CS	60 49		23	23.5 - 26.7' <b>SANDY LEAN CLAY:</b> s(CL), brown (10YR 5/3), gray (10YR 5/1) mottling (5-10%), stiff, slow dilatancy, low toughness, medium plasticity, moist.	s(CL)										
			24												
			25												
			26												
6 CS	60 49		27	26.7 - 39.2' <b>LEAN CLAY:</b> CL, brown (10YR 5/3), yellowish brown (10YR 5/6) mottling (10-15%), gray (10YR 5/1) mottling (5-10%), sand (5-10%), gravel (0-5%), cobbles (0-5%), very stiff to hard, no dilatancy, medium toughness, medium plasticity, dry to moist.	CL										
			28												
			29												
			30	30' hard, dry.											
			31												
			32												

SH= Shelby Tube

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties					RQD/ Comments											
Number and Type	Length Att. & Recovered (in)								Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200												
7 CS	60 49		33	26.7 - 39.2' <b>LEAN CLAY:</b> CL, brown (10YR 5/3), yellowish brown (10YR 5/6) mottling (10-15%), gray (10YR 5/1) mottling (5-10%), sand (5-10%), gravel (0-5%), cobbles (0-5%), very stiff to hard, no dilatancy, medium toughness, medium plasticity, dry to moist. <i>(continued)</i>	CL				4.5																
			34																						
			35																						
			36																						
8 CS	60 60		39	39.2 - 52.5' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), no mottling, organic material (0-5%), sand (5-10%), gravel (0-5%), cobbles (0-5%), hard, no dilatancy, medium toughness, medium plasticity, dry, silt stringers 1mm to 3mm diameter fracture planes.	CL				4.5																
			40																						
			41																						
			42																						
9 CS	60 60		43		CL				4.5																
			44																						
			45																						
			46																						
10 CS	60 60		47		CL				4.5																
			48																						
			49						4.5																
			50						4.5																
			51						4.5																
			52						4.5																

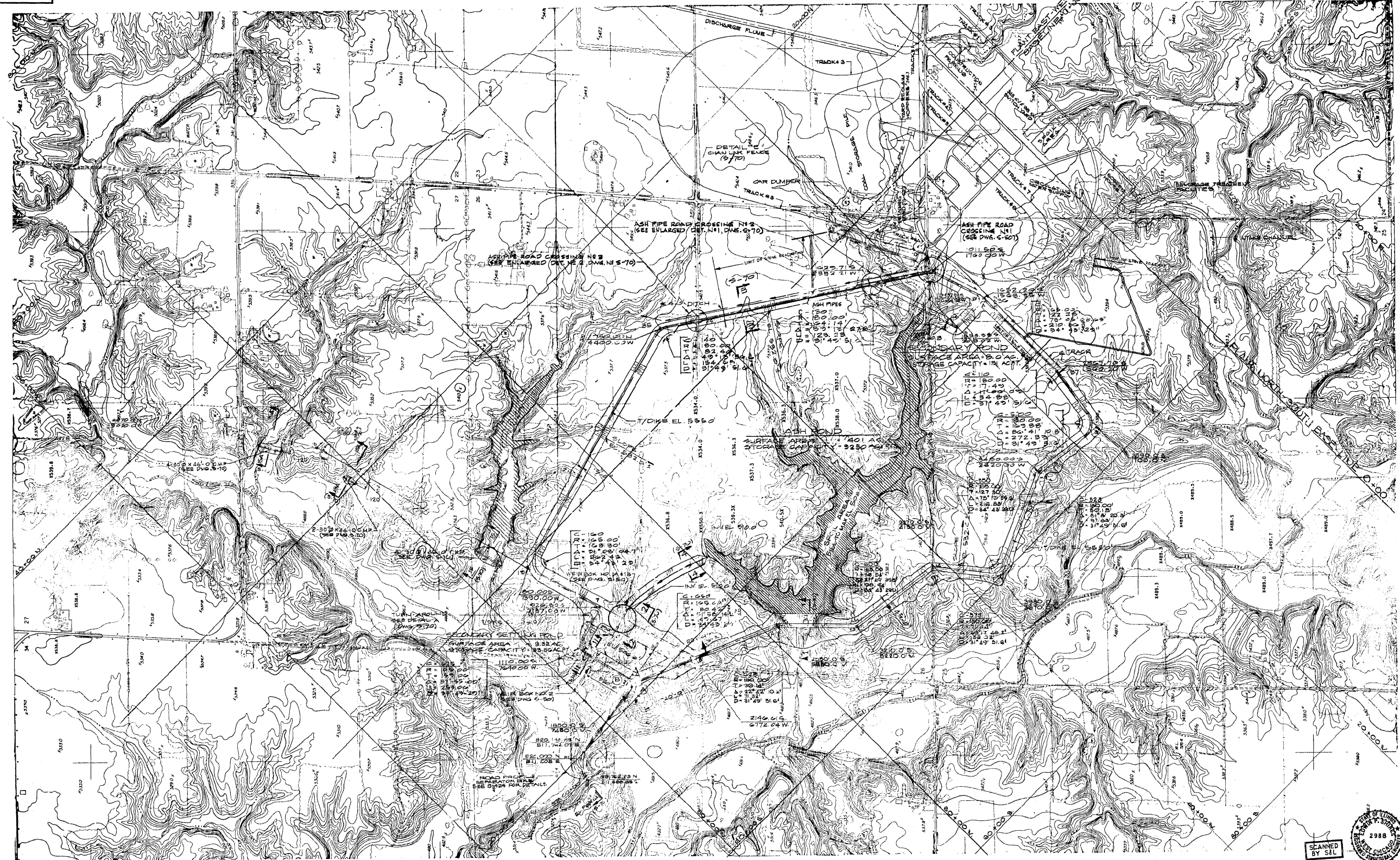




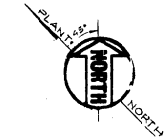


Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	
19 CS	60 60		93	61.4 - 97.2' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), silt (15-25%), sand (0-10%), gravel (0-5%), organic material (0-5%), stiff to very stiff, no dilatancy, medium toughness, medium plasticity, moist to dry. <i>(continued)</i>	CL				2.75					
			94											
20 SH	24 24		95	97.2 - 100' <b>POORLY-GRADED SAND WITH SILT:</b> SP-SM, dark gray (10YR 4/1), subrounded to rounded, medium to fine sand, loose, wet.	SP-SM									
			96											
21 CS	36 36		97	100 - 102' <b>SILTY SAND:</b> SM.	SM					12.1	15	3	45.8	
			98											
22 MC	24 24		99	102 - 104.3' <b>SANDY SILT:</b> s(ML), gray (10YR 5/1), firm, slow dilatancy, low toughness, non-plastic, wet.	s(ML)				1					
			100											
23 CS	36 36		101	104.3 - 105' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), sand (5-10%), gravel (0-5%), organic material (0-5%), stiff to very stiff, no dilatancy, medium toughness, medium plasticity, moist.	CL					19.1	29	16	76.2	MC= Modified California Sample
			102											
			103	105 - 107' <b>LEAN CLAY:</b> CL.	CL									
			104	107 - 110' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), sand (5-10%), gravel (0-5%), organic material (0-5%), stiff to very stiff, no dilatancy, medium toughness, medium plasticity, moist.	CL				2.25					
			105											
			106											
			107											
			108											
			109											
			110	110' End of Boring.										
									2.5					

69-S



POINT	SIDE	CURVE NO.	R	T	Δ	L	D
10	ASH POND	100	52.97	49° 43'	13.0	8.78	67° 17' 45.00"
11	SECONDARY	25	140.20	130° 10'	46.4	47.80	88° 08' 51.65"
21	LANESIDE (A)	10	49.55	89° 25'	26.4	26.27	34° 43' 29.00"
22	LANESIDE (B)	25	70.49	54° 32'	20.0	27.52	38° 08' 51.69"
30	ASH POND (A)	175	57.50	50° 20'	20.0	20.27	30° 38' 41.59"
32	SECONDARY (A)	575	77.55	102° 54'	52.3	27.24	59° 38' 41.58"
39	SECONDARY POND	575	61.57	140° 40'	29.7	41.21	59° 38' 41.58"



**NOTES**

7. THE WATER LEVEL IN ASH POND SHALL BE MAINTAINED AT AN ELEVATION 10' ABOVE THE SEIGNMENT LEVEL FOR ENVIRONMENTAL PURPOSES.

**NOTES**

- FOR GENERAL NOTES SEE DWG. S-14.
- ALL WORK SHOWN IN THIS DRAWING SHALL BE DONE BY SUPERSTRUCTURE CONTRACTOR IN ACCORDANCE WITH JOB SPEC. A-3022.
- ALL EXTERIOR SIDE SLOPES OF DIKE BELOW ELEV. 510.0' THAT IS TO BE CONSTRUCTED BEFORE LAKE FILLING SHALL BE PROVIDED WITH 24" STONE RIPRAP ON SAND AND GRAVEL FILTER BEDDING AS SHOWN ON DWG. S-70, AND ALL DIKE CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH JOB SPEC. A-3017 AND A-3022.
- ALL DIKE TOPS AND SIDE SLOPES AND ALL EXTERNAL DITCHES SHALL BE PROVIDED WITH 4" TOPSOIL AND SEEDED IN ACCORDANCE WITH JOB SPEC. A-3017 AND A-3022.
- EXISTING LOW AREAS SHALL BE FILLED WITH SPOILMATERIAL AS REQUIRED FOR SPOIL DISPOSAL. SPOILS SHALL BE PLACED IN LAYERS AND GRADED PROPERLY FOR DRAINAGE.
- REMOVED "HOLD" FROM SO<sub>2</sub> POND AREAS FOR CLEARING, SLOPE STAKING & CROSS SECTIONING ONLY.

**REFERENCE DRAWINGS**

- S-19 SITE CONTOURS AND DEVELOPMENT PLAN SHEET 4.
- S-39 GRADING AND DRAINAGE PLAN, PLANT AREA SHEET 2.
- S-40 GRADING AND DRAINAGE PLAN, PLANT AREA SHEET 3.
- S-50 WEIR BOX STRUCTURES AT PRIMARY AND SECONDARY SETTLING PONDS.
- S-70 ASH POND DIKE PROFILE DETAILS & SECTION
- S-507 GRADING & DRAINAGE PLAN- PLANT AREA- SHT.

DATE	BY	DESCRIPTION
01-24-94	SA	DESIGNED BY SA
11-22-74	CA	CHECKED BY CA
2-10-72	SA	CHECKED BY SA
7-14-71	CA	CHECKED BY CA
12-21-70	CA	CHECKED BY CA
7-12-70	CA	CHECKED BY CA
1-18-70	CA	CHECKED BY CA
10-21-77	SA	CHECKED BY SA
11-3-78	SA	CHECKED BY SA
7-3-80	SA	CHECKED BY SA
2-12-78	SA	CHECKED BY SA

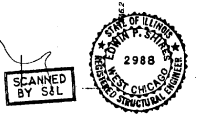
**ASH POND & SO<sub>2</sub> DISPOSAL POND**  
**NEWTON POWER STATION UNIT 1**  
**CENTRAL ILL. PUBLIC SERVICE CO.**  
**NEWTON, ILLINOIS**

SCALE: 1" = 400'-0" @ 0.12

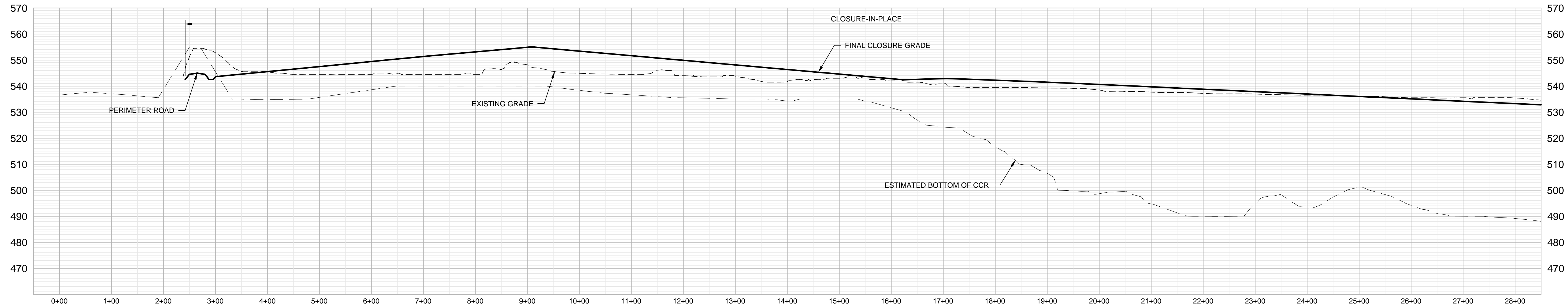
DRAWN: S. BAUCHEZ 8-6-74  
 CHECKED: R. SHULTZ 8-6-74  
 ENGINEER: G. J. SCHULZ 8-6-74  
 APPROVED: [Signature] 8-6-74

**SARGENT & LUNDY**  
 ENGINEERS  
 CHICAGO

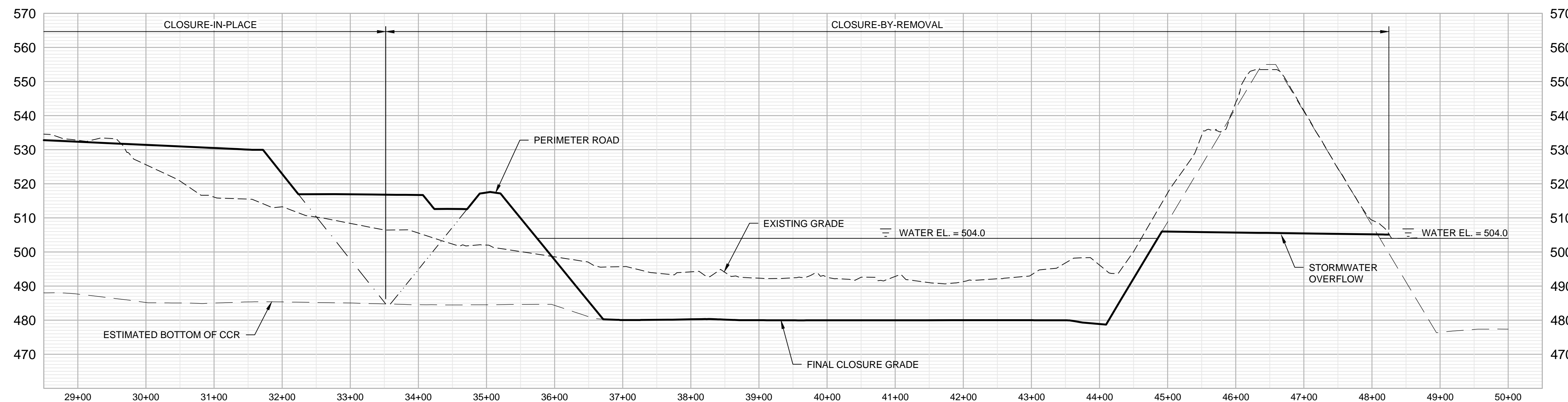
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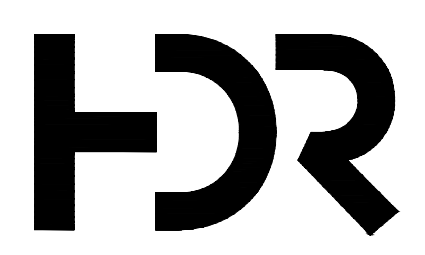
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**B-B SECTION B-B**  
 00C106 HORIZ: 1" = 100' | VERT: 1" = 20'



**B-B SECTION B-B (cont.)**  
 00C106 HORIZ: 1" = 100' | VERT: 1" = 20'



ISSUE	DATE	DESCRIPTION
0	07/28/2022	ISSUED TO IEPA

<b>PROJECT MANAGER</b>	M. ROBERTS
CIVIL	G. WILLIAMS
CIVIL	K. KINLEY
<b>DRAWN BY</b>	M. BICKFORD
<b>PROJECT NUMBER</b>	10296144

**ILLINOIS POWER GENERATING COMPANY  
 NEWTON POWER PLANT  
 PRIMARY ASH POND CLOSURE**



**CROSS SECTIONS**

FILENAME | 00C302.DWG  
 SCALE | AS NOTED

SHEET  
**00C302**

c:\pwworking\hmr\102372207\00C302.dwg, Layout1, 7/25/2022, 12:56:07 PM, MBICKFORD

Appendix C  
Supplemental Analytical Data

**APPENDIX C.**  
**SUPPORTING GROUNDWATER ANALYTICAL DATA**  
35 I.A.C. § 845: ALTERNATIVE SOURCE DEMONSTRATION  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	Well Type	Date	Parameter	Result	Unit
APW15	Compliance	02/23/2021	Boron, total	0.140	mg/L
APW15	Compliance	03/10/2021	Boron, total	0.130	mg/L
APW15	Compliance	03/31/2021	Boron, total	0.160	mg/L
APW15	Compliance	04/28/2021	Boron, total	0.130	mg/L
APW15	Compliance	05/24/2021	Boron, total	0.150	mg/L
APW15	Compliance	06/17/2021	Boron, total	0.130	mg/L
APW15	Compliance	06/30/2021	Boron, total	0.130	mg/L
APW15	Compliance	07/14/2021	Boron, total	0.160	mg/L
APW15	Compliance	03/14/2023	Boron, total	0.180	mg/L
APW15	Compliance	04/26/2023	Boron, total	0.130	mg/L
APW15	Compliance	02/23/2021	Chloride, total	260	mg/L
APW15	Compliance	03/10/2021	Chloride, total	250	mg/L
APW15	Compliance	03/31/2021	Chloride, total	240	mg/L
APW15	Compliance	04/28/2021	Chloride, total	230	mg/L
APW15	Compliance	05/24/2021	Chloride, total	230	mg/L
APW15	Compliance	06/17/2021	Chloride, total	240	mg/L
APW15	Compliance	06/30/2021	Chloride, total	230	mg/L
APW15	Compliance	07/14/2021	Chloride, total	130	mg/L
APW15	Compliance	03/14/2023	Chloride, total	230	mg/L
APW15	Compliance	04/26/2023	Chloride, total	270	mg/L
APW15	Compliance	02/23/2021	Sulfate, total	1 U	mg/L
APW15	Compliance	03/10/2021	Sulfate, total	1 U	mg/L
APW15	Compliance	03/31/2021	Sulfate, total	1 U	mg/L
APW15	Compliance	04/28/2021	Sulfate, total	1 U	mg/L
APW15	Compliance	05/24/2021	Sulfate, total	1 U	mg/L
APW15	Compliance	06/17/2021	Sulfate, total	1 U	mg/L
APW15	Compliance	06/30/2021	Sulfate, total	1 U	mg/L
APW15	Compliance	07/14/2021	Sulfate, total	1 U	mg/L
APW15	Compliance	03/14/2023	Sulfate, total	0.6 J	mg/L
APW15	Compliance	04/26/2023	Sulfate, total	0.4 J	mg/L
XPW01	Porewater	02/17/2021	Boron, total	9.50	mg/L
XPW01	Porewater	03/09/2021	Boron, total	11.0	mg/L
XPW01	Porewater	03/30/2021	Boron, total	9.90	mg/L
XPW01	Porewater	04/28/2021	Boron, total	10.0	mg/L
XPW01	Porewater	07/14/2021	Boron, total	12.0	mg/L
XPW01	Porewater	02/23/2022	Boron, total	12.0	mg/L
XPW01	Porewater	08/15/2022	Boron, total	13.0	mg/L
XPW01	Porewater	02/01/2023	Boron, total	15.0	mg/L
XPW01	Porewater	04/27/2023	Boron, total	14.0	mg/L
XPW01	Porewater	02/17/2021	Chloride, total	49.0	mg/L
XPW01	Porewater	03/09/2021	Chloride, total	38.0	mg/L
XPW01	Porewater	03/30/2021	Chloride, total	32.0	mg/L
XPW01	Porewater	04/28/2021	Chloride, total	33.0	mg/L
XPW01	Porewater	07/14/2021	Chloride, total	27.0	mg/L
XPW01	Porewater	02/23/2022	Chloride, total	25.0	mg/L
XPW01	Porewater	06/14/2022	Chloride, total	14.0	mg/L

**APPENDIX C.**  
**SUPPORTING GROUNDWATER ANALYTICAL DATA**  
35 I.A.C. § 845: ALTERNATIVE SOURCE DEMONSTRATION  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	Well Type	Date	Parameter	Result	Unit
XPW01	Porewater	08/15/2022	Chloride, total	11.0	mg/L
XPW01	Porewater	02/01/2023	Chloride, total	9.70	mg/L
XPW01	Porewater	04/27/2023	Chloride, total	8.10	mg/L
XPW01	Porewater	02/17/2021	Sulfate, total	19,000	mg/L
XPW01	Porewater	03/09/2021	Sulfate, total	14,000	mg/L
XPW01	Porewater	03/30/2021	Sulfate, total	19,000	mg/L
XPW01	Porewater	04/28/2021	Sulfate, total	12,000	mg/L
XPW01	Porewater	07/14/2021	Sulfate, total	11,000	mg/L
XPW01	Porewater	02/23/2022	Sulfate, total	9,300	mg/L
XPW01	Porewater	06/14/2022	Sulfate, total	6,100	mg/L
XPW01	Porewater	08/15/2022	Sulfate, total	5,900	mg/L
XPW01	Porewater	02/01/2023	Sulfate, total	4,200	mg/L
XPW01	Porewater	04/27/2023	Sulfate, total	2,900	mg/L
XPW02	Porewater	02/17/2021	Boron, total	2.30	mg/L
XPW02	Porewater	03/09/2021	Boron, total	2.50	mg/L
XPW02	Porewater	03/30/2021	Boron, total	2.40	mg/L
XPW02	Porewater	04/28/2021	Boron, total	2.60	mg/L
XPW02	Porewater	07/14/2021	Boron, total	2.50	mg/L
XPW02	Porewater	02/23/2022	Boron, total	2.40	mg/L
XPW02	Porewater	08/15/2022	Boron, total	2.40	mg/L
XPW02	Porewater	02/01/2023	Boron, total	2.30	mg/L
XPW02	Porewater	04/27/2023	Boron, total	2.30	mg/L
XPW02	Porewater	02/17/2021	Chloride, total	10.0	mg/L
XPW02	Porewater	03/09/2021	Chloride, total	9.60	mg/L
XPW02	Porewater	03/30/2021	Chloride, total	9.90	mg/L
XPW02	Porewater	04/28/2021	Chloride, total	9.70	mg/L
XPW02	Porewater	07/14/2021	Chloride, total	10.0	mg/L
XPW02	Porewater	02/23/2022	Chloride, total	12.0	mg/L
XPW02	Porewater	06/14/2022	Chloride, total	8.60	mg/L
XPW02	Porewater	08/15/2022	Chloride, total	8.90	mg/L
XPW02	Porewater	02/01/2023	Chloride, total	8.40 B	mg/L
XPW02	Porewater	04/27/2023	Chloride, total	8.80	mg/L
XPW02	Porewater	02/17/2021	Sulfate, total	160	mg/L
XPW02	Porewater	03/09/2021	Sulfate, total	150	mg/L
XPW02	Porewater	03/30/2021	Sulfate, total	160	mg/L
XPW02	Porewater	04/28/2021	Sulfate, total	190	mg/L
XPW02	Porewater	07/14/2021	Sulfate, total	160	mg/L
XPW02	Porewater	02/23/2022	Sulfate, total	210	mg/L
XPW02	Porewater	06/14/2022	Sulfate, total	170	mg/L
XPW02	Porewater	08/15/2022	Sulfate, total	160	mg/L
XPW02	Porewater	02/01/2023	Sulfate, total	150	mg/L
XPW02	Porewater	04/27/2023	Sulfate, total	150	mg/L
XPW03	Porewater	02/17/2021	Boron, total	1.30	mg/L
XPW03	Porewater	03/09/2021	Boron, total	1.20	mg/L
XPW03	Porewater	03/30/2021	Boron, total	0.840	mg/L
XPW03	Porewater	04/28/2021	Boron, total	1.20	mg/L

**APPENDIX C.**  
**SUPPORTING GROUNDWATER ANALYTICAL DATA**  
35 I.A.C. § 845: ALTERNATIVE SOURCE DEMONSTRATION  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	Well Type	Date	Parameter	Result	Unit
XPW03	Porewater	07/14/2021	Boron, total	1.30	mg/L
XPW03	Porewater	02/23/2022	Boron, total	1.70	mg/L
XPW03	Porewater	08/16/2022	Boron, total	1.40	mg/L
XPW03	Porewater	02/02/2023	Boron, total	1.70	mg/L
XPW03	Porewater	04/27/2023	Boron, total	1.80	mg/L
XPW03	Porewater	02/17/2021	Chloride, total	14.0	mg/L
XPW03	Porewater	03/09/2021	Chloride, total	9.20	mg/L
XPW03	Porewater	03/30/2021	Chloride, total	13.0	mg/L
XPW03	Porewater	04/28/2021	Chloride, total	11.0	mg/L
XPW03	Porewater	07/14/2021	Chloride, total	11.0	mg/L
XPW03	Porewater	02/23/2022	Chloride, total	13.0	mg/L
XPW03	Porewater	06/15/2022	Chloride, total	11.0	mg/L
XPW03	Porewater	08/16/2022	Chloride, total	11.0	mg/L
XPW03	Porewater	02/02/2023	Chloride, total	9.60	mg/L
XPW03	Porewater	04/27/2023	Chloride, total	9.70	mg/L
XPW03	Porewater	02/17/2021	Sulfate, total	92.0	mg/L
XPW03	Porewater	03/09/2021	Sulfate, total	93.0	mg/L
XPW03	Porewater	03/30/2021	Sulfate, total	94.0	mg/L
XPW03	Porewater	04/28/2021	Sulfate, total	96.0	mg/L
XPW03	Porewater	07/14/2021	Sulfate, total	120	mg/L
XPW03	Porewater	02/23/2022	Sulfate, total	130	mg/L
XPW03	Porewater	06/15/2022	Sulfate, total	150	mg/L
XPW03	Porewater	08/16/2022	Sulfate, total	180	mg/L
XPW03	Porewater	02/02/2023	Sulfate, total	98.0	mg/L
XPW03	Porewater	04/27/2023	Sulfate, total	120	mg/L
XPW04	Porewater	02/17/2021	Boron, total	2.50	mg/L
XPW04	Porewater	03/09/2021	Boron, total	2.40	mg/L
XPW04	Porewater	03/29/2021	Boron, total	2.10	mg/L
XPW04	Porewater	04/28/2021	Boron, total	2.80	mg/L
XPW04	Porewater	07/14/2021	Boron, total	2.30	mg/L
XPW04	Porewater	02/23/2022	Boron, total	2.20	mg/L
XPW04	Porewater	08/16/2022	Boron, total	3.70	mg/L
XPW04	Porewater	02/01/2023	Boron, total	3.50	mg/L
XPW04	Porewater	04/28/2023	Boron, total	4.00	mg/L
XPW04	Porewater	02/17/2021	Chloride, total	62.0	mg/L
XPW04	Porewater	03/09/2021	Chloride, total	34.0	mg/L
XPW04	Porewater	03/29/2021	Chloride, total	31.0	mg/L
XPW04	Porewater	04/28/2021	Chloride, total	37.0	mg/L
XPW04	Porewater	07/14/2021	Chloride, total	34.0	mg/L
XPW04	Porewater	02/23/2022	Chloride, total	30.0	mg/L
XPW04	Porewater	06/15/2022	Chloride, total	50.0	mg/L
XPW04	Porewater	08/16/2022	Chloride, total	54.0	mg/L
XPW04	Porewater	02/01/2023	Chloride, total	46.0	mg/L
XPW04	Porewater	04/28/2023	Chloride, total	59.0	mg/L
XPW04	Porewater	02/17/2021	Sulfate, total	2,200	mg/L
XPW04	Porewater	03/09/2021	Sulfate, total	1,400	mg/L

**APPENDIX C.**  
**SUPPORTING GROUNDWATER ANALYTICAL DATA**  
 35 I.A.C. § 845: ALTERNATIVE SOURCE DEMONSTRATION  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, IL

Well ID	Well Type	Date	Parameter	Result	Unit
XPW04	Porewater	03/29/2021	Sulfate, total	600	mg/L
XPW04	Porewater	04/28/2021	Sulfate, total	3,800	mg/L
XPW04	Porewater	07/14/2021	Sulfate, total	1,600	mg/L
XPW04	Porewater	02/23/2022	Sulfate, total	1,800	mg/L
XPW04	Porewater	06/15/2022	Sulfate, total	7,500	mg/L
XPW04	Porewater	08/16/2022	Sulfate, total	4,000	mg/L
XPW04	Porewater	02/01/2023	Sulfate, total	6,200	mg/L
XPW04	Porewater	04/28/2023	Sulfate, total	9,500	mg/L

**Notes:**

mg/L = milligrams per liter

B = The analyte was found in sample and in associated method blank.

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

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





Illinois Power Generating Company  
1500 Eastport Plaza Drive  
Collinsville, IL 62234

November 3, 2023

VIA E-MAIL  
heather.mullenax@illinois.gov  
EPA.CCR.PART845.COORDINATOR@ILLINOIS.GOV  
EPA.CCR.Part845.Notify@Illinois.gov

Re: Alternative Source Demonstration (“ASD”) for Newton Power Plant Primary Ash Pond

To Whom It May Concern:

On October 6, 2023, Illinois Power Generating Company (“IPGC”) submitted an ASD for the Newton Power Plant Primary Ash Pond (“Newton PAP”) to the Illinois Environmental Protection Agency (“IEPA”) pursuant to 35 Ill. Admin. Code 845.650(e). On October 24, 2023, IEPA provided notice to its listserv regarding the posting of the ASD submittal, triggering a 14-day period for written comments on the ASD submittal pursuant to 35 Ill Admin. Code 845.650(e)(3). Between October 19 and 31, 2023, IPGC and IEPA engaged in communications regarding the Newton PAP ASD submittal. IPGC submits this letter and its attachments, within the 14-day period for written comments, to provide additional information to IEPA in response to those communications. As explained below and in the attached materials, IPGC’s October 6 ASD submittal was comprehensive in scope and used scientifically supported, industry standard methodologies.

IEPA requested certain additional data as part of its communications with IPGC. While IPGC does not agree that any additional data is necessary in support of the ASD submittal, IPGC has compiled and is providing, as Attachment 1 to this letter, the hydraulic conductivity and boring log data requested by IEPA, all of which was previously provided or referenced in the Newton PAP operating permit application and/or construction permit application. Because both of these applications were used and relied upon in preparing the Newton PAP ASD and both contain information IEPA has sought in connection with its review of the ASD, IPGC (with this letter) is incorporating by reference the entirety of its October 25, 2021 operating permit application for the Newton PAP and July 28, 2022 construction permit application for the Newton PAP into its Newton PAP ASD submittal.

In its communications with IPGC, IEPA also requested (1) source characterization of CCR that includes total solids sampling, analysis and reporting in accordance with SW-846 leach testing methods and (2) sampling and analysis in accordance with 35 Ill. Admin. Code 845.640 of the alternative source. Collecting this information would be a considerable undertaking that IPGC would not be able to complete prior to the decision deadline or within the comment period for the Newton PAP ASD. Additionally, this information is not required by law and is unnecessary to support the Newton PAP ASD. First, there is no requirement under Part 845 that source characterization of CCR be conducted in accordance with SW-846. While Part 845.150 incorporates by reference SW-846, that incorporation

does not create an affirmative obligation to analyze all samples in accordance with SW-846. As set forth in Chapter 2 of SW-846, the methods are not “mandatory” unless specifically specified in the regulation. Groundwater samples taken under Part 845 are the only samples specifically required by Part 845 to be analyzed using SW-846. In particular, Part 845.640(e) requires groundwater samples taken under a groundwater monitoring program be analyzed in accordance with SW-846. Notably, samples collected under the Newton PAP’s groundwater monitoring program have been analyzed in accordance with SW-846 (and were otherwise collected and analyzed in accordance with 35 Ill. Admin. Code 845.640). Attachment 2 to this letter explains how CCR source characterization was conducted for the Newton PAP ASD and explains why the methodology used is more appropriate than SW-846 leach testing methods for characterizing the source material.

Second, there is no requirement under 35 Ill Admin. Code 845.640, 35 Ill. Admin. Code 845.650 or elsewhere in Part 845 to identify, sample or analyze an alternative source. Section 845.650(e), which governs alternative source demonstrations, simply requires a determination that a source other than the CCR surface impoundment caused the contamination and that the CCR surface impoundment did not contribute to the contamination. As described in Attachment 2, this demonstration is made through a multiple lines of evidence analysis in the Newton PAP ASD submittal. Nevertheless, as explained in Attachment 2, an alternative source was also identified in the Newton PAP ASD submittal and its identification further supports that the Newton PAP is not the source of the chloride exceedance in APW15. However, identification and a full characterization of that alternative source is not required for the ASD or necessary to determine that a source other than the Newton PAP caused the chloride exceedance and that the Newton PAP did not contribute to the exceedance.

Finally, given that this submittal responds to questions and requests raised by IEPA regarding the Newton PAP ASD, IPGC hereby incorporates this letter and its attachments (including the references set forth in those attachments) into its Newton PAP submittal.

Should you have any questions regarding the information contained in this letter or its attachments, please feel free to reach out.

Sincerely,

A handwritten signature in blue ink, appearing to read "Phil Morris".

**Phil Morris, PE**  
**Senior Director, Environmental**

## **ATTACHMENT 1**

### **HYDRAULIC CONDUCTIVITY DATA**

**INFORMATION AND DATA PREVIOUSLY PROVIDED IN THE  
HYDROGEOLOGIC SITE CHARACTERIZATION REPORT**

**SUBMITTED TO IEPA ON OCTOBER 29, 2021**

**TABLE 2-1. GEOTECHNICAL DATA SUMMARY**  
HYDROGEOLOGIC SITE CHARACTERIZATION REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, ILLINOIS

Sample ID	Field Location ID	Top of Sample (ft bgs)	Bottom of Sample (ft bgs)	HSU	Moisture Content (%)	Dry Density (pcf)	Specific Gravity	Calculated Porosity <sup>1</sup> (%)	Vertical Hydraulic Conductivity (cm/s)	LL	PL	PI	Laboratory USCS	Gravel (%)	Sand (%)	Fines (%)
<b>Sangamon Soil</b>																
APW11	APW11	10	12	UD	17.8	111.7	2.645	32	8.57E-08	28	12	16	CL	1.1	45.1	53.8
APW15	APW15	20	22	UD	18.5	109.8	2.686	34	3.21E-08	33	10	23	CL	0.0	40.8	59.2
<b>Hagarstown Member</b>																
APW12	APW12	20	22	UD/PMP	15.1	118.3	2.694	30	1.07E-07	27	12	15	SC	7.4	46.8	45.8
APW12	APW12	25.5	26	UD/PMP	8.4	113.0	2.654	32	8.43E-06	10	13	NP	SP-SM	24.3	69.5	6.2
APW13	APW13	25	27	UD/PMP	21.2	87.1	2.649	47	9.63E-05	9	10	NP	SP-SM	0.0	88.9	11.1
<b>Vandalia Till Member</b>																
APW14	APW14	45	47	UCU	12.4	119.6	2.706	29	9.65E-08	26	14	12	CL	4.4	32.3	63.3
APW17	APW17	40	42	UCU	16.6	108.8	2.709	36	3.34E-08	26	13	13	CL	1.3	27.6	71.1
SB300	APW18	50	52	UCU	12.9	122.7	2.700	27	7.29E-08	32	12	20	CL	0.8	22.4	76.8
SB301	SB301	48	50	UCU	14.1	117.3	2.697	30	6.63E-08	27	14	13	CL	0.4	34.2	65.4
<b>Mulberry Grove Member</b>																
APW13	APW13	60.5	61	UA	14.5	114.3	2.661	31	2.18E-04	8	13	NP	SM	0.3	75.2	24.5
APW15	APW15	100.5	101	UA	12.1	116.4	2.665	30	3.50E-06	15	12	3	SM	4.4	49.8	45.8
APW17	APW17	71	71.5	UA	7.8	110.2	2.660	34	7.21E-04	5	9	NP	SW-SM	14.3	76.8	8.9
APW17	APW17	90.5	91	UA	6.1	116.8	2.672	30	6.39E-04	6	8	NP	SP-SM	28.2	65.1	6.7
SB300	APW18	61	61.5	UA	13.6	109.6	2.686	35	1.85E-05	5	9	NP	SM	4.7	78.2	17.1
<b>Smithboro Till Member</b>																
APW11	APW11	61	61.5	LCU	17.8	110.5	2.686	34	1.87E-07	27	18	9	CL	0.0	21.4	78.6
APW11	APW11	80	82	LCU	16.5	116.1	2.705	31	2.94E-08	32	14	18	CL	0.0	21	79
APW12	APW12	85	87	LCU	14.4	116.4	2.711	31	2.36E-08	29	14	15	CL	0.3	19.5	80.2
APW14	APW14	55.5	56	LCU	18.0	104.6	2.709	38	2.74E-07	25	15	10	CL	0.0	27.8	72.2
APW15	APW15	105	107	LCU	19.1	107.8	2.695	36	8.20E-08	29	13	16	CL	0.0	23.8	76.2
SB300	APW18	62.5	63	LCU	11.1	124.6	2.659	25	4.32E-06	20	14	6	CL-ML	0.0	42.4	57.6
SB300	APW18	105	107	LCU	14.1	116.4	2.710	31	4.28E-08	28	13	15	CL	0.0	30.7	69.3
SB301	SB301	68.5	69	LCU	13.1	121.3	2.723	29	4.05E-08	23	14	9	CL	0.0	31.3	68.7
SB301	SB301	98	100	LCU	15.7	118.2	2.720	30	6.13E-08	37	15	22	CL	0.0	17.8	82.2
<b>CCR</b>																
XPW01	XPW01	8.5	9	CCR	18.6	87.7	2.675	47	1.71E-04	47	57	NP	SP-SM	37.1	51.1	11.8
XPW01	XPW01	15.5	16	CCR	12.6	84.4	2.741	51	1.58E-05	35	17	18	CL	4.6	34.1	61.3
XPW03	XPW03	6	6.5	CCR	17.4	75.3	2.663	55	1.34E-03	33	27	6	SM	6.8	71.7	21.5
XPW03	XPW03	15.5	16	CCR	16.7	103.6	2.689	38	9.70E-05	12	19	NP	SM	16.4	67.3	16.3
XPW04	XPW04	6.5	7	CCR	31.1	73.9	2.697	56	1.61E-04	41	38	3	SM	1.6	84.5	13.9
XPW04	XPW04	15.5	16	CCR	31.1	80.8	2.650	51	7.83E-05	46	42	4	SM	15.7	51	33.3

**TABLE 2-1. GEOTECHNICAL DATA SUMMARY**  
 HYDROGEOLOGIC SITE CHARACTERIZATION REPORT  
 NEWTON POWER PLANT  
 PRIMARY ASH POND  
 NEWTON, ILLINOIS

Sample ID	Field Location ID	Top of Sample (ft bgs)	Bottom of Sample (ft bgs)	HSU	Moisture Content (%)	Dry Density (pcf)	Specific Gravity	Calculated Porosity <sup>1</sup> (%)	Vertical Hydraulic Conductivity (cm/s)	LL	PL	PI	Laboratory USCS	Gravel (%)	Sand (%)	Fines (%)
<b>Fill</b>																
XPW02	XPW02	8	8.5	CCR	29.1	92.9	2.691	45	6.07E-08	36	16	20	CL	0.3	44.8	54.9
XPW02	XPW02	16.5	17	CCR	21.8	103.7	2.694	38	7.38E-08	36	14	22	CL	0.0	19.8	80.2

[O: SSW 04/22/21, U: EDP 08/23/21, U: SSW 08/26/21, C: LDC 08/31/21; U: LDC 09/16/21, C: SSW 09/21/21]

Notes:

- <sup>1</sup> Porosity calculated as relationship of bulk density to particle density (n = 100[1 - (pb/pd)])
- % = Percent
- bgs = below ground surface
- CCR = coal combustion residuals
- cm/s = centimeters per second
- ft = foot/feet
- in = inch
- LL = Liquid limit
- NP = Non Plastic
- pcf = pounds per cubic foot
- PI = Plastic Index
- PL = Plasticity Limit

**HSU = Hydrostratigraphic Unit**

- LCU = lower confining unit
- PMP = potential migration pathway
- UA = uppermost aquifer
- UCU = upper confining unit
- UD = upper drift

**USCS = Unified Soil Classification System**

- CL - Lean Clay
- CL-ML = Silty Lean Clay
- SC = Clayey Sand
- SM = Silty Sand
- SP-SM = Poorly Graded Sand with Silt
- SW-SM = Well Graded Sand with Silt

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

**4/9/2021**

**SUMMARY OF TEST RESULTS**

BORING NO. APW-14  
TIME SAMPLED: 9:55  
DEPTH: 45.0'-47.0'  
CLASSIFICATION BROWN SANDY LEAN CLAY

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	119.6	120.3
WATER CONTENT (%)	12.4	14.2
DIAMETER (cm)	7.380	7.372
LENGTH (cm)	10.775	10.736
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	18.54	
PERCENT SATURATION	100.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>9.65E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

**4/9/2021**

**SUMMARY OF TEST RESULTS**

BORING NO. APW-17  
TIME SAMPLED: 9:45  
DEPTH: 40.0'-42.0'  
CLASSIFICATION GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	108.8	109.5
WATER CONTENT (%)	16.6	19.6
DIAMETER (cm)	7.262	7.262
LENGTH (cm)	9.605	9.545
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	28.12	
PERCENT SATURATION	98.4	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>3.34E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.



TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRN US CORP**  
LOCATION : **NEWTON , IL**

**4/9/2021**

**SUMMARY OF TEST RESULTS**

BORING NO. SB-300  
TIME SAMPLED: 8:25  
DEPTH: 50.0'-52.0'  
CLASSIFICATION GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	122.7	123.5
WATER CONTENT (%)	12.9	13.3
DIAMETER (cm)	7.242	7.217
LENGTH (cm)	10.288	10.288
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	19.42	
PERCENT SATURATION	99.1	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>7.29E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

**4/9/2021**

**SUMMARY OF TEST RESULTS**

BORING NO. SB-301  
TIME SAMPLED: 13:30  
DEPTH: 48.0'-50.0'  
CLASSIFICATION BROWN AND GRAY SANDY LEAN CLAY

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	117.3	117.7
WATER CONTENT (%)	14.1	15.8
DIAMETER (cm)	7.204	7.230
LENGTH (cm)	10.348	10.239
B VALUE PARAMETER:	0.99	
HYDRAULIC GRADIENT (MAXIMUM)	19.30	
PERCENT SATURATION	99.6	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>6.63E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

## **2021 HYDRAULIC CONDUCTIVITY TEST DATA**

**TABLE 3-3. FIELD HYDRAULIC CONDUCTIVITIES**  
HYDROGEOLOGIC SITE CHARACTERIZATION REPORT  
NEWTON POWER STATION  
PRIMARY ASH POND  
NEWTON, ILLINOIS

Well ID	Gradient Position	Bottom of Screen Elevation (ft NAVD88)	Screen Length <sup>1</sup> (ft)	Field Identified Screened Material	Slug Type	Analysis Method	Falling Head (Slug In) K (cm/s)			Rising Head (Slug Out) K (cm/s)			Minimum Hydraulic Conductivity (cm/s)	Maximum Hydraulic Conductivity (cm/s)	Hydraulic Conductivity Geometric Mean (cm/s)
							1	2	3	1	2	3			
<b>Upper Drift Unit/Potential Migration Pathway</b>															
APW5S	U	521.05	10	SP	Solid	C-B-P	8.9E-04	7.4E-04		6.1E-04	8.5E-04		6.1E-04	1.5E-02	3.1E-03
APW12	U	513.33	10	SP	Solid	C-B-P	1.3E-02	9.8E-03		1.3E-02	1.5E-02				
<b>Uppermost Aquifer</b>															
APW11	U	471.05	5	SP-SC/GP	Solid	KGS Model	6.8E-03	5.9E-03		3.5E-03	7.8E-03		2.0E-04	1.5E-01	6.8E-03
APW13	D	471.66	5	SM	Solid	C-B-P	1.6E-03	1.5E-03	3.3E-03	3.8E-03	3.4E-03				
APW14	D	468.85	5	SC	Solid	KGS Model	3.9E-03	4.3E-03		3.2E-04	3.2E-04	2.8E-03			
APW15	D	419.06	5	SP-SM	Solid	KGS Model	4.9E-04	2.0E-04	1.4E-01	1.5E-01	1.5E-01				
APW16	D	443.66	5	SP	Solid	B-Z	1.24E-01	1.41E-01		7.60E-02	7.96E-02				
APW17	D	437.84	5	(SW)g/(SP)g	Solid	C-B-P	1.13E-01	1.15E-02							
APW18	D	460.55	5	(SW)g/SC	Solid	C-B-P	2.67E-04								
<b>Ash Pond</b>															
XPW01	CCR	531.62	10	(SW)g	Solid	Bouwer-Rice	1.8E-01	1.3E-02		2.4E-02	1.4E-02		1.0E-03	2.3E-01	2.0E-02
XPW02	CCR	535.97	10	(SW)g	Solid	Bouwer-Rice	2.0E-03	2.6E-03							
XPW03	CCR	530.81	10	(SW)g/SP	Solid	Bouwer-Rice	5.7E-02	7.2E-02	2.3E-01	1.5E-01	1.2E-01	1.4E-01			
XPW04	CCR	531.90	10	(SW)g	Solid	KGS Model		2.1E-03		1.2E-03	1.0E-03				

[O: SSW 7/1/20; U:SSW 8/20/21; C:LDC 08/31/21]

**Notes:**

<sup>1</sup> All wells are constructed from 2 inch PVC with 0.01 inch slotted screens.

Test not analyzed/performed

B-Z = Butler-Zhan Test Solution

C-B-P = Cooper-Bredehoeft-Papadopulos Slug Test Solution

CCR = coal combustion residuals

cm/s = centimeters per second

D = downgradient

ft = foot/feet

K = hydraulic conductivity

KGS = Kansas Geological Survey

NAVD88 = North American Vertical Datum of 1988

U = upgradient

**USCS = Unified Soil Classification System**

GP = Poorly Graded Gravel

SC = Clayey Sand

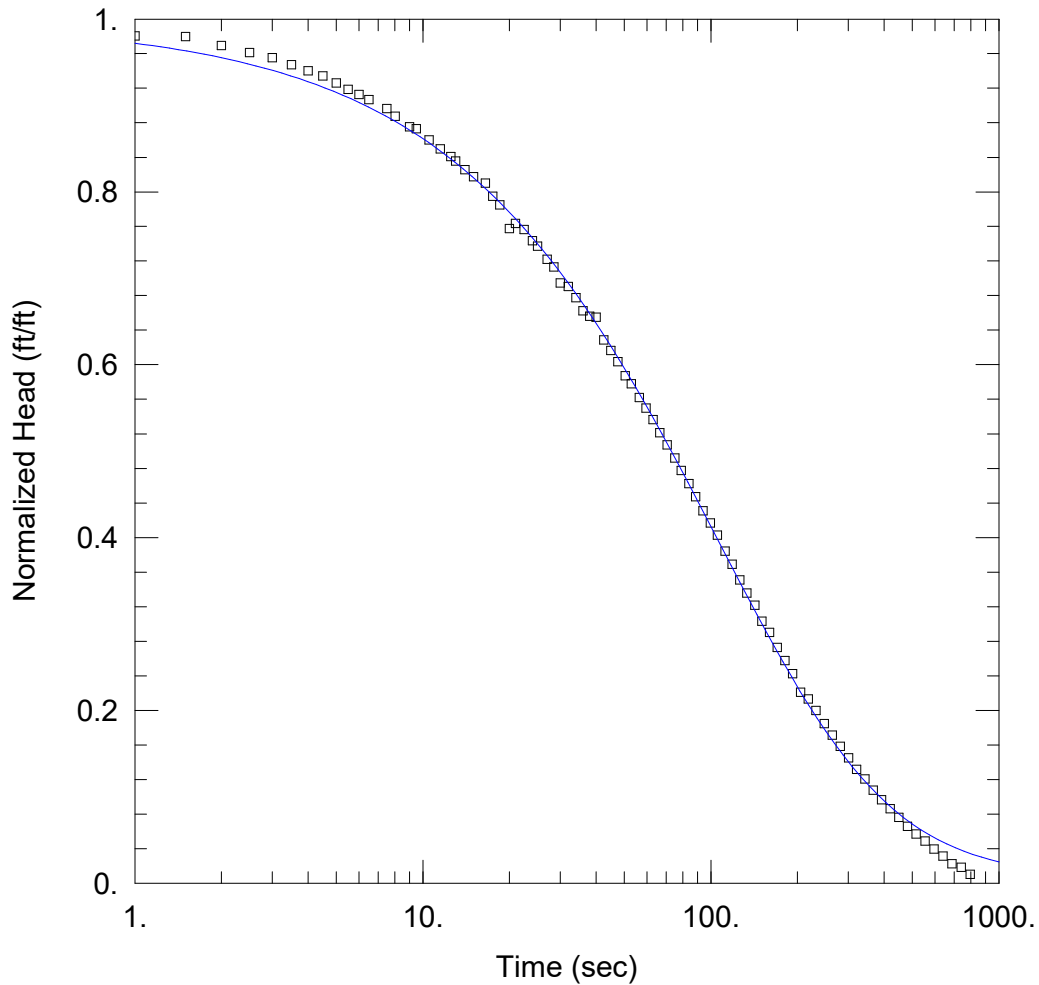
SM = Silty Sand

SP = Poorly Graded Sand

SP-SC = Poorly Graded Sand to Clayey Sand

SP-SM = Poorly Graded Sand with Silt

(SW)g = Well Graded Sand with Gravel



APW-5S FH1

Data Set: \\...\NEW\_APW-5S FH1\_07202021.aqt

Date: 10/21/21

Time: 14:56:12

PROJECT INFORMATION

Company: Ramboll

Client: IPGC

Project: 1940100499-001

Location: Newton

Test Well: APW-5S

Test Date: 2/16/2021

AQUIFER DATA

Saturated Thickness: 3.2 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-5S )

Initial Displacement: 0.986 ft

Static Water Column Height: 12.6 ft

Total Well Penetration Depth: 3.2 ft

Screen Length: 3.2 ft

Casing Radius: 0.08625 ft

Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined

Solution Method: Cooper-Bredehoeft-Papadopoulos

T = 0.087 cm<sup>2</sup>/sec

S = 0.000403

SOLUTION

Slug Test

Aquifer Model: Confined

Solution Method: Cooper-Bredehoeft-Papadopoulos

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
T	0.087	cm <sup>2</sup> /sec
S	0.000403	

K = T/b = 0.000892 cm/sec

Ss = S/b = 0.0001259 1/ft

AUTOMATIC ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	<u>Std. Error</u>	<u>Approx. C.I.</u>	<u>t-Ratio</u>	
T	0.08962	0.02397	+/- 0.04765	3.739	cm <sup>2</sup> /sec

S      0.0003389      0.000496      +/- 0.0009861      0.6832

C.I. is approximate 95% confidence interval for parameter

t-ratio = estimate/std. error

No estimation window

$K = T/b = 0.0009188 \text{ cm/sec}$

$S_s = S/b = 0.0001059 \text{ 1/ft}$

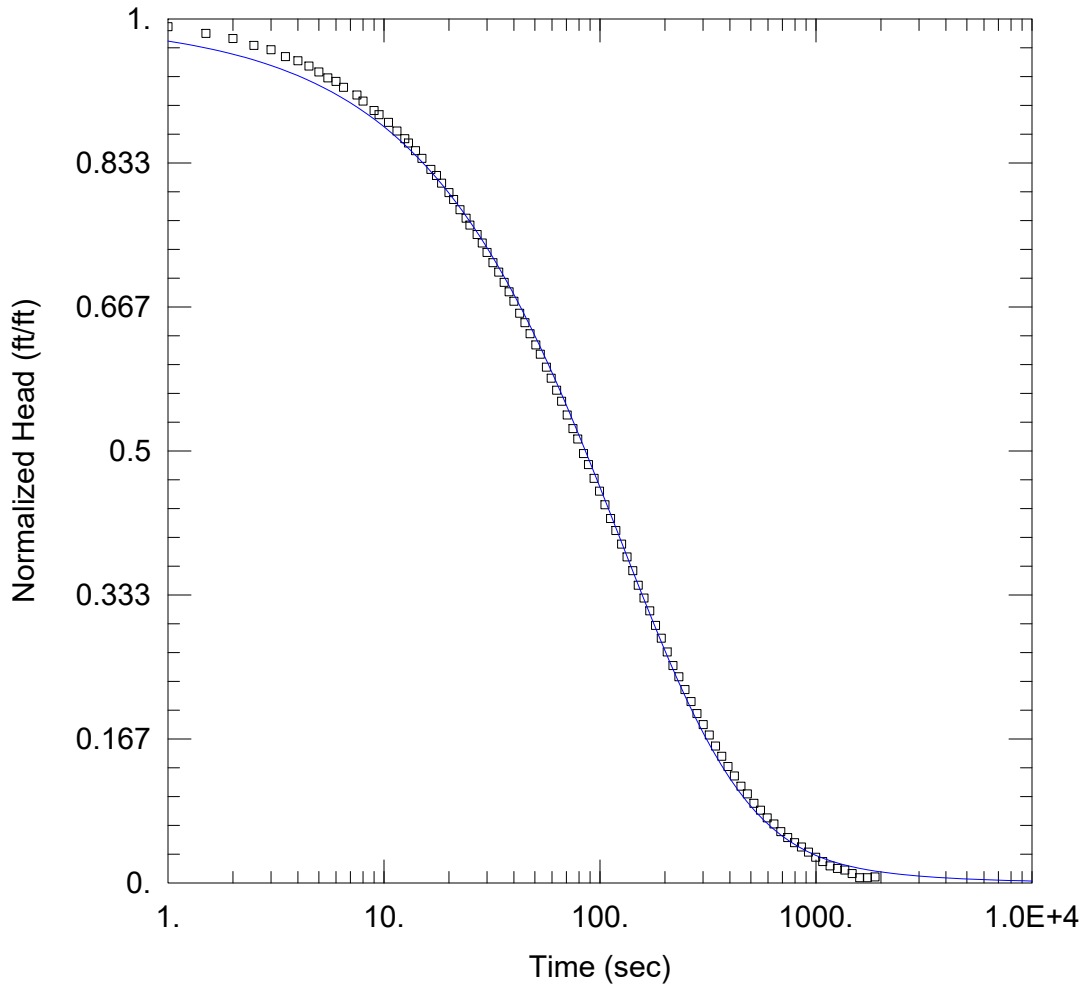
#### Parameter Correlations

	<u>T</u>	<u>S</u>
T	1.00	-0.97
S	-0.97	1.00

#### Residual Statistics

for weighted residuals

Sum of Squares ..... 0.9777 ft<sup>2</sup>  
 Variance ..... 0.01124 ft<sup>2</sup>  
 Std. Deviation ..... 0.106 ft  
 Mean ..... 0.01073 ft  
 No. of Residuals..... 89  
 No. of Estimates..... 2



<u>APW-5S FH2</u>	
<u>PROJECT INFORMATION</u>	
Company: <u>Ramboll</u> Client: <u>IPGC</u> Project: <u>1940100499-001</u> Location: <u>Newton</u> Test Well: <u>APW-5S</u> Test Date: <u>2/16/2021</u>	
<u>AQUIFER DATA</u>	
Saturated Thickness: <u>3.2 ft</u>	Anisotropy Ratio (Kz/Kr): <u>1.</u>
<u>WELL DATA (APW-5S )</u>	
Initial Displacement: <u>1.01 ft</u>	Static Water Column Height: <u>12.6 ft</u>
Total Well Penetration Depth: <u>3.2 ft</u>	Screen Length: <u>3.2 ft</u>
Casing Radius: <u>0.086 ft</u>	Well Radius: <u>0.25 ft</u>
<u>SOLUTION</u>	
Aquifer Model: <u>Confined</u>	Solution Method: <u>Cooper-Bredehoeft-Papadopulos</u>
T = <u>0.0718</u> cm <sup>2</sup> /sec	S = <u>0.000454</u>



Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
21.	0.799	419.5	0.125
22.5	0.787	449.5	0.113
24.	0.777	481.5	0.104
25.	0.769	516.5	0.093
27.	0.758	554.	0.085
28.5	0.748	595.	0.076
30.	0.737	639.5	0.069
32.	0.725	687.5	0.06
34.	0.714	739.5	0.053
36.	0.702	796.	0.047
38.	0.691	857.5	0.042
40.	0.68	924.	0.036
42.5	0.666	997.	0.03
45.	0.655	1076.	0.025
47.5	0.642	1162.5	0.02
50.5	0.629	1257.	0.017
53.	0.618	1360.	0.015
56.5	0.603	1472.5	0.011
59.5	0.59	1595.5	0.006
63.	0.576	1730.	0.006
66.5	0.563	1877.5	0.007

SOLUTION

Slug Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Bredehoeft-Papadopoulos

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
T	0.0718	cm <sup>2</sup> /sec
S	0.000454	

K = T/b = 0.0007361 cm/sec  
 Ss = S/b = 0.0001419 1/ft

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
T	0.07177	0.01724	+/- 0.03421	4.163	cm <sup>2</sup> /sec
S	0.0004536	0.0005595	+/- 0.00111	0.8107	

C.I. is approximate 95% confidence interval for parameter  
 t-ratio = estimate/std. error  
 No estimation window

K = T/b = 0.0007359 cm/sec  
 Ss = S/b = 0.0001418 1/ft

Parameter Correlations

	T	S
T	1.00	-0.97
S	-0.97	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . . 1.028 ft<sup>2</sup>  
 Variance . . . . . 0.01049 ft<sup>2</sup>



Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
20.	0.842	366.5	0.155
21.	0.833	392.	0.142
22.5	0.818	419.5	0.129
24.	0.809	449.5	0.117
25.	0.8	481.5	0.105
27.	0.786	516.5	0.097
28.5	0.776	554.	0.088
30.	0.765	595.	0.078
32.	0.754	639.5	0.069
34.	0.743	687.5	0.061
36.	0.73	739.5	0.054
38.	0.718	796.	0.046
40.	0.706	857.5	0.038
42.5	0.695	924.	0.033
45.	0.681	997.	0.025
47.5	0.668	1076.	0.02
50.5	0.655	1162.5	0.016
53.	0.645	1257.	0.012
56.5	0.63	1360.	0.005
59.5	0.616		

SOLUTION

Slug Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Bredehoeft-Papadopoulos

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
T	0.0591	cm <sup>2</sup> /sec
S	0.00178	

K = T/b = 0.0006059 cm/sec  
 Ss = S/b = 0.0005562 1/ft

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
T	0.05907	0.01974	+/- 0.03919	2.992	cm <sup>2</sup> /sec
S	0.001784	0.002265	+/- 0.004496	0.7877	

C.I. is approximate 95% confidence interval for parameter  
 t-ratio = estimate/std. error  
 No estimation window

K = T/b = 0.0006056 cm/sec  
 Ss = S/b = 0.0005575 1/ft

Parameter Correlations

	T	S
T	1.00	-0.96
S	-0.96	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . . 2.725 ft<sup>2</sup>  
 Variance . . . . . 0.02869 ft<sup>2</sup>  
 Std. Deviation . . . . . 0.1694 ft



Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
20.	0.885	281.5	0.185
21.	0.876	300.5	0.169
22.5	0.858	321.	0.152
24.	0.848	343.	0.134
25.	0.84	366.5	0.119
27.	0.826	392.	0.108
28.5	0.815	419.5	0.096
30.	0.803	449.5	0.079
32.	0.79	481.5	0.064
34.	0.778	516.5	0.051
36.	0.766	554.	0.043
38.	0.754	595.	0.029
40.	0.742	639.5	0.021
42.5	0.728	687.5	0.01
45.	0.715	739.5	0.005
47.5	0.701		

**SOLUTION**

Slug Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Bredehoeft-Papadopoulos

**VISUAL ESTIMATION RESULTS**

Estimated Parameters

Parameter	Estimate	
T	0.0825	cm <sup>2</sup> /sec
S	0.000391	

K = T/b = 0.0008458 cm/sec  
 Ss = S/b = 0.0001222 1/ft

**AUTOMATIC ESTIMATION RESULTS**

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
T	0.08245	0.03155	+/- 0.06271	2.614	cm <sup>2</sup> /sec
S	0.0003915	0.0007946	+/- 0.00158	0.4927	

C.I. is approximate 95% confidence interval for parameter  
 t-ratio = estimate/std. error  
 No estimation window

K = T/b = 0.0008454 cm/sec  
 Ss = S/b = 0.0001223 1/ft

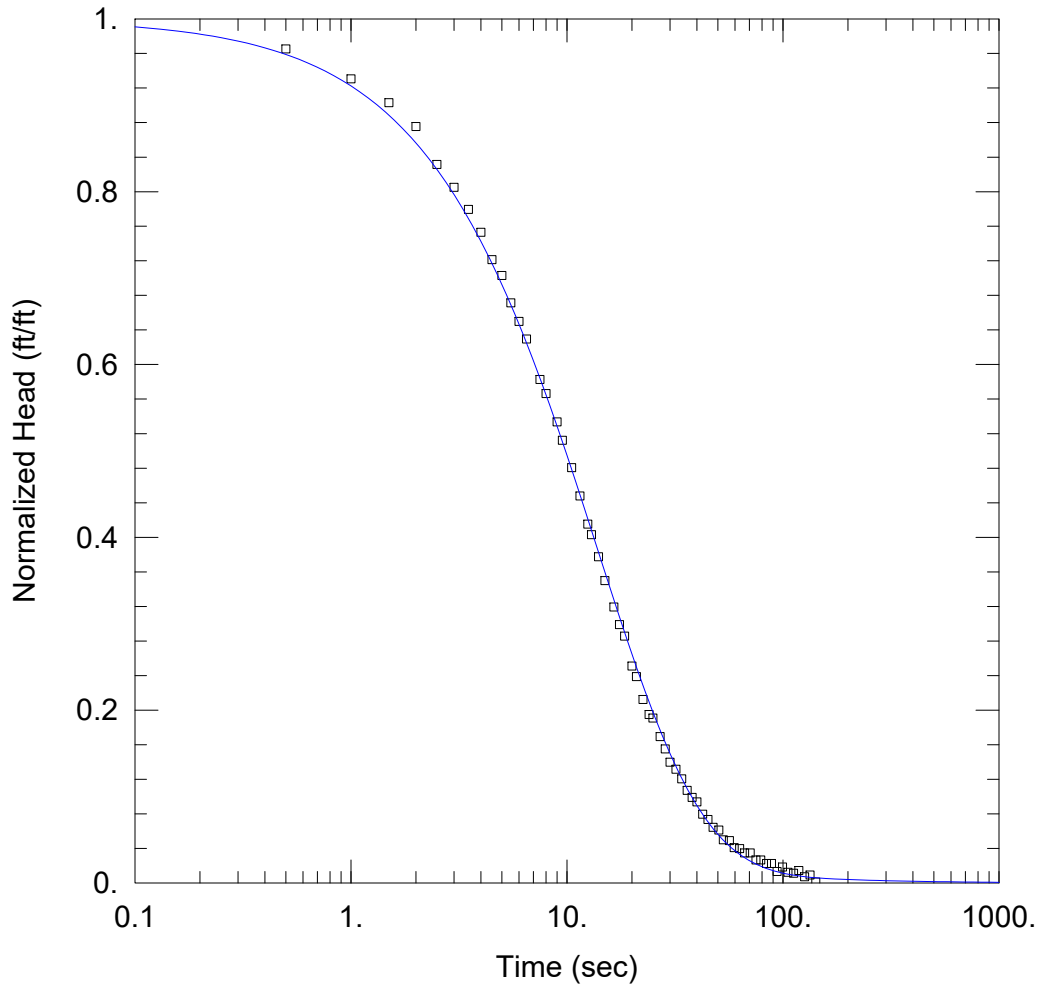
Parameter Correlations

	T	S
T	1.00	-0.97
S	-0.97	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . . 2.682 ft<sup>2</sup>  
 Variance . . . . . 0.03083 ft<sup>2</sup>  
 Std. Deviation . . . . . 0.1756 ft  
 Mean . . . . . -0.02888 ft  
 No. of Residuals . . . . . 89  
 No. of Estimates . . . . . 2



APW-11 FH1

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-11  
 Test Date: 3/11/2021

AQUIFER DATA

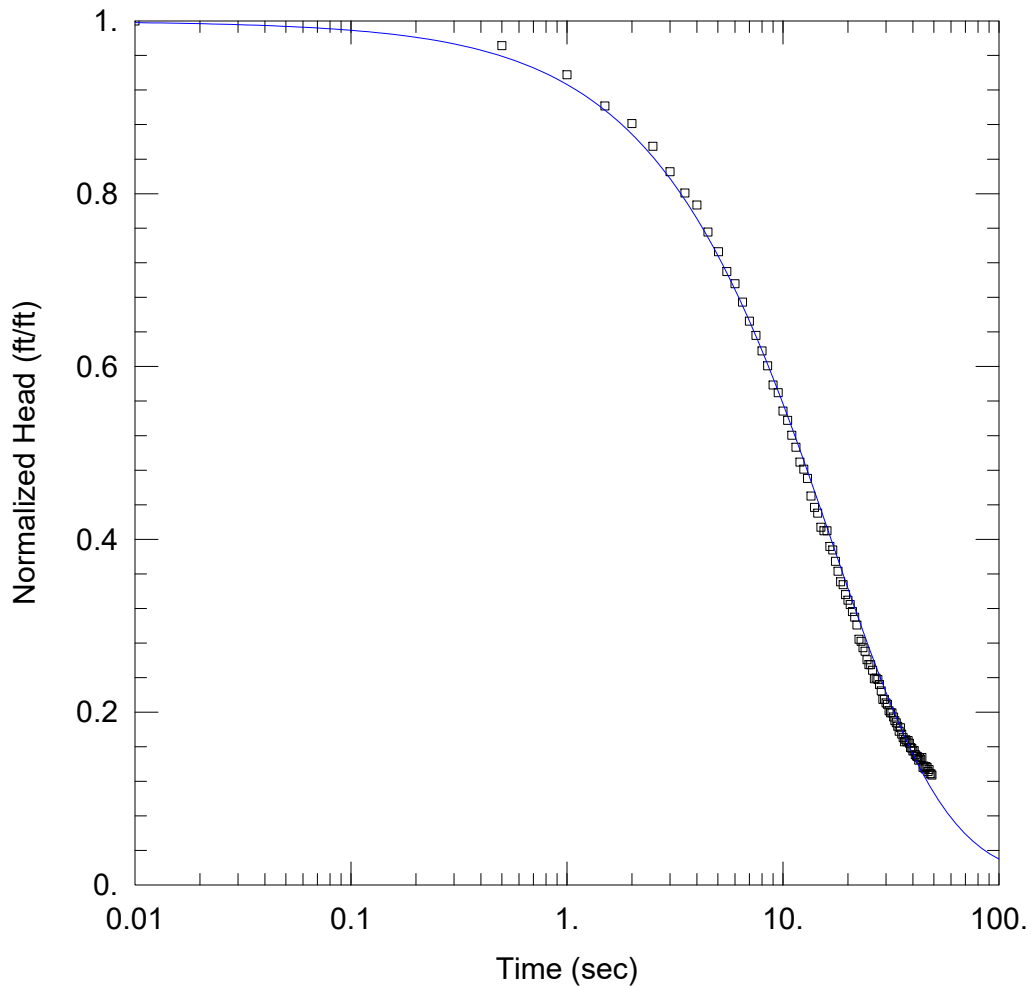
Saturated Thickness: 9.2 ft

WELL DATA (APW-11)

Initial Displacement: <u>0.98</u> ft	Static Water Column Height: <u>43.37</u> ft
Total Well Penetration Depth: <u>7.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.0078</u> cm/sec	Ss = <u>1.09E-9</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-11 FH02

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-11  
 Test Date: 3/11/2021

AQUIFER DATA

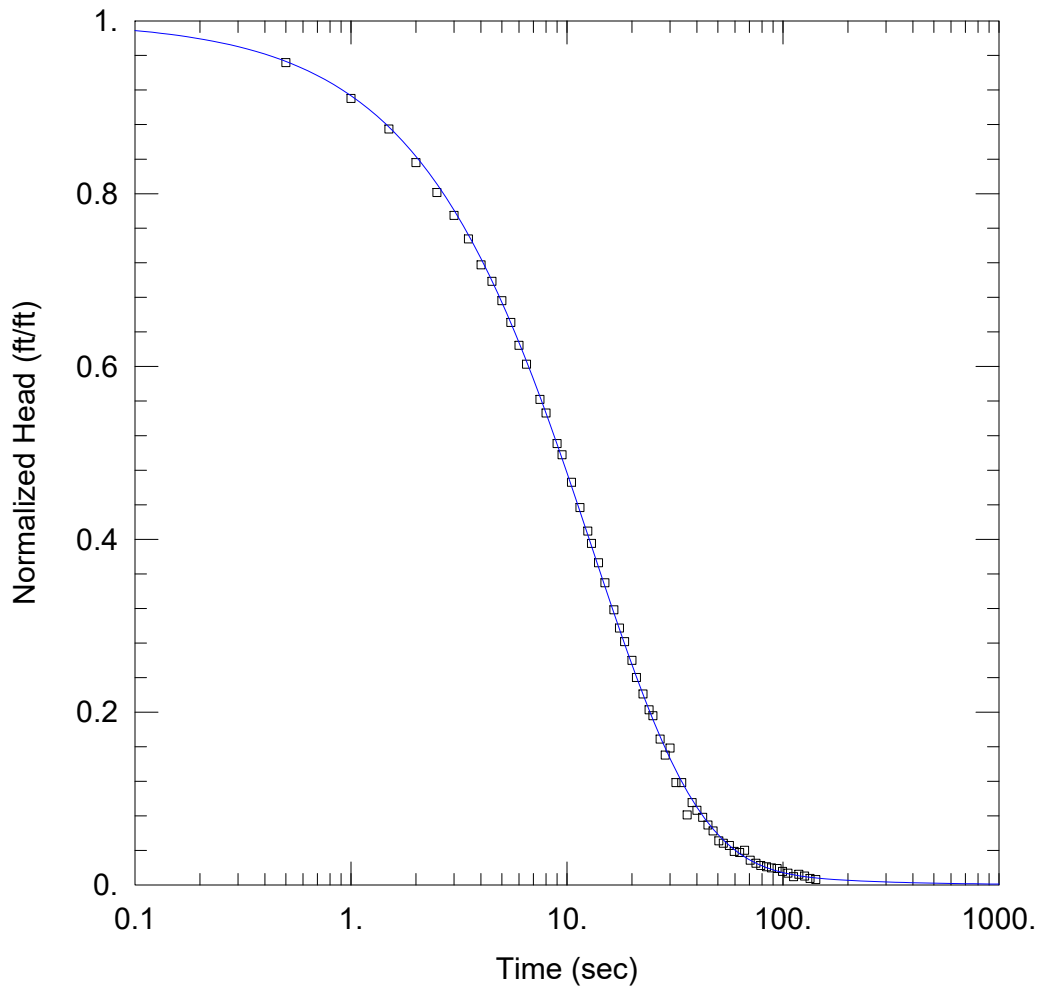
Saturated Thickness: 9.2 ft

WELL DATA (APW-11)

Initial Displacement: <u>1.22</u> ft	Static Water Column Height: <u>43.53</u> ft
Total Well Penetration Depth: <u>7.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00351</u> cm/sec	Ss = <u>6.23E-6</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-11 RH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-11  
 Test Date: 3/11/2021

AQUIFER DATA

Saturated Thickness: 9.2 ft

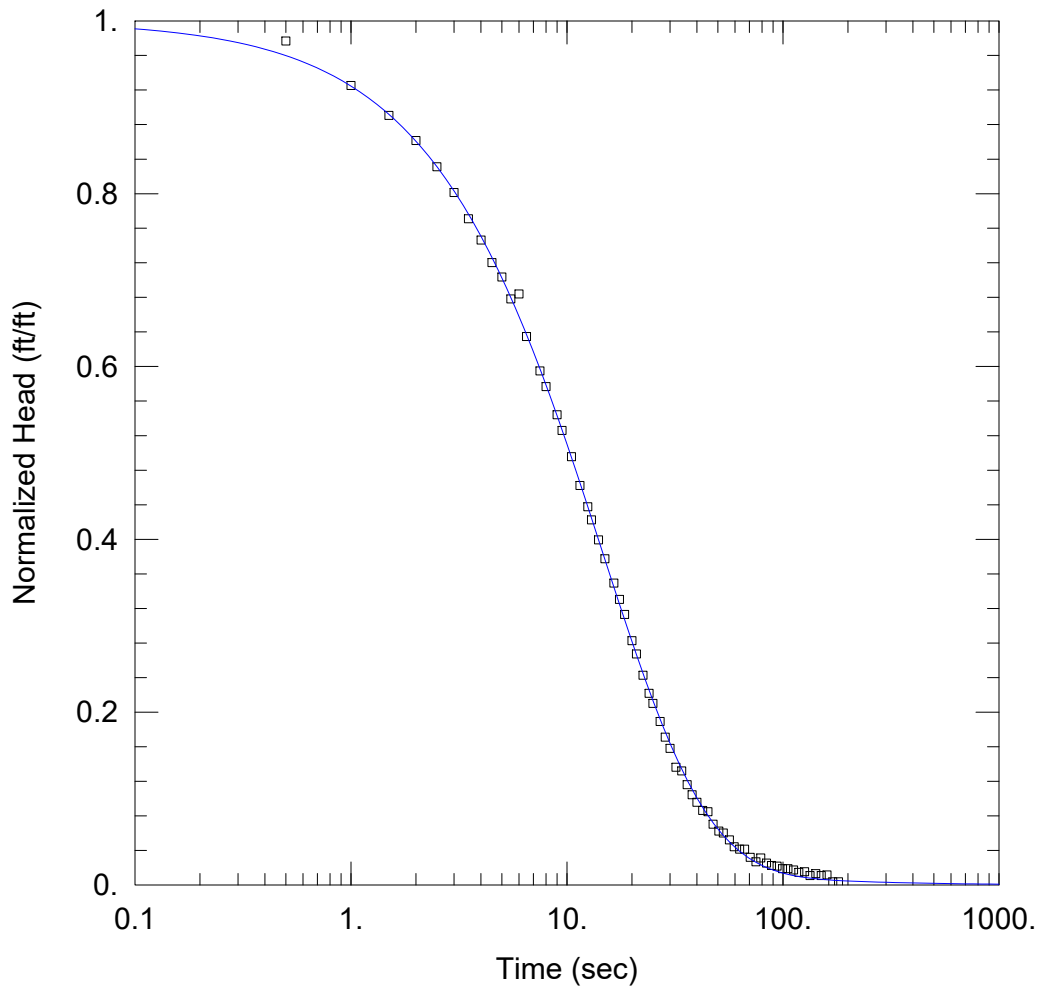
WELL DATA (APW-11)

Initial Displacement: <u>1.47</u> ft	Static Water Column Height: <u>43.48</u> ft
Total Well Penetration Depth: <u>7.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00588</u> cm/sec	Ss = <u>3.02E-7</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	





APW-11 RH02

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-11  
 Test Date: 3/11/2021

AQUIFER DATA

Saturated Thickness: 9.2 ft

WELL DATA (APW-11 RH02)

Initial Displacement: <u>1.38</u> ft	Static Water Column Height: <u>43.53</u> ft
Total Well Penetration Depth: <u>7.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00676</u> cm/sec	Ss = <u>6.55E-9</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
75.5	0.049	160.5	0.041
76.	0.047	161.	0.04
76.5	0.047	161.5	0.043
77.	0.047	162.	0.04
77.5	0.048	162.5	0.041
78.	0.047	163.	0.041
78.5	0.047	163.5	0.041
79.	0.047	164.	0.042
79.5	0.046		

SOLUTION

Slug Test

Aquifer Model: Confined

Solution Method: Cooper-Bredehoeft-Papadopulos

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
T	1.05	cm <sup>2</sup> /sec
S	0.000733	

K = T/b = 0.009843 cm/sec

Ss = S/b = 0.0002094 1/ft



<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
40.	0.072	94.5	0.04
40.5	0.072	95.	0.04
41.	0.07	95.5	0.04
41.5	0.07	96.	0.04
42.	0.07	96.5	0.039
42.5	0.068	97.	0.039
43.	0.068	97.5	0.039
43.5	0.068	98.	0.04
44.	0.066	98.5	0.038
44.5	0.066	99.	0.038
45.	0.064	99.5	0.038
45.5	0.064	100.	0.039
46.	0.064	100.5	0.036
46.5	0.063	101.	0.038

SOLUTION

Slug Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Bredehoeft-Papadopoulos

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
T	1.35	cm <sup>2</sup> /sec
S	0.000108	

$$K = T/b = 0.01265 \text{ cm/sec}$$

$$S_s = S/b = 3.086E-5 \text{ 1/ft}$$



Slug Test  
Aquifer Model: Confined  
Solution Method: Cooper-Bredehoeft-Papadopoulos

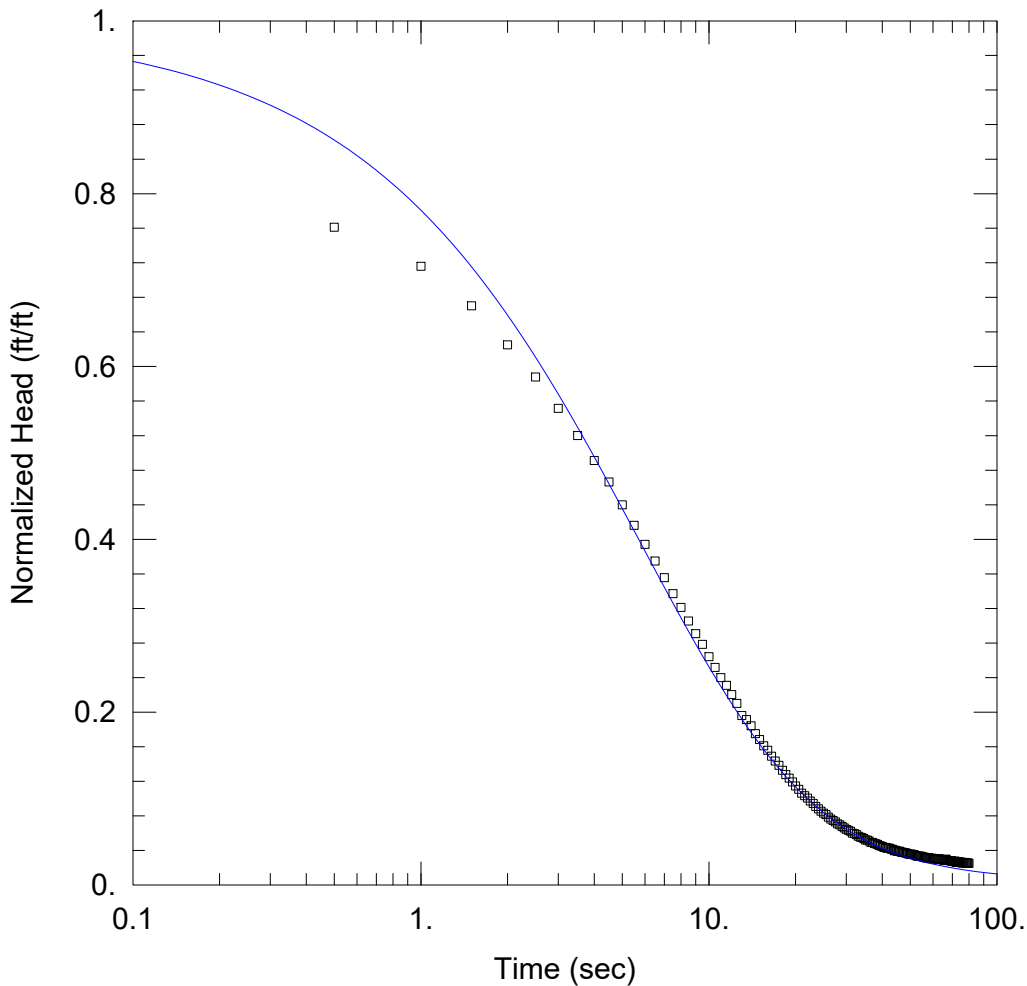
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### VISUAL ESTIMATION RESULTS

#### Estimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
T	1.57	cm <sup>2</sup> /sec
S	0.000114	

$K = T/b = 0.01472$  cm/sec  
 $S_s = S/b = 3.257E-5$  1/ft



APW-12 RH2

PROJECT INFORMATION

Company: Ramboll  
Client: IPGC  
Project: 1940100499-001  
Location: Newton  
Test Well: APW-12  
Test Date: 3/12/2021

AQUIFER DATA

Saturated Thickness: 3.5 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-12)

Initial Displacement: -1.771 ft Static Water Column Height: 19.06 ft  
Total Well Penetration Depth: 3.5 ft Screen Length: 3.5 ft  
Casing Radius: 0.08625 ft Well Radius: 0.25 ft

SOLUTION

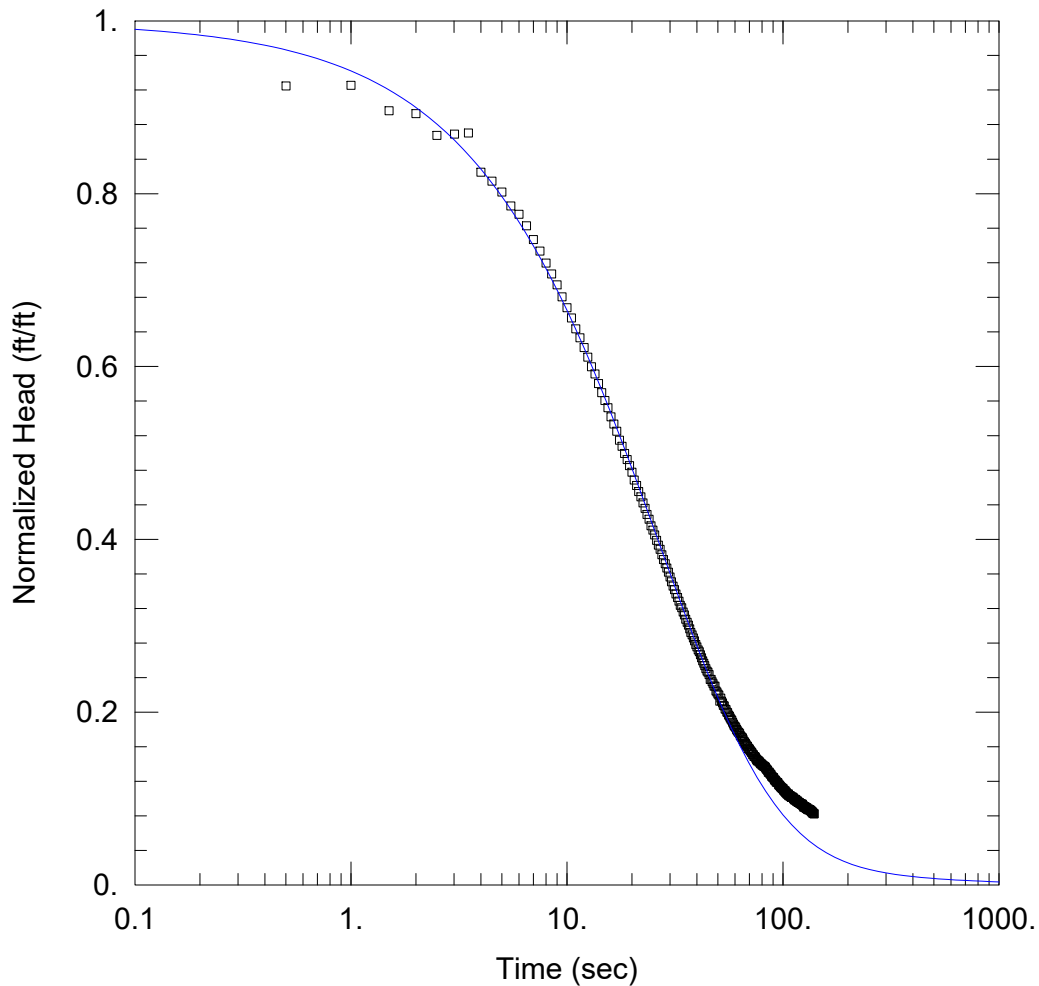
Aquifer Model: Confined Solution Method: Cooper-Bredehoeft-Papadopoulos  
T = 1.433 cm<sup>2</sup>/sec S = 0.000733



Estimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
T	1.433	cm <sup>2</sup> /sec
S	0.000733	

$K = T/b = 0.01343$  cm/sec  
 $S_s = S/b = 0.0002094$  1/ft



APW-13 FH-01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-13  
 Test Date: 3/12/2021

AQUIFER DATA

Saturated Thickness: 7.4 ft                      Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW-13)

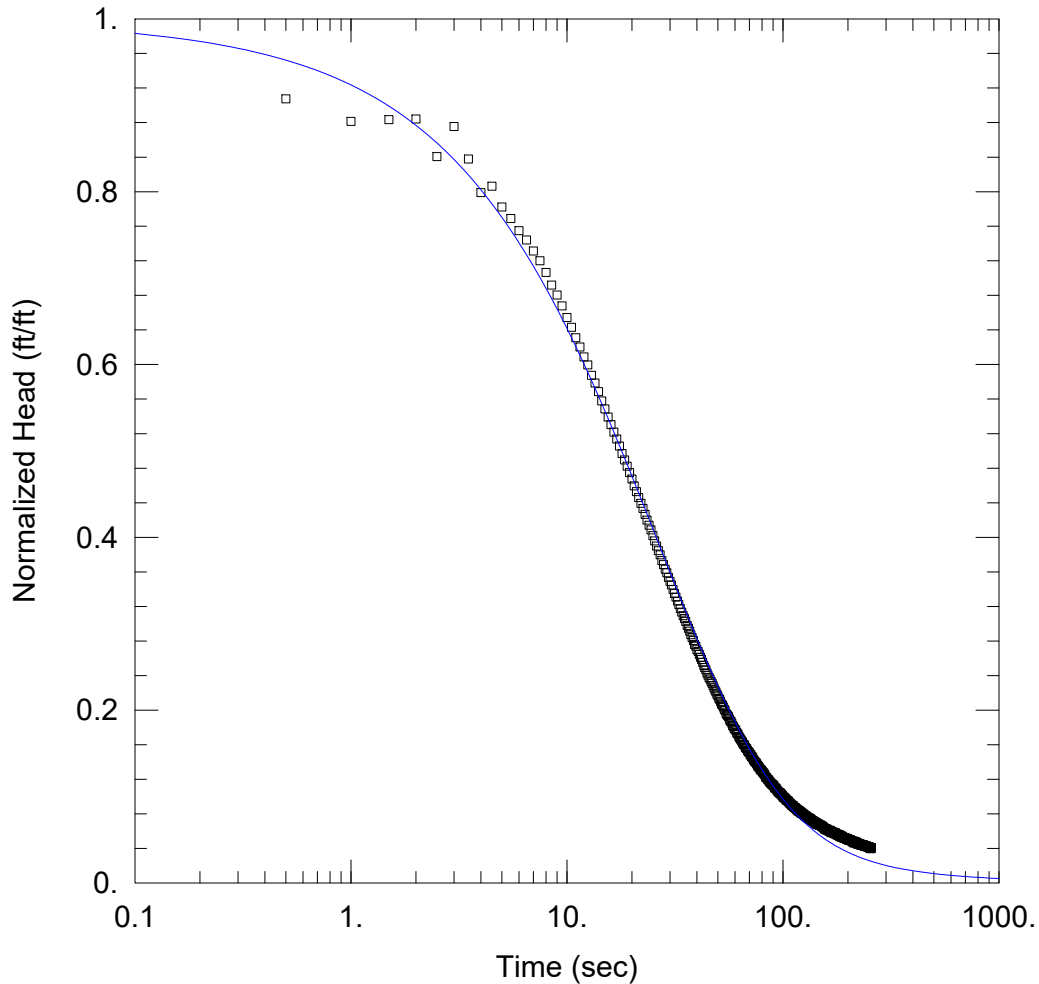
Initial Displacement: 1.434 ft                      Static Water Column Height: 34.23 ft  
 Total Well Penetration Depth: 5.9 ft                      Screen Length: 5. ft  
 Casing Radius: 0.08625 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Cooper-Bredehoeft-Papadopoulos  
 $T = 0.475$  cm<sup>2</sup>/sec                       $S = 4.47E-5$

S            4.47E-5

$K = T/b = 0.002106 \text{ cm/sec}$   
 $S_s = S/b = 6.041E-6 \text{ 1/ft}$



APW-13 FH02

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-13  
 Test Date: 3/12/2021

AQUIFER DATA

Saturated Thickness: 7.4 ft                      Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW-13)

Initial Displacement: 1.493 ft                      Static Water Column Height: 34.26 ft  
 Total Well Penetration Depth: 5.9 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Cooper-Bredehoeft-Papadopolos  
 $T = 0.329$  cm<sup>2</sup>/sec                       $S = 0.000562$

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
106.	0.141	238.5	0.064
106.5	0.14	239.	0.063
107.	0.139	239.5	0.064
107.5	0.138	240.	0.063
108.	0.137	240.5	0.064
108.5	0.137	241.	0.063
109.	0.136	241.5	0.063
109.5	0.135	242.	0.063
110.	0.134	242.5	0.064
110.5	0.134	243.	0.063
111.	0.134	243.5	0.063
111.5	0.132	244.	0.064
112.	0.133	244.5	0.063
112.5	0.131	245.	0.063
113.	0.13	245.5	0.063
113.5	0.13	246.	0.062
114.	0.13	246.5	0.063
114.5	0.129	247.	0.063
115.	0.129	247.5	0.063
115.5	0.127	248.	0.062
116.	0.127	248.5	0.062
116.5	0.126	249.	0.063
117.	0.127	249.5	0.062
117.5	0.124	250.	0.062
118.	0.125	250.5	0.061
118.5	0.125	251.	0.062
119.	0.125	251.5	0.062
119.5	0.123	252.	0.06
120.	0.123	252.5	0.061
120.5	0.123	253.	0.061
121.	0.121	253.5	0.06
121.5	0.121	254.	0.061
122.	0.122	254.5	0.061
122.5	0.12	255.	0.061
123.	0.12	255.5	0.06
123.5	0.119	256.	0.059
124.	0.119	256.5	0.061
124.5	0.119	257.	0.061

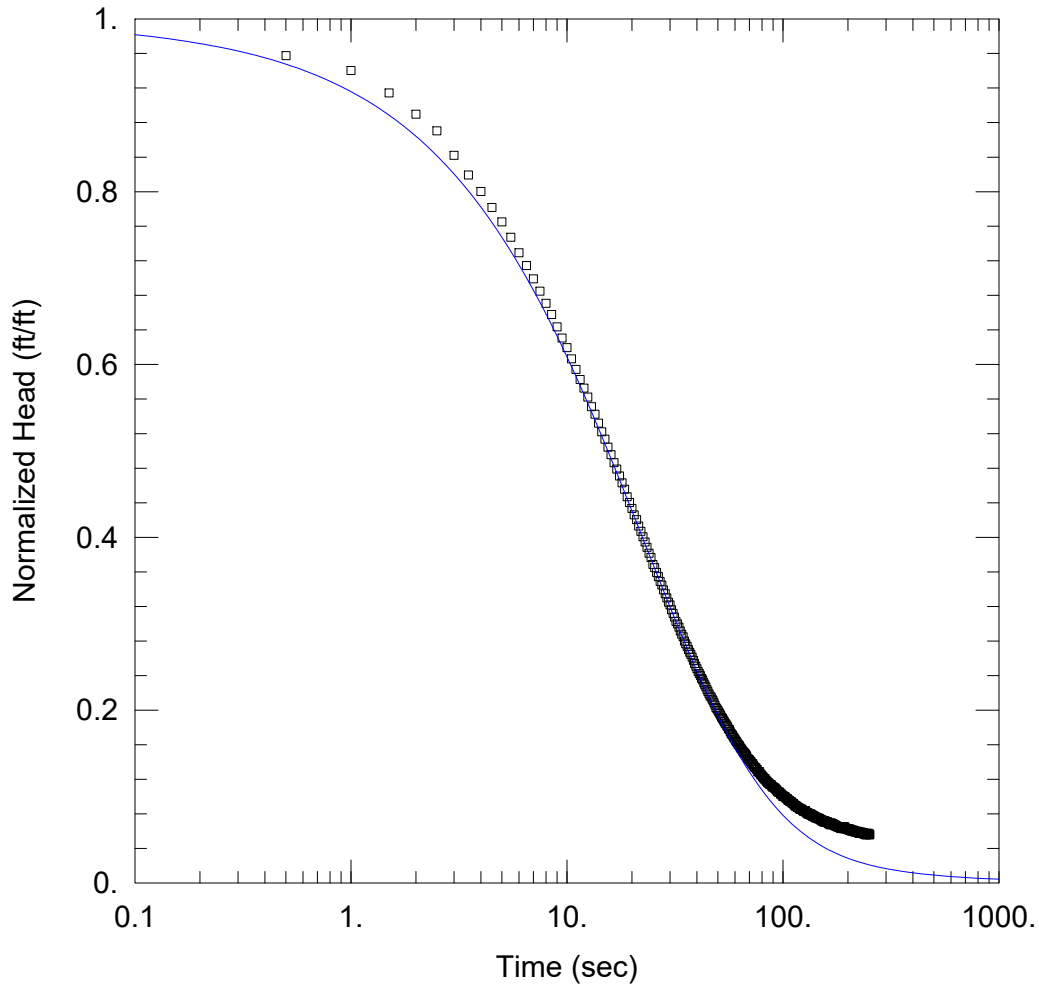
SOLUTION

Slug Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Bredehoeft-Papadopoulos

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
T	0.329	cm <sup>2</sup> /sec
S	0.000562	

$K = T/b = 0.001459$  cm/sec  
 $S_s = S/b = 7.595E-5$  1/ft



APW-13 RH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-13  
 Test Date: 3/12/2021

AQUIFER DATA

Saturated Thickness: 7.4 ft                      Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW-13)

Initial Displacement: -1.622 ft                      Static Water Column Height: 34.22 ft  
 Total Well Penetration Depth: 5.9 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Cooper-Bredehoeft-Papadopoulos  
 $T = 0.384$  cm<sup>2</sup>/sec                       $S = 0.000541$

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
106.5	-0.155	236.5	-0.093
107.	-0.155	237.	-0.094
107.5	-0.153	237.5	-0.093
108.	-0.153	238.	-0.092
108.5	-0.152	238.5	-0.091
109.	-0.153	239.	-0.092
109.5	-0.152	239.5	-0.092
110.	-0.151	240.	-0.091
110.5	-0.15	240.5	-0.092
111.	-0.149	241.	-0.092
111.5	-0.149	241.5	-0.093
112.	-0.149	242.	-0.092
112.5	-0.147	242.5	-0.09
113.	-0.146	243.	-0.092
113.5	-0.146	243.5	-0.092
114.	-0.144	244.	-0.091
114.5	-0.145	244.5	-0.093
115.	-0.145	245.	-0.091
115.5	-0.144	245.5	-0.093
116.	-0.143	246.	-0.093
116.5	-0.142	246.5	-0.092
117.	-0.142	247.	-0.092
117.5	-0.142	247.5	-0.093
118.	-0.141	248.	-0.092
118.5	-0.141	248.5	-0.092
119.	-0.14	249.	-0.092
119.5	-0.14	249.5	-0.093
120.	-0.138	250.	-0.092
120.5	-0.139	250.5	-0.092
121.	-0.139	251.	-0.091
121.5	-0.139	251.5	-0.09
122.	-0.138	252.	-0.091
122.5	-0.138	252.5	-0.091

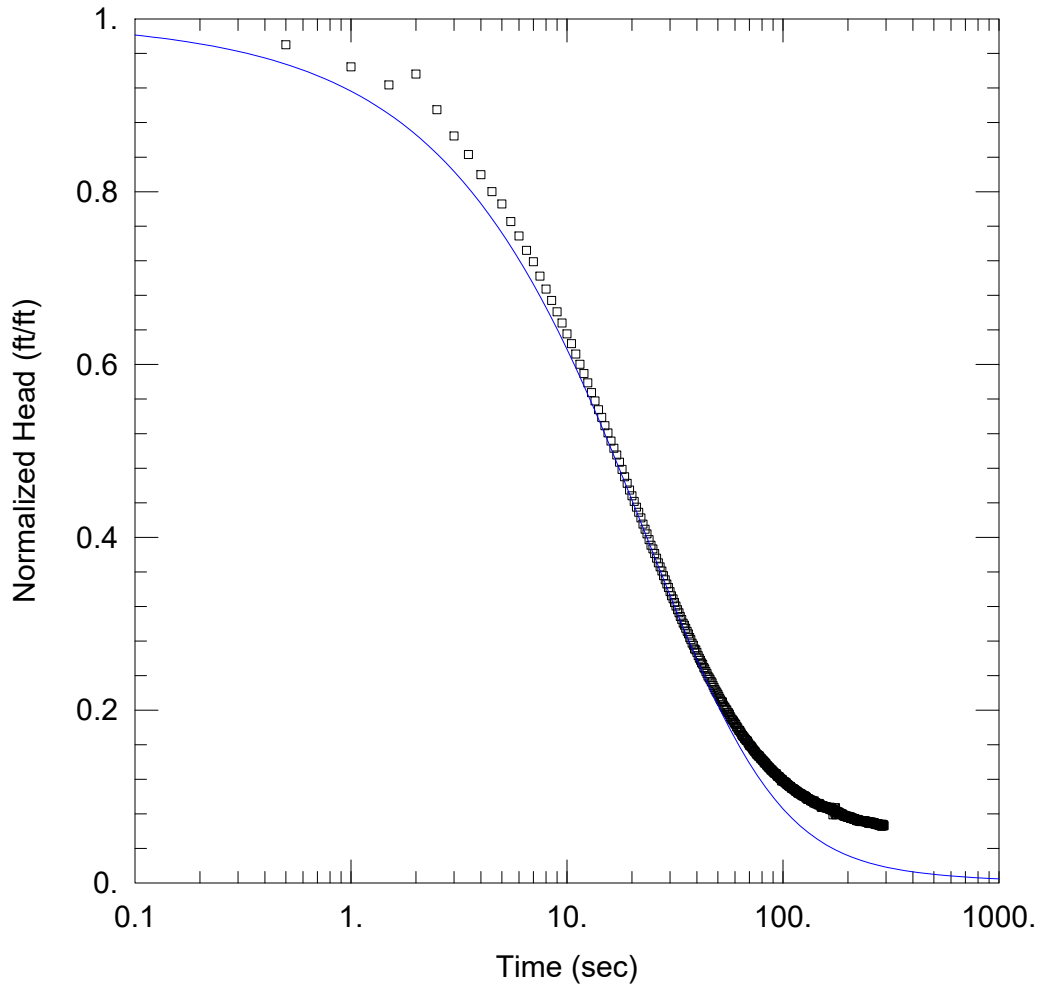
SOLUTION

Slug Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Bredehoeft-Papadopoulos

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
T	0.384	cm <sup>2</sup> /sec
S	0.000541	

$K = T/b = 0.001702$  cm/sec  
 $S_s = S/b = 7.311E-5$  1/ft



APW-13 RH02

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-13  
 Test Date: 3/12/2021

AQUIFER DATA

Saturated Thickness: 7.4 ft      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-13)

Initial Displacement: -1.676 ft      Static Water Column Height: 34.26 ft  
 Total Well Penetration Depth: 5.9 ft      Screen Length: 5. ft  
 Casing Radius: 0.086 ft      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined      Solution Method: Cooper-Bredehoeft-Papadopoulos  
 T = 0.353 cm<sup>2</sup>/sec      S = 0.000661



<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
140.	-0.157	290.5	-0.111
140.5	-0.156	291.	-0.112
141.	-0.155	291.5	-0.113
141.5	-0.155	292.	-0.112
142.	-0.155	292.5	-0.111
142.5	-0.155	293.	-0.112
143.	-0.154	293.5	-0.111
143.5	-0.153		

SOLUTION

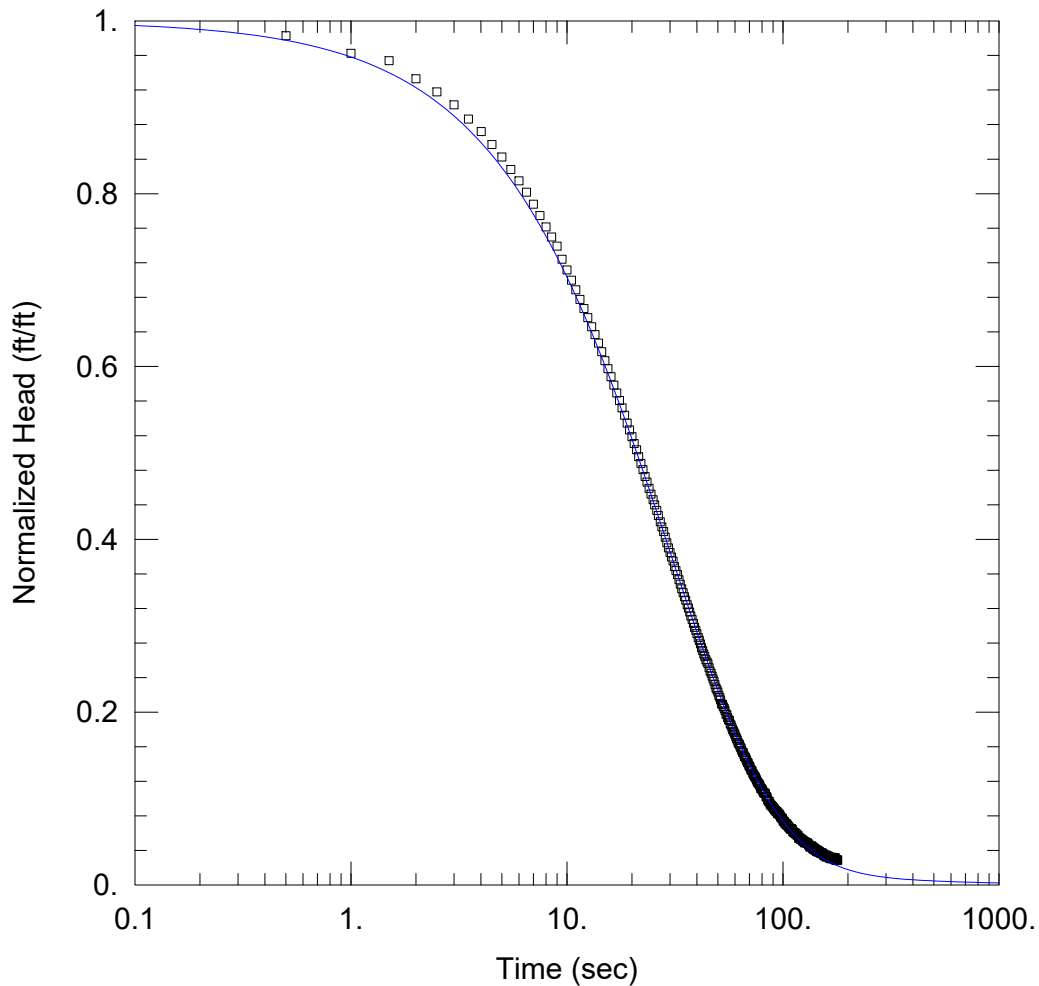
Slug Test  
 Aquifer Model: Confined  
 Solution Method: Cooper-Bredehoeft-Papadopoulos

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
T	0.353	cm <sup>2</sup> /sec
S	0.000661	

$$K = T/b = 0.001565 \text{ cm/sec}$$

$$S_s = S/b = 8.932E-5 \text{ 1/ft}$$



APW-14 FH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-14  
 Test Date: 3/31/2021

AQUIFER DATA

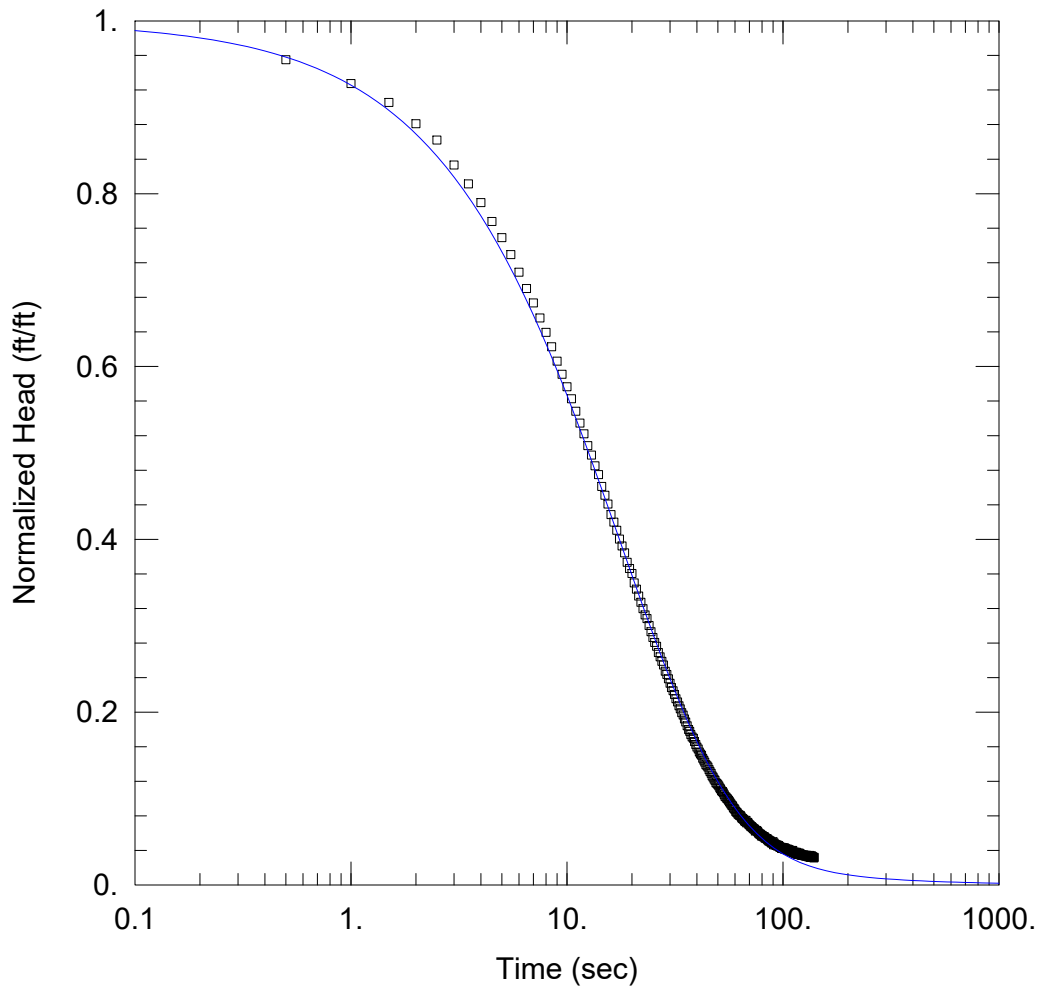
Saturated Thickness: 6.3 ft

WELL DATA (APW-14)

Initial Displacement: <u>1.523</u> ft	Static Water Column Height: <u>36.72</u> ft
Total Well Penetration Depth: <u>5.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00388</u> cm/sec	Ss = <u>4.23E-8</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-14 FH02

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-14  
 Test Date: 3/31/2021

AQUIFER DATA

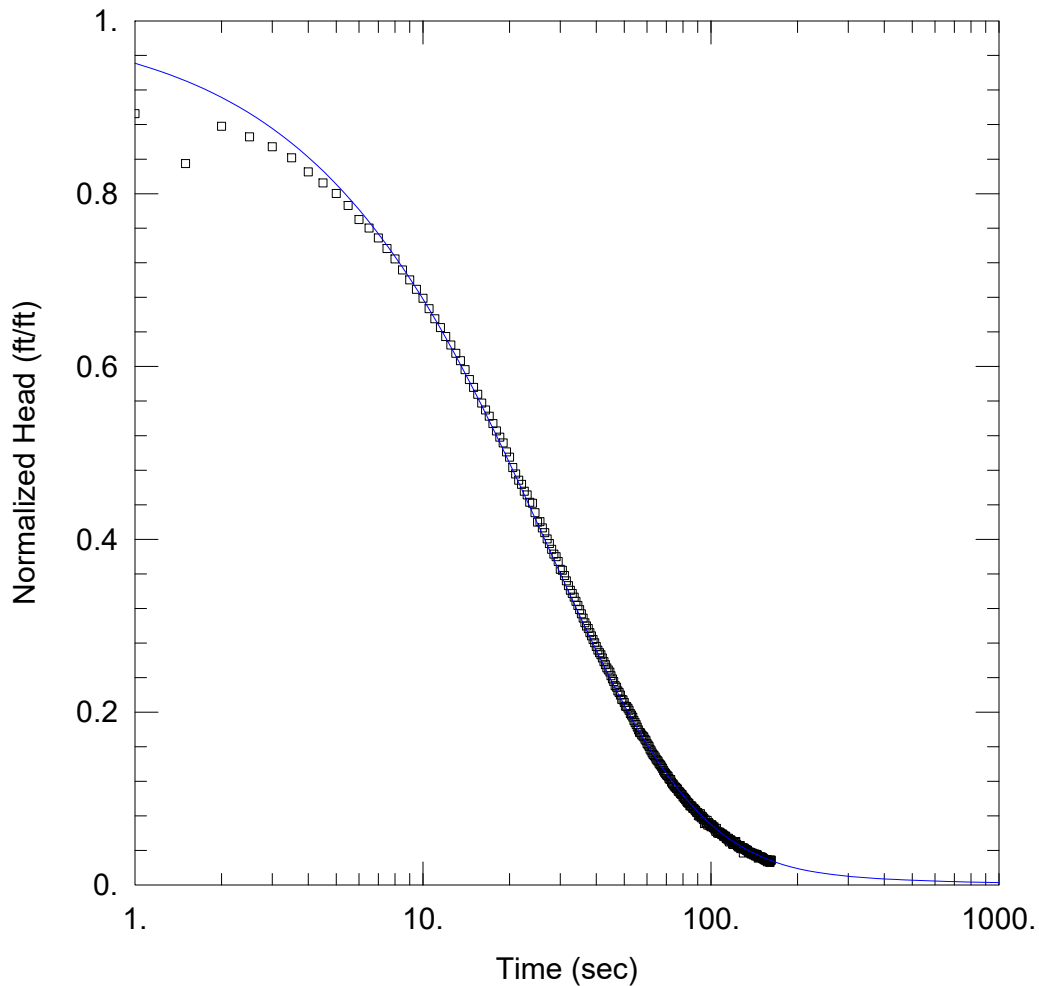
Saturated Thickness: 6.3 ft

WELL DATA (APW-14)

Initial Displacement: <u>1.379</u> ft	Static Water Column Height: <u>36.73</u> ft
Total Well Penetration Depth: <u>5.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00433</u> cm/sec	Ss = <u>4.29E-6</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-14 FH3

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-14  
 Test Date: 3/31/2021

AQUIFER DATA

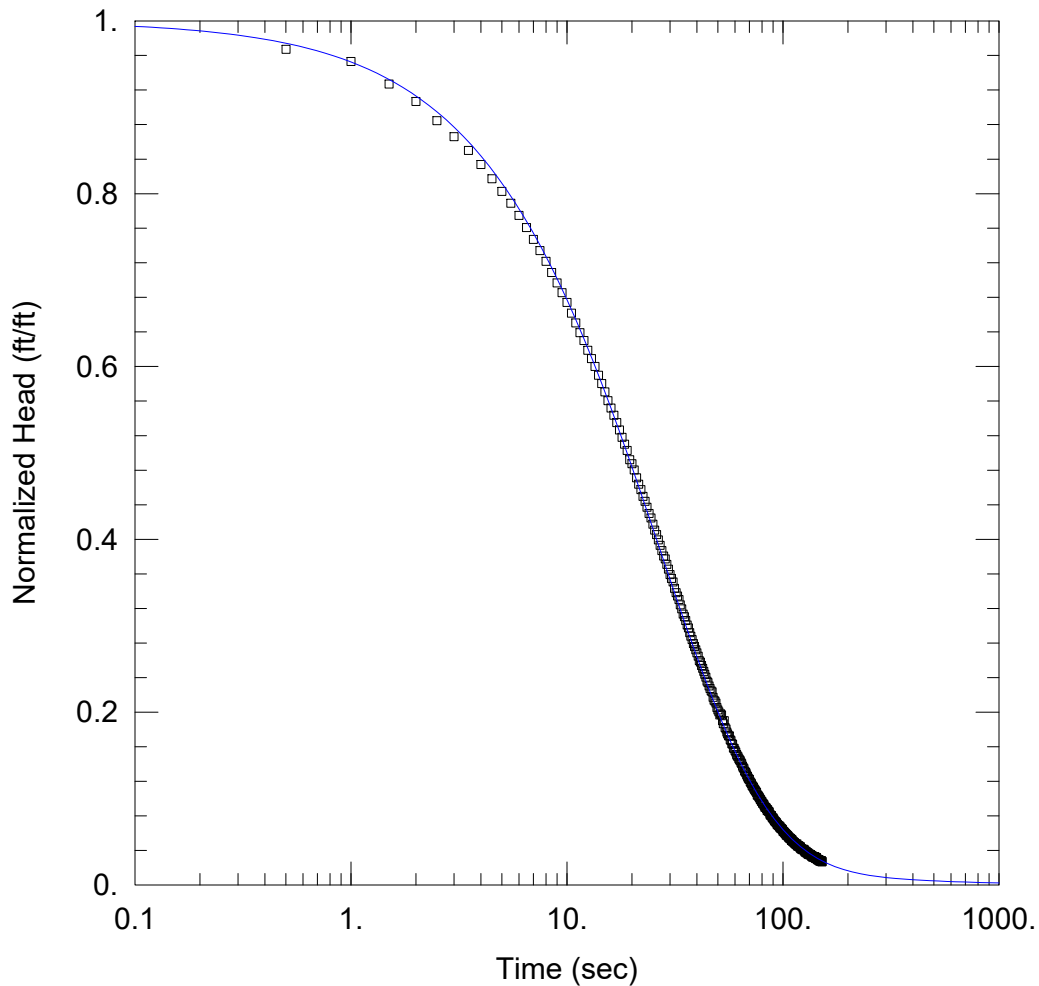
Saturated Thickness: 6.3 ft

WELL DATA (APW-14)

Initial Displacement: <u>1.648</u> ft	Static Water Column Height: <u>36.72</u> ft
Total Well Penetration Depth: <u>5.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00332</u> cm/sec	Ss = <u>8.98E-7</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-14 RH1

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-14  
 Test Date: 3/31/2021

AQUIFER DATA

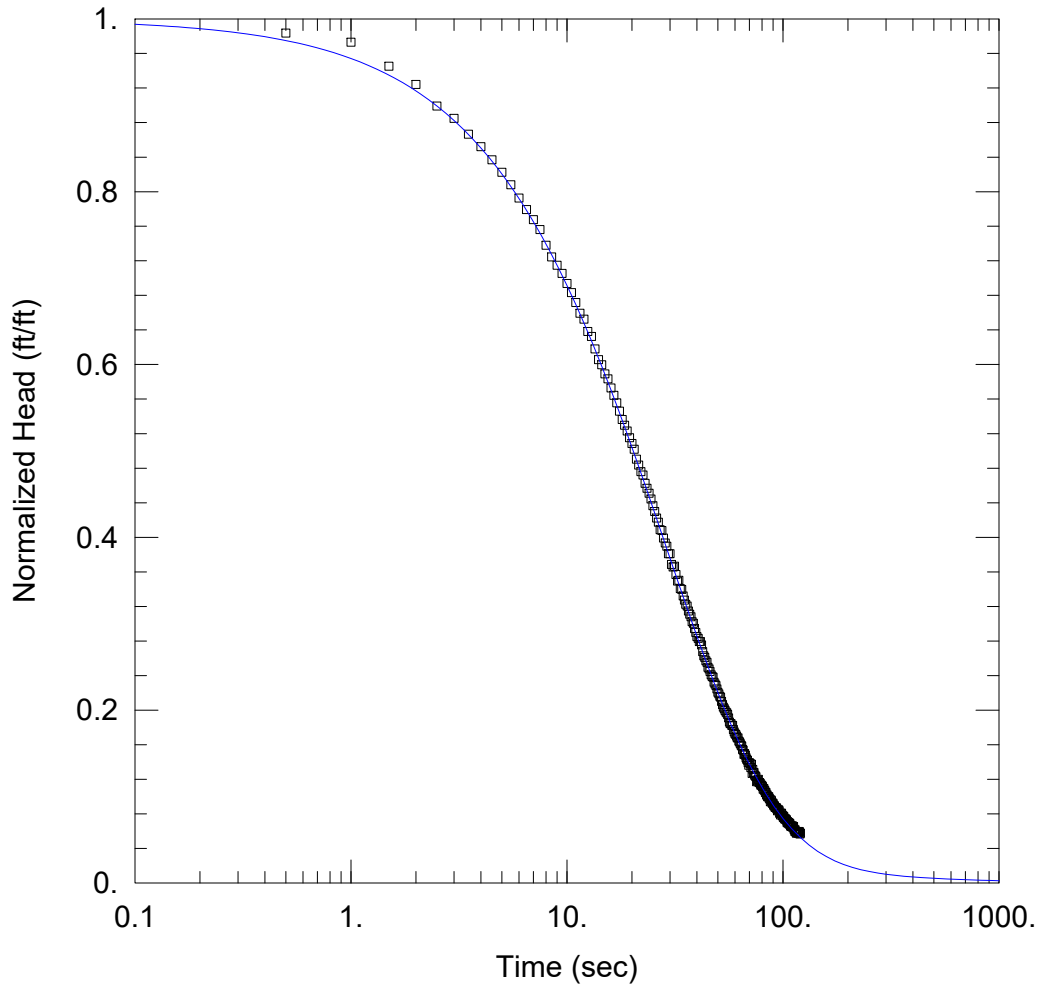
Saturated Thickness: 6.3 ft

WELL DATA (APW-14)

Initial Displacement: <u>-1.768</u> ft	Static Water Column Height: <u>36.76</u> ft
Total Well Penetration Depth: <u>5.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00381</u> cm/sec	Ss = <u>2.12E-7</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-14 RH2

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-14  
 Test Date: 3/31/2021

AQUIFER DATA

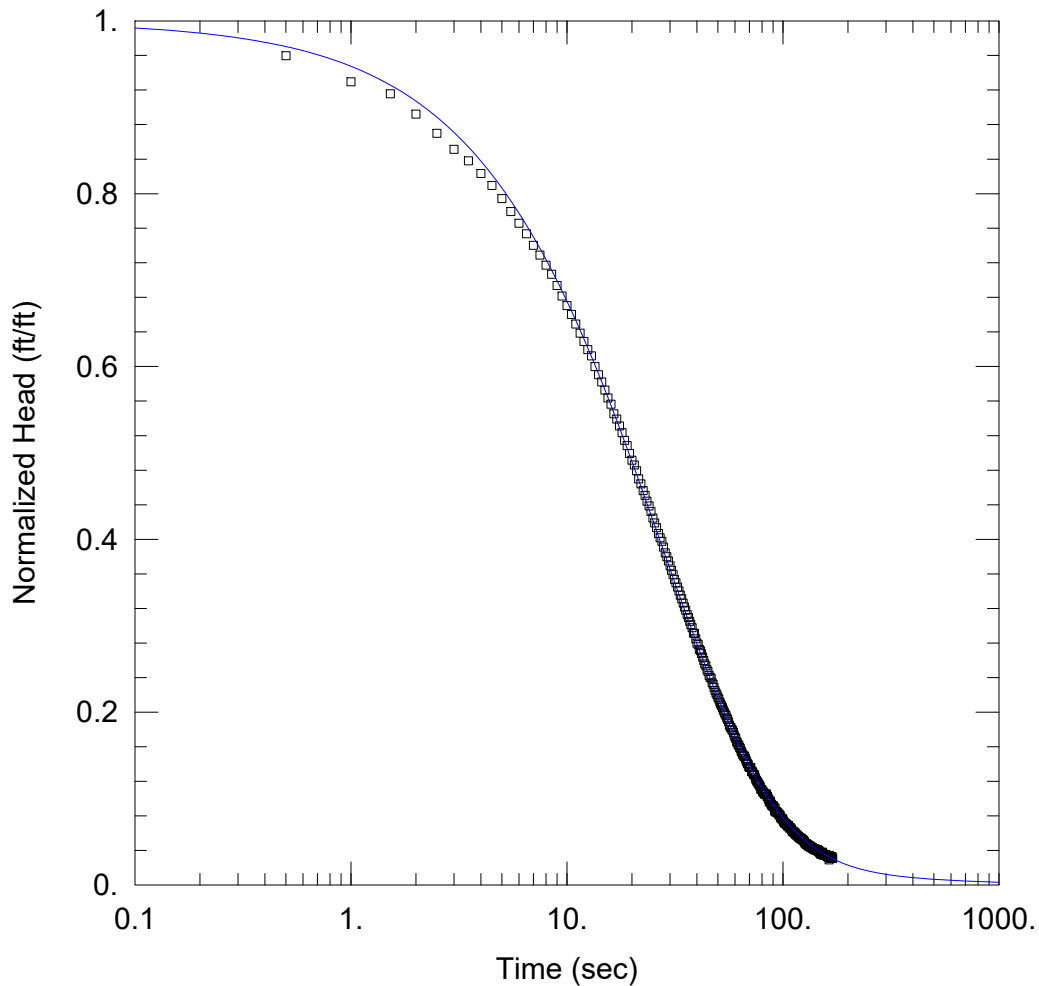
Saturated Thickness: 6.3 ft

WELL DATA (APW-14)

Initial Displacement: <u>-1.042</u> ft	Static Water Column Height: <u>36.72</u> ft
Total Well Penetration Depth: <u>5.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00336</u> cm/sec	Ss = <u>4.36E-7</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-14 RH3

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-14  
 Test Date: 3/31/2021

AQUIFER DATA

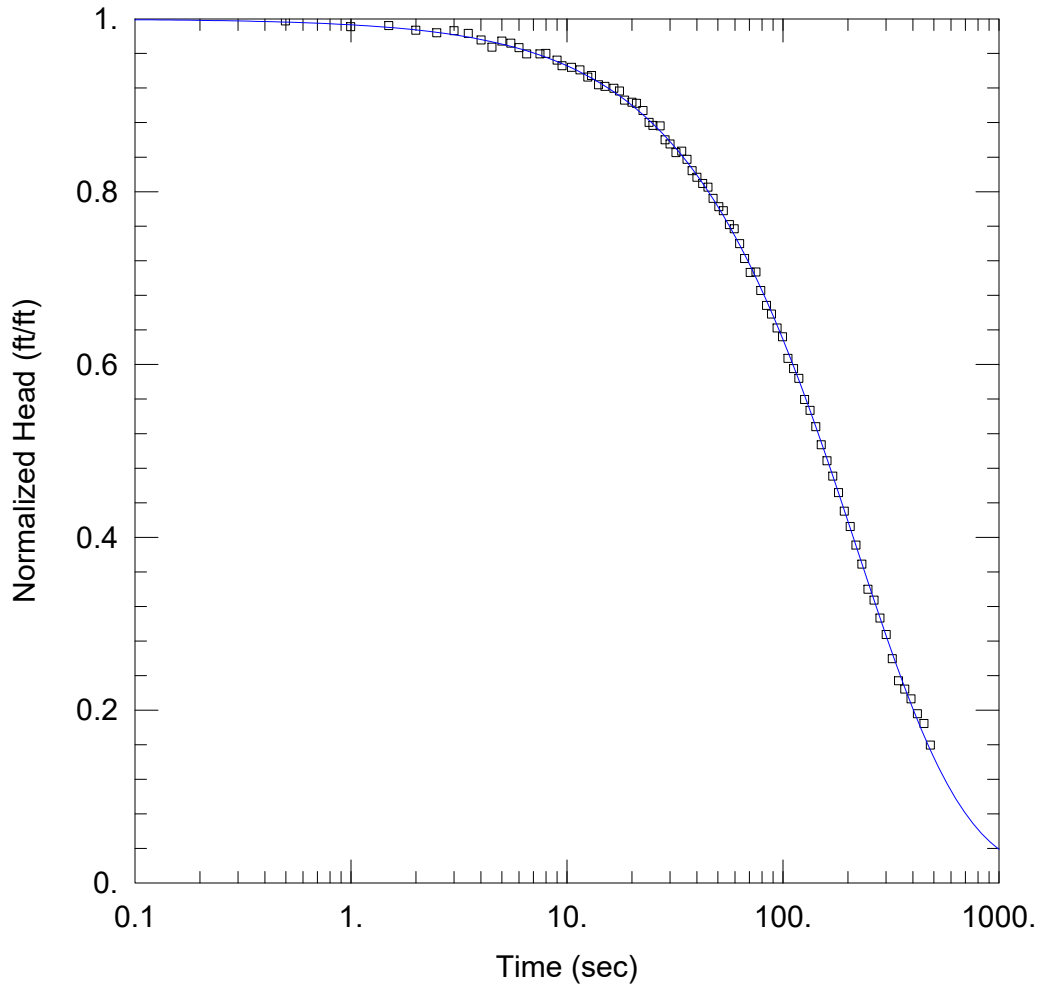
Saturated Thickness: 6.3 ft

WELL DATA (APW-14)

Initial Displacement: <u>-1.79</u> ft	Static Water Column Height: <u>36.75</u> ft
Total Well Penetration Depth: <u>5.</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.08625</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.0028</u> cm/sec	Ss = <u>4.94E-6</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-15 FH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-15  
 Test Date: 3/31/2021

AQUIFER DATA

Saturated Thickness: 7.1 ft

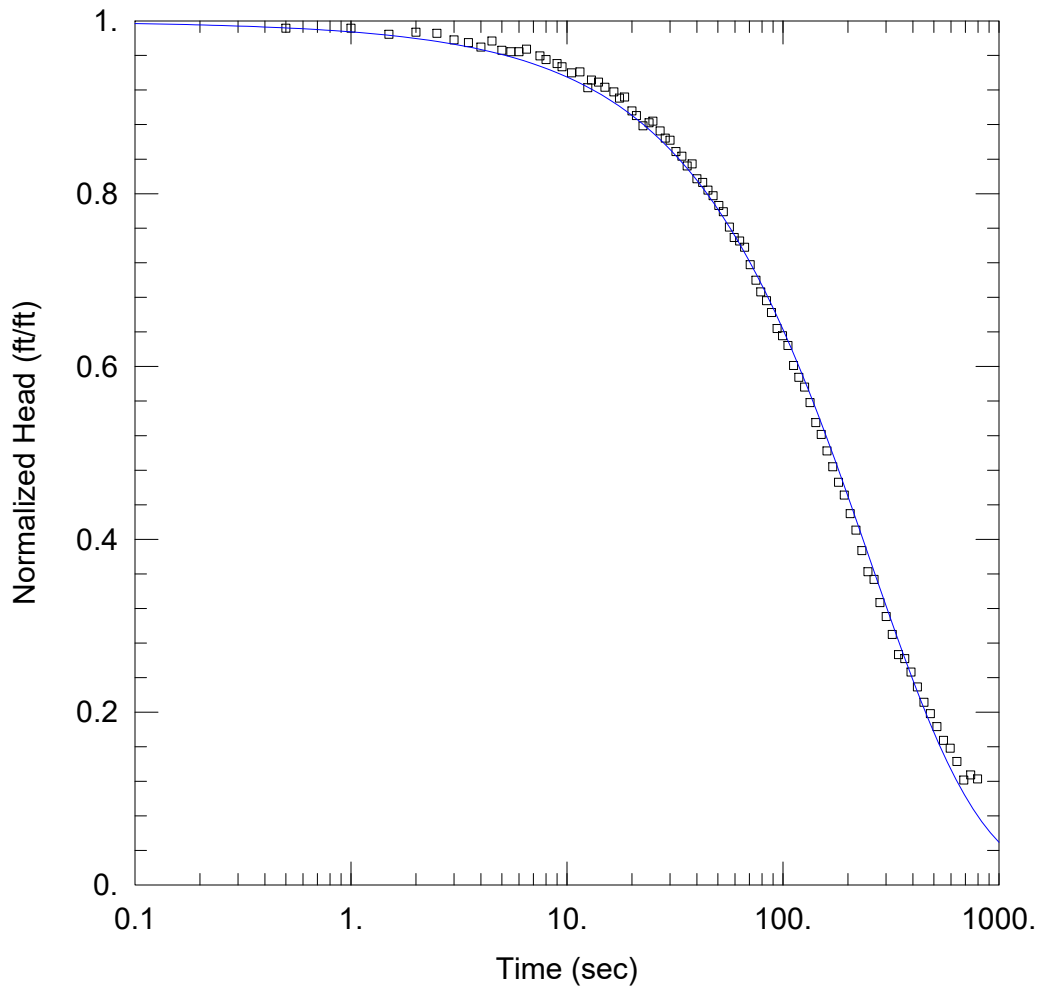
WELL DATA (APW-15)

Initial Displacement: <u>1.68</u> ft	Static Water Column Height: <u>82.47</u> ft
Total Well Penetration Depth: <u>50.5</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.000485</u> cm/sec	Ss = <u>3.29E-7</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	





APW-15 FH2

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-15  
 Test Date: 3/31/2021

AQUIFER DATA

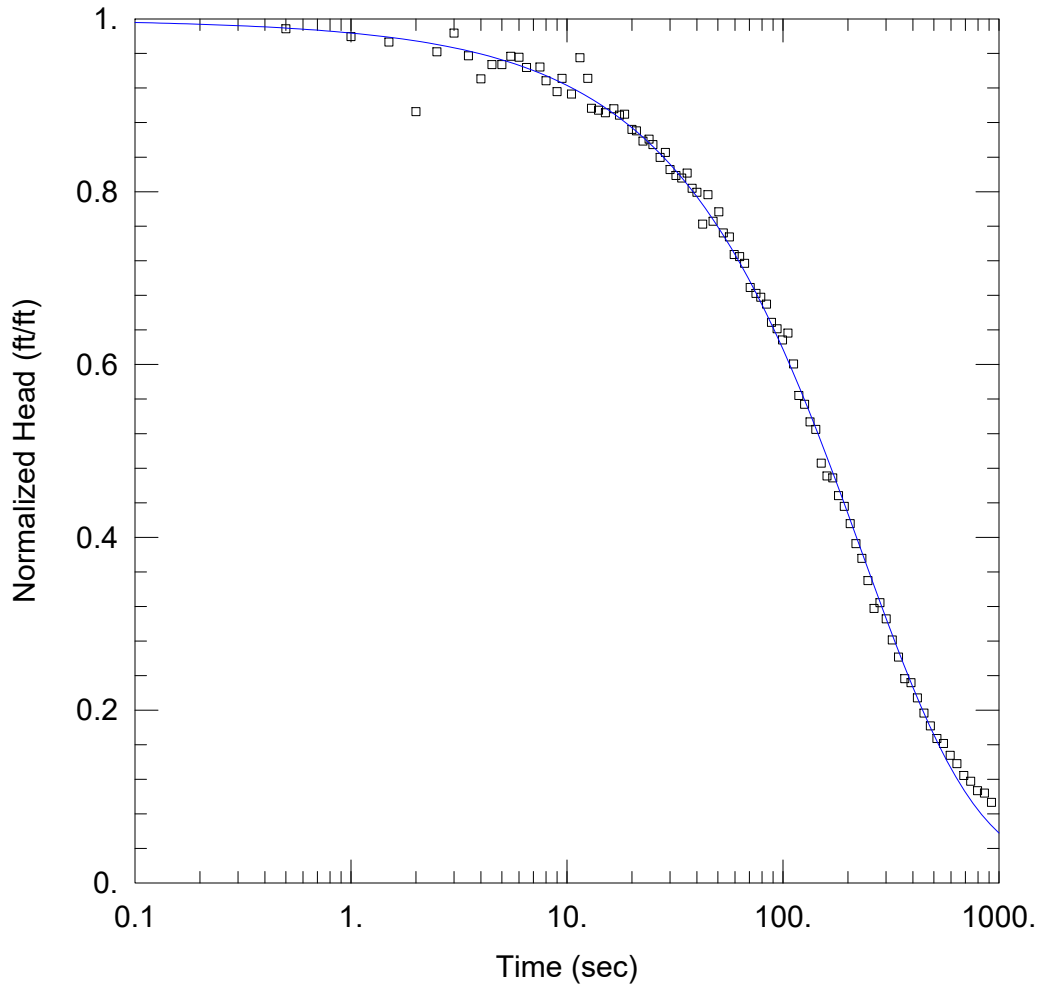
Saturated Thickness: 51.8 ft

WELL DATA (APW-15)

Initial Displacement: <u>1.68 ft</u>	Static Water Column Height: <u>82.32 ft</u>
Total Well Penetration Depth: <u>50.5 ft</u>	Screen Length: <u>5. ft</u>
Casing Radius: <u>0.086 ft</u>	Well Radius: <u>0.25 ft</u>

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.0002</u> cm/sec	Ss = <u>5.25E-5</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-15 RH-01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-15  
 Test Date: 3/31/2021

AQUIFER DATA

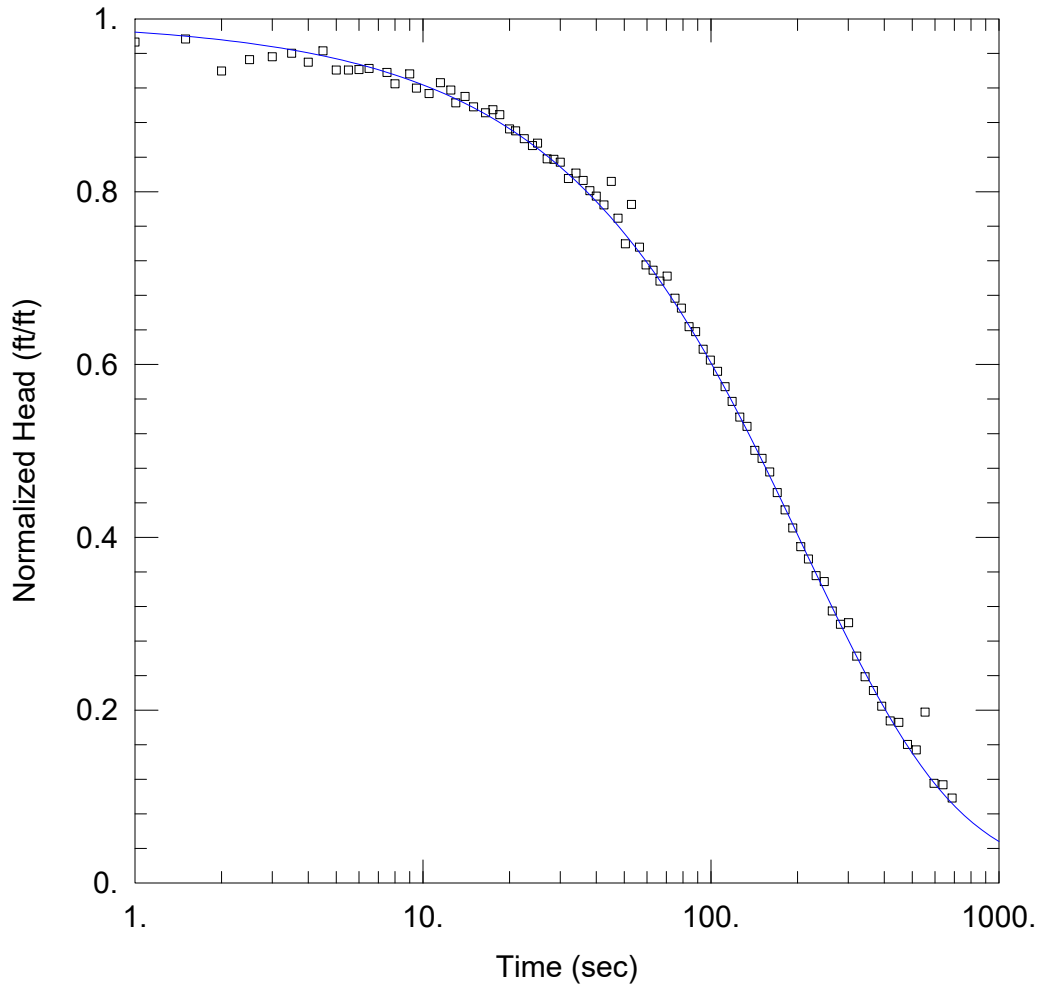
Saturated Thickness: 7.1 ft

WELL DATA (APW-15)

Initial Displacement: <u>1.76</u> ft	Static Water Column Height: <u>82.59</u> ft
Total Well Penetration Depth: <u>50.5</u> ft	Screen Length: <u>5.</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.000281</u> cm/sec	Ss = <u>0.000132</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-15 RH2

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-15  
 Test Date: 3/31/2021

AQUIFER DATA

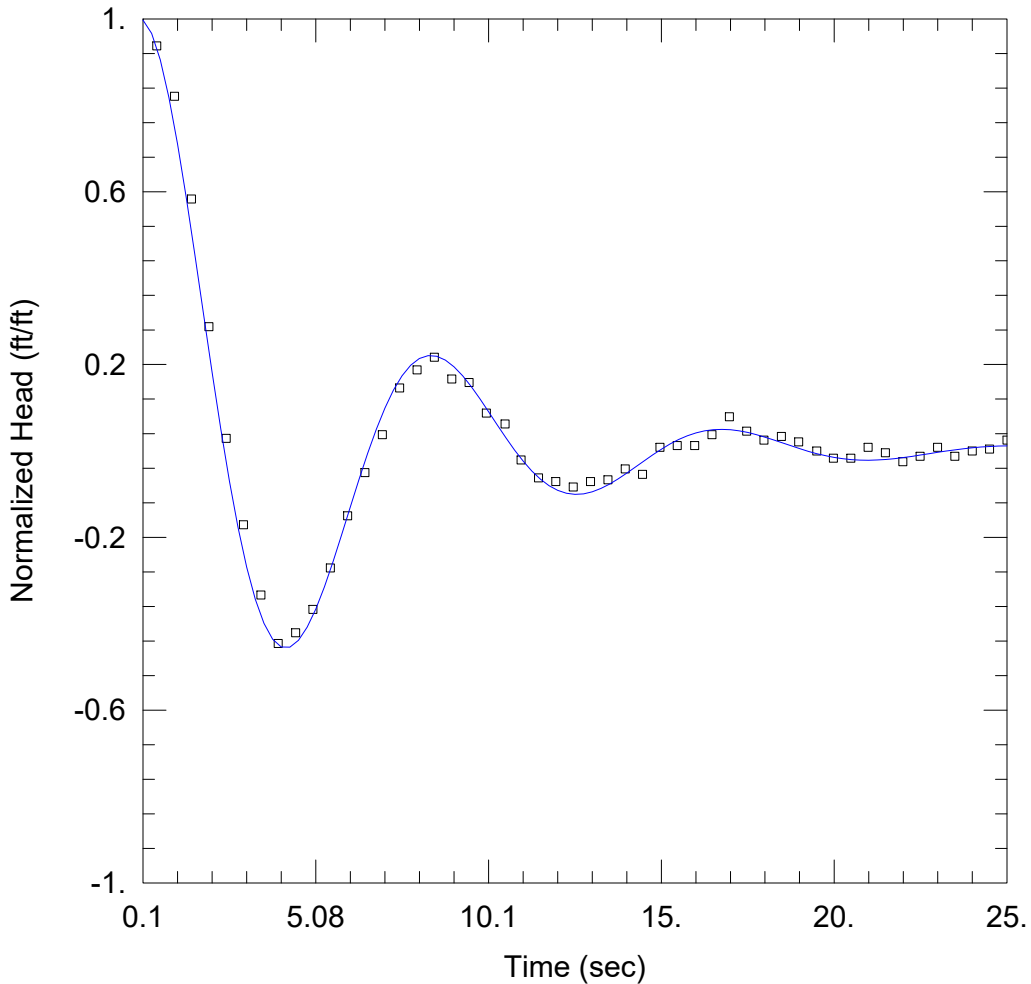
Saturated Thickness: 7.1 ft

WELL DATA (APW-15)

Initial Displacement: <u>1.76</u> ft	Static Water Column Height: <u>82.52</u> ft
Total Well Penetration Depth: <u>50.5</u> ft	Screen Length: <u>5</u> ft
Casing Radius: <u>0.086</u> ft	Well Radius: <u>0.25</u> ft

SOLUTION

Aquifer Model: <u>Confined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00032</u> cm/sec	Ss = <u>8.48E-5</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



APW-16 FH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-16  
 Test Date: 3/11/2021

AQUIFER DATA

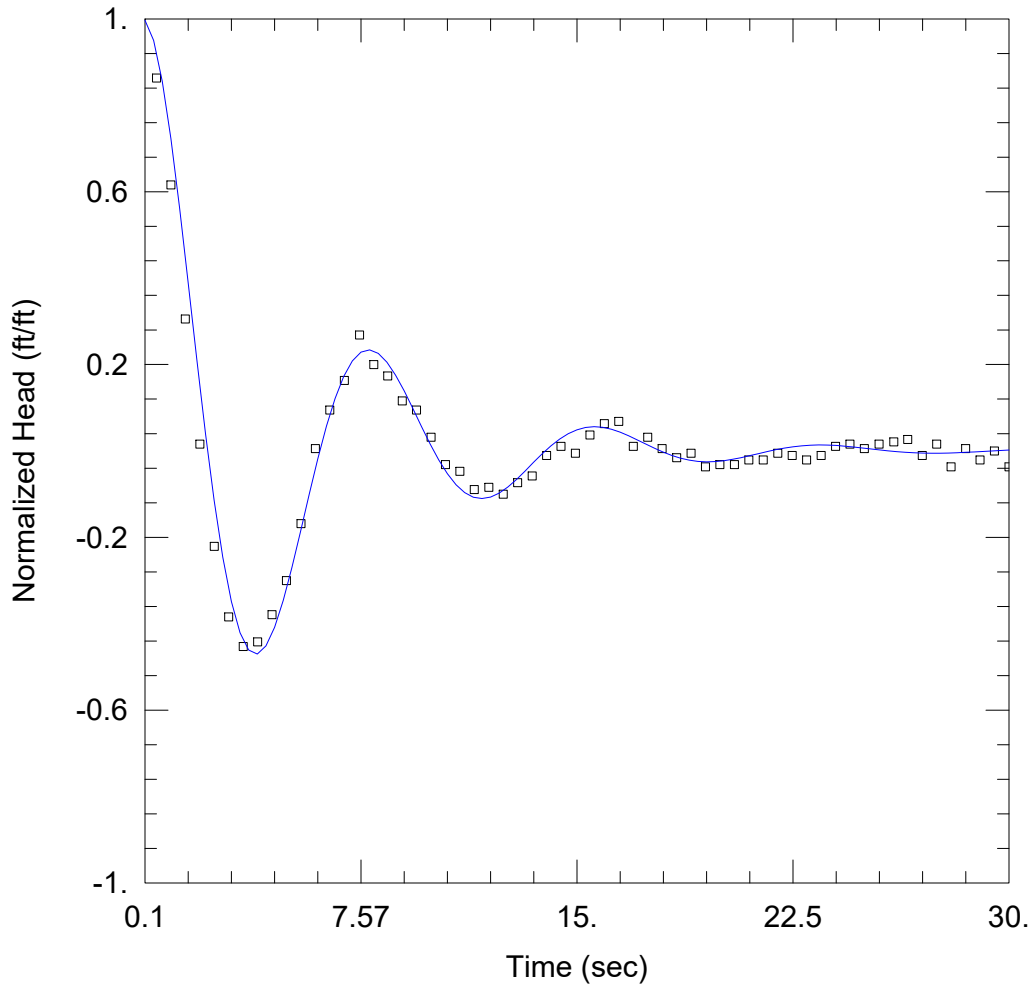
Saturated Thickness: 16.4 ft                      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-16)

Initial Displacement: 0.24 ft                      Static Water Column Height: 64.37 ft  
 Total Well Penetration Depth: 16.3 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Butler-Zhan  
 Kr = 0.124 cm/sec                      Ss = 8.12E-7 ft<sup>-1</sup>  
 Kz/Kr = 1.                      Le = 56.01 ft



APW-16 FH02

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-16  
 Test Date: 3/11/2021

AQUIFER DATA

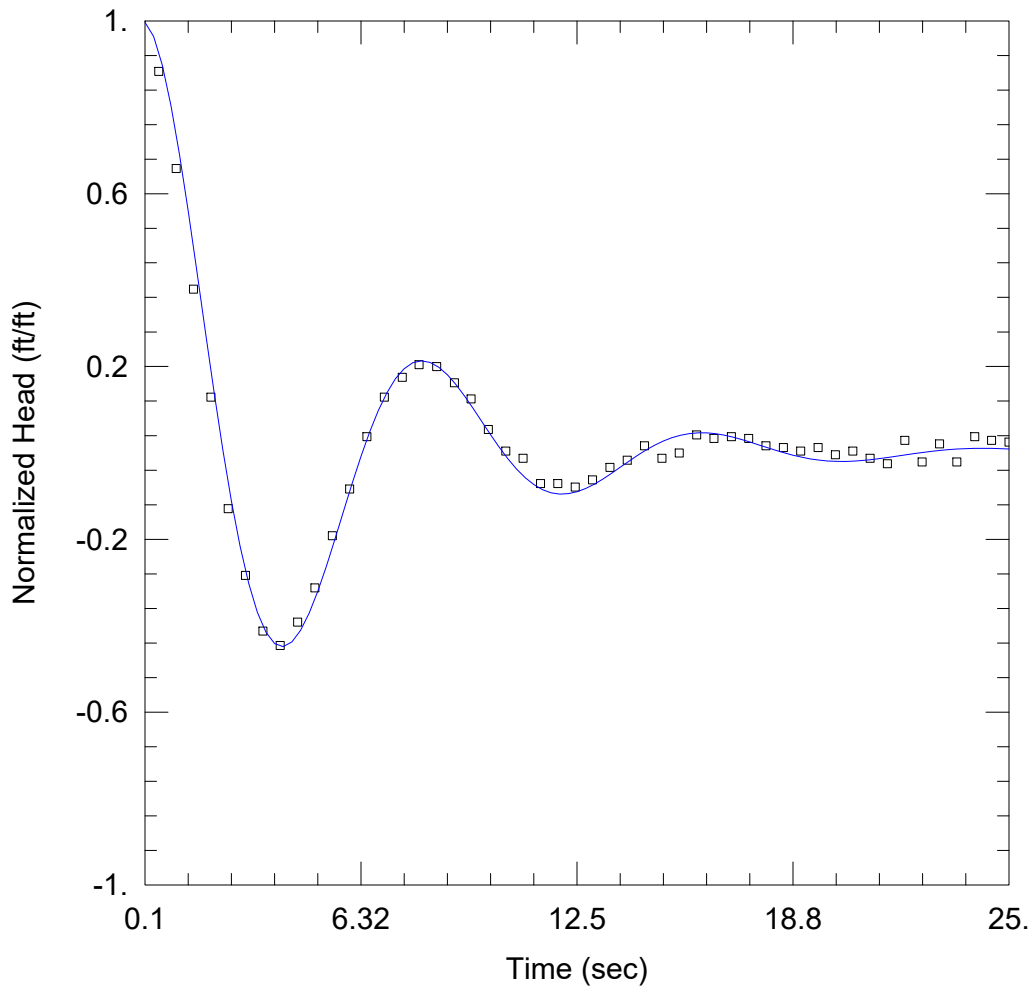
Saturated Thickness: 16.4 ft                      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-16)

Initial Displacement: 0.19 ft                      Static Water Column Height: 64.22 ft  
 Total Well Penetration Depth: 16.3 ft                      Screen Length: 5. ft  
 Casing Radius: 0.08625 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Butler-Zhan  
 Kr = 0.141 cm/sec                      Ss = 6.55E-7 ft<sup>-1</sup>  
 Kz/Kr = 1.                      Le = 48.91 ft



### APW-16 FH03

#### PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-16  
 Test Date: 3/11/2021

#### AQUIFER DATA

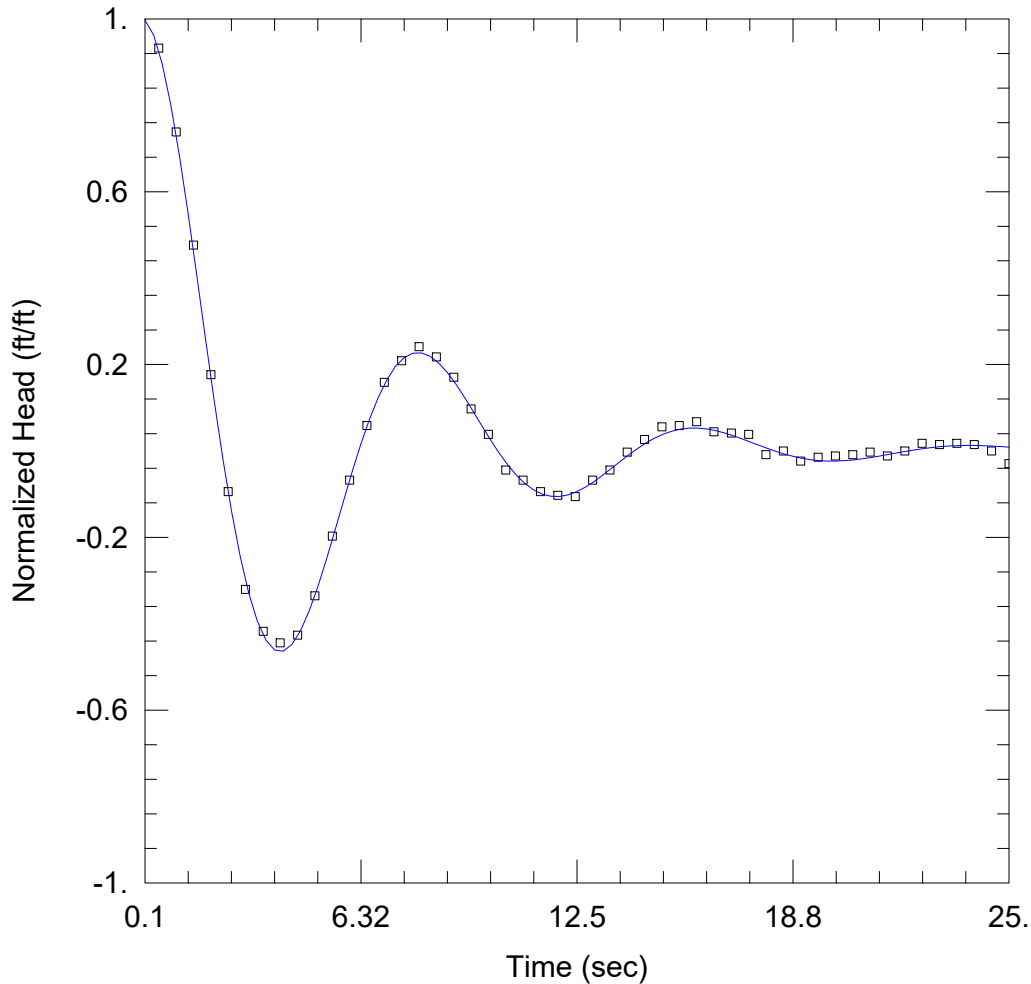
Saturated Thickness: 16.4 ft                      Anisotropy Ratio ( $Kz/Kr$ ): 1.

#### WELL DATA (APW-16)

Initial Displacement: 0.24 ft                      Static Water Column Height: 64.49 ft  
 Total Well Penetration Depth: 16.3 ft              Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

#### SOLUTION

Aquifer Model: Confined                      Solution Method: Butler-Zhan  
 $K_r = 0.135$  cm/sec                       $S_s = 1.65E-7$  ft<sup>-1</sup>  
 $K_z/K_r = 1.$                        $L_e = 51.68$  ft



APW-16 RH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-16  
 Test Date: 3/11/2021

AQUIFER DATA

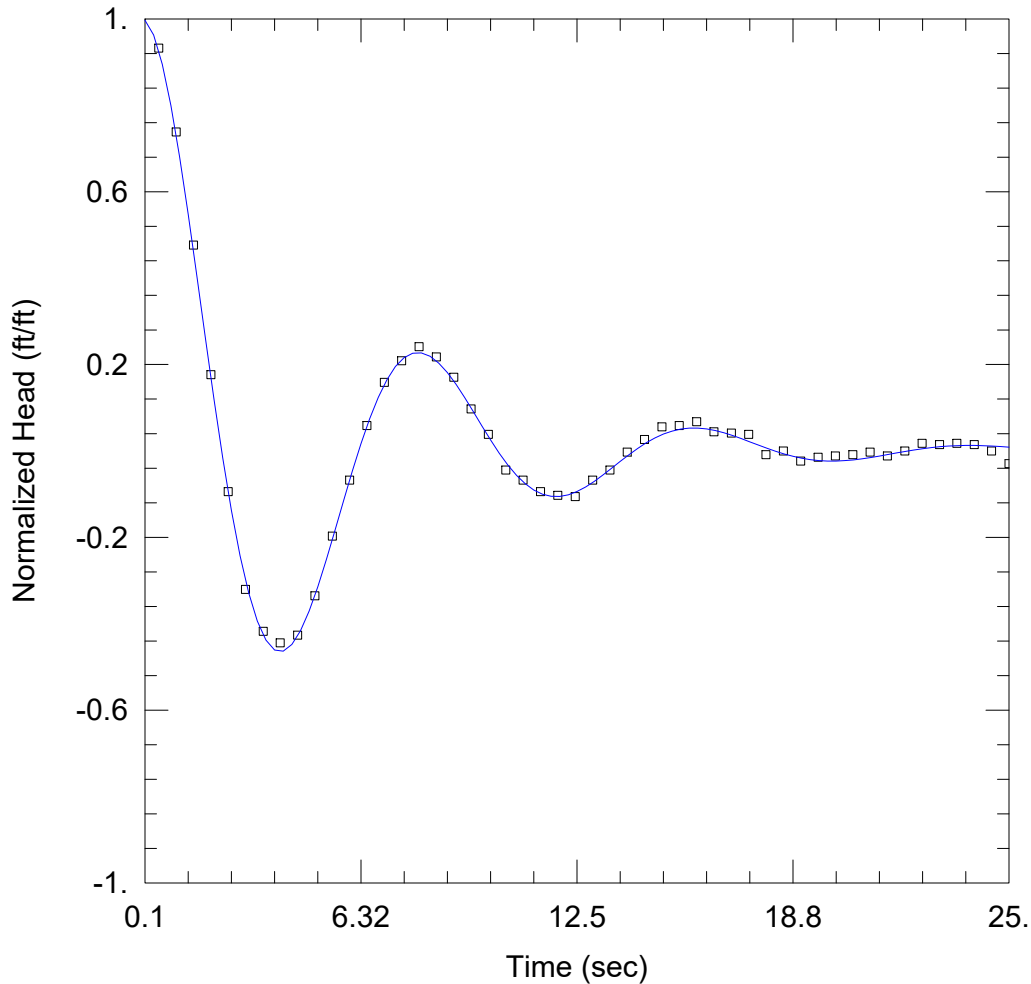
Saturated Thickness: 16.4 ft                      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-16)

Initial Displacement: 0.34 ft                      Static Water Column Height: 64.49 ft  
 Total Well Penetration Depth: 16.3 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Butler-Zhan  
 Kr = 0.145 cm/sec                      Ss = 1.21E-7 ft<sup>-1</sup>  
 Kz/Kr = 1.                      Le = 50.37 ft



APW-16 RH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-16  
 Test Date: 3/11/2021

AQUIFER DATA

Saturated Thickness: 16.4 ft                      Anisotropy Ratio (Kz/Kr): 1.

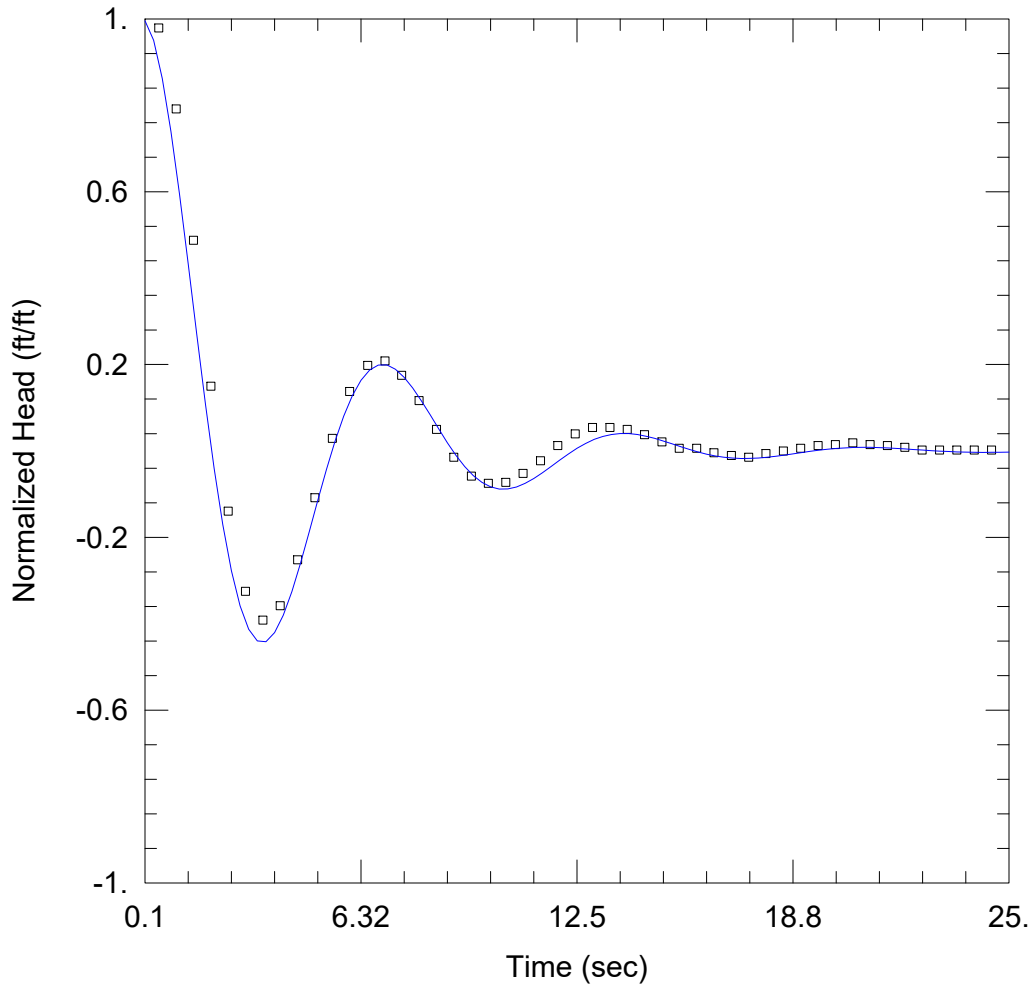
WELL DATA (APW-16)

Initial Displacement: 0.34 ft                      Static Water Column Height: 64.49 ft  
 Total Well Penetration Depth: 16.3 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Butler-Zhan  
 Kr = 0.145 cm/sec                      Ss = 1.21E-7 ft<sup>-1</sup>  
 Kz/Kr = 1.                      Le = 50.37 ft





APW-17 FH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-17  
 Test Date: 02/16/2021

AQUIFER DATA

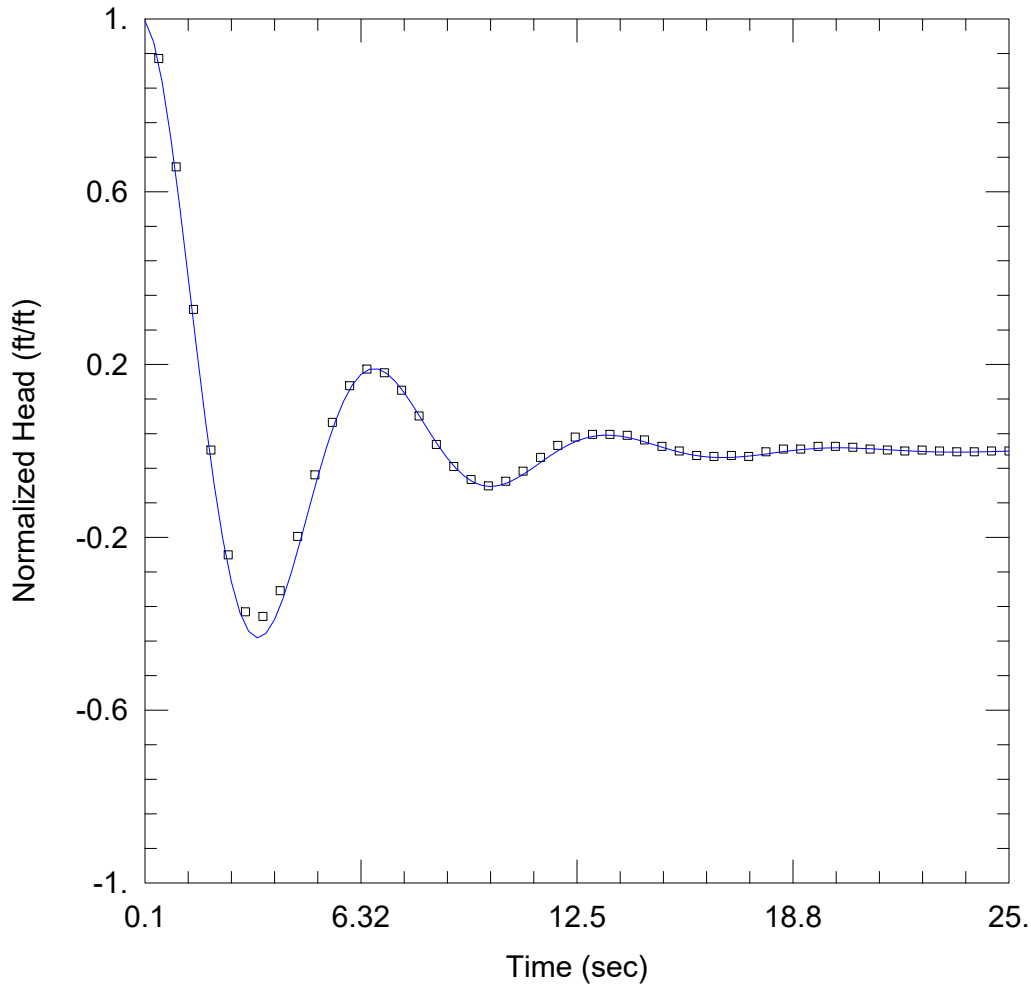
Saturated Thickness: 84.7 ft                      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-17)

Initial Displacement: 0.48 ft                      Static Water Column Height: 53.93 ft  
 Total Well Penetration Depth: 79.7 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Butler-Zhan  
 Kr = 0.113 cm/sec                      Ss = 5.88E-7 ft<sup>-1</sup>  
 Kz/Kr = 1.                      Le = 37.31 ft



APW-17 FH02

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-17  
 Test Date: 02/16/2021

AQUIFER DATA

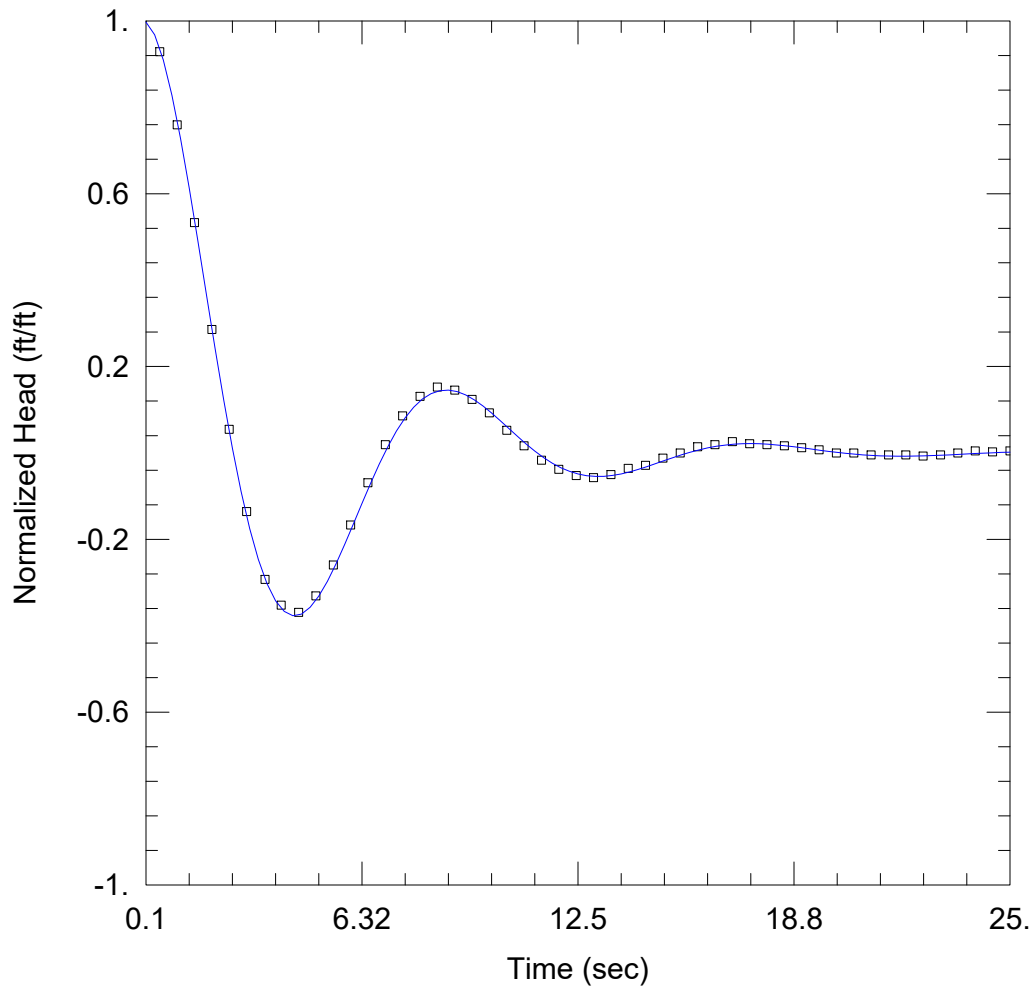
Saturated Thickness: 84.7 ft                      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-17)

Initial Displacement: 0.47 ft                      Static Water Column Height: 53.93 ft  
 Total Well Penetration Depth: 79.7 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Butler-Zhan  
 Kr = 0.115 cm/sec                      Ss = 2.88E-7 ft<sup>-1</sup>  
 Kz/Kr = 1.                      Le = 34.54 ft



APW-17 RH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-17  
 Test Date: 02/16/2021

AQUIFER DATA

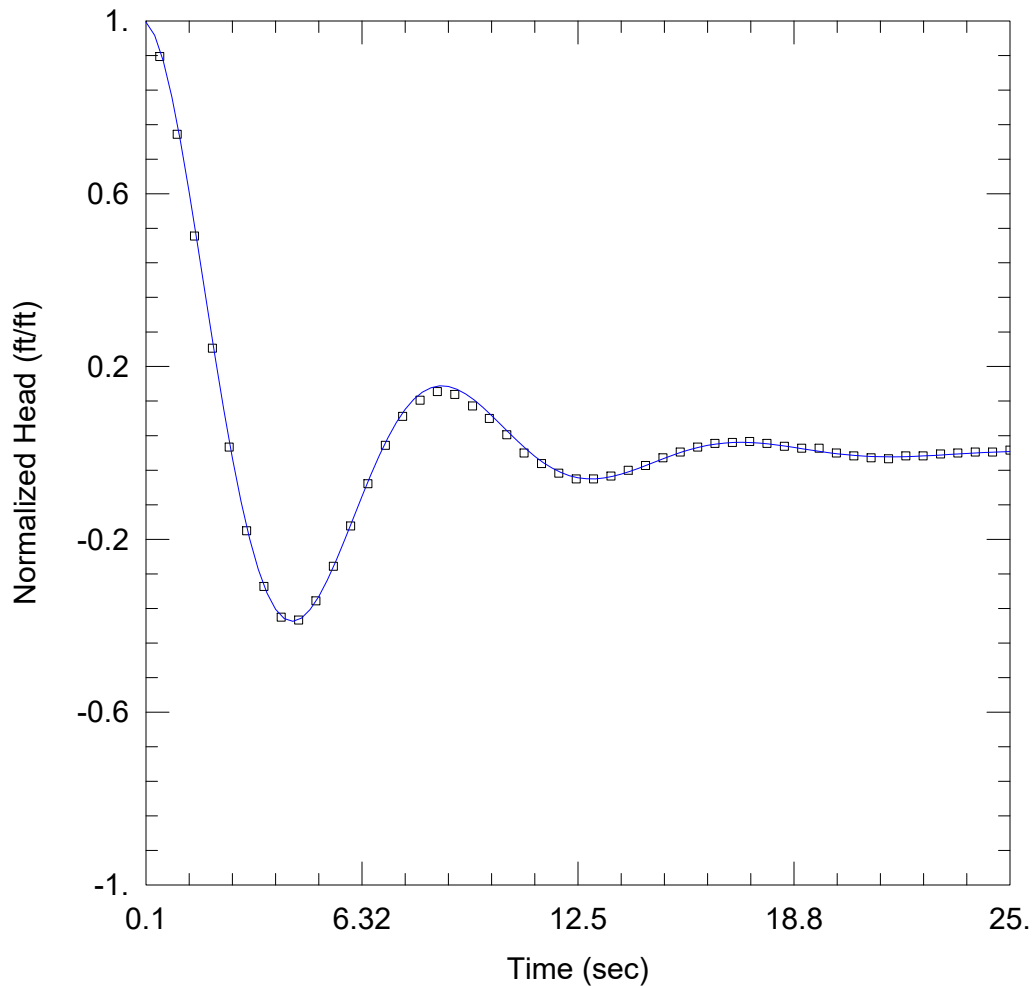
Saturated Thickness: 84.7 ft                      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-17)

Initial Displacement: 0.42 ft                      Static Water Column Height: 53.93 ft  
 Total Well Penetration Depth: 79.7 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Butler-Zhan  
 Kr = 0.076 cm/sec                      Ss = 2.88E-7 ft<sup>-1</sup>  
 Kz/Kr = 1.                      Le = 57.77 ft



APW-17 RH02

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-17  
 Test Date: 02/16/2021

AQUIFER DATA

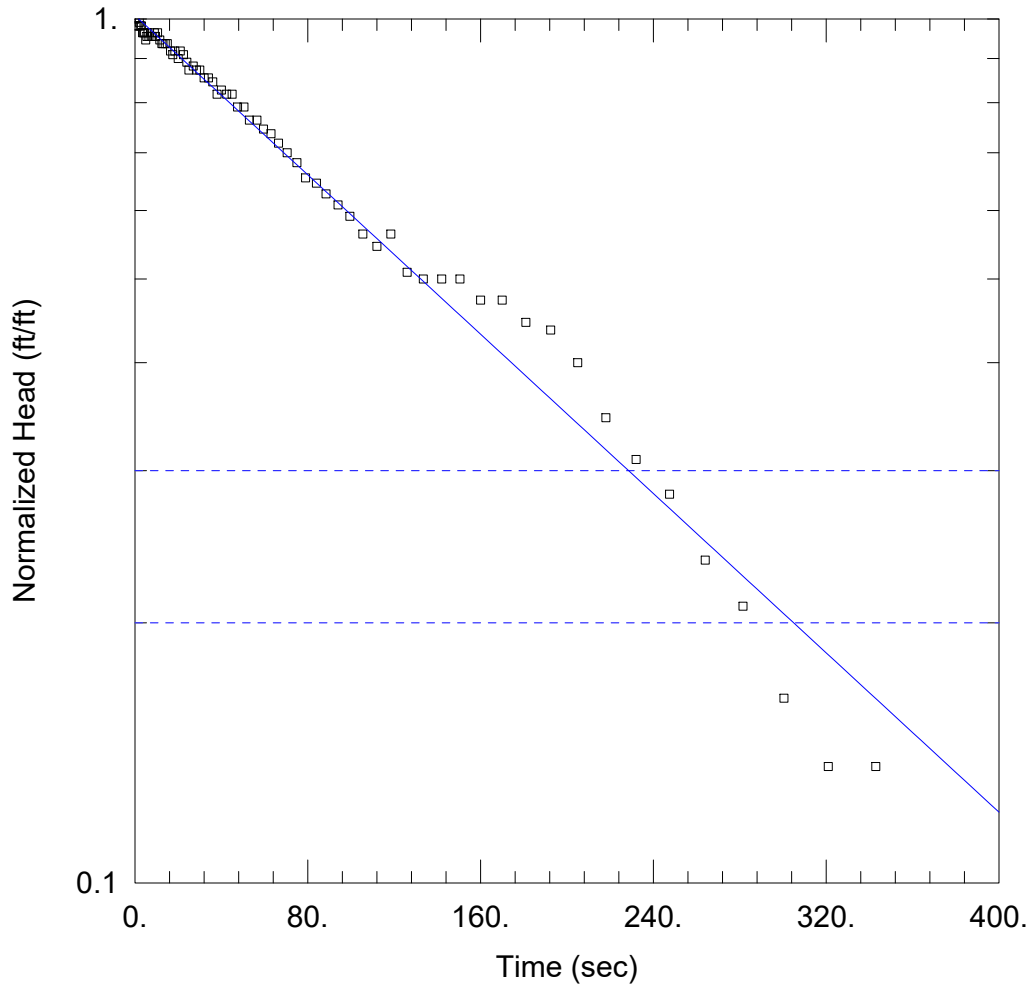
Saturated Thickness: 84.7 ft                      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (APW-17)

Initial Displacement: 0.45 ft                      Static Water Column Height: 53.93 ft  
 Total Well Penetration Depth: 79.7 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Butler-Zhan  
 Kr = 0.0796 cm/sec                      Ss = 2.88E-7 ft<sup>-1</sup>  
 Kz/Kr = 1.                      Le = 56.31 ft



APW-18 FH01

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: APW-18  
 Test Date: 2/16/21

AQUIFER DATA

Saturated Thickness: 78.8 ft                      Anisotropy Ratio ( $K_z/K_r$ ): 1.

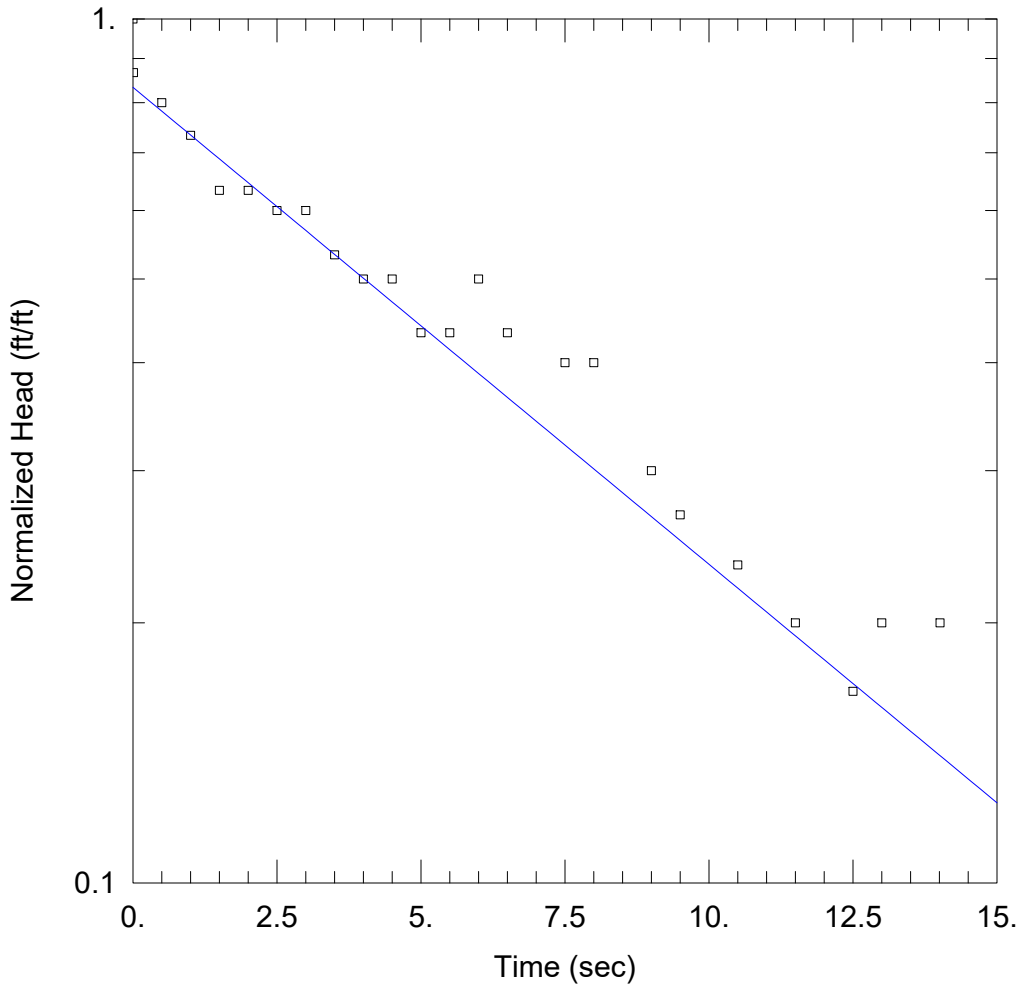
WELL DATA (APW-18)

Initial Displacement: 0.11 ft                      Static Water Column Height: 31.38 ft  
 Total Well Penetration Depth: 51.1 ft                      Screen Length: 5. ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Confined                      Solution Method: Bower-Rice  
 $K = 0.000267$  cm/sec                       $y_0 = 0.111$  ft





XPW-01 FH-02

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW-01  
 Test Date: 3/11/21

AQUIFER DATA

Saturated Thickness: 8. ft      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (XPW-01)

Initial Displacement: 0.03 ft      Static Water Column Height: 8.033 ft  
 Total Well Penetration Depth: 8.033 ft      Screen Length: 8.033 ft  
 Casing Radius: 0.086 ft      Well Radius: 0.25 ft  
 Gravel Pack Porosity: 0.25

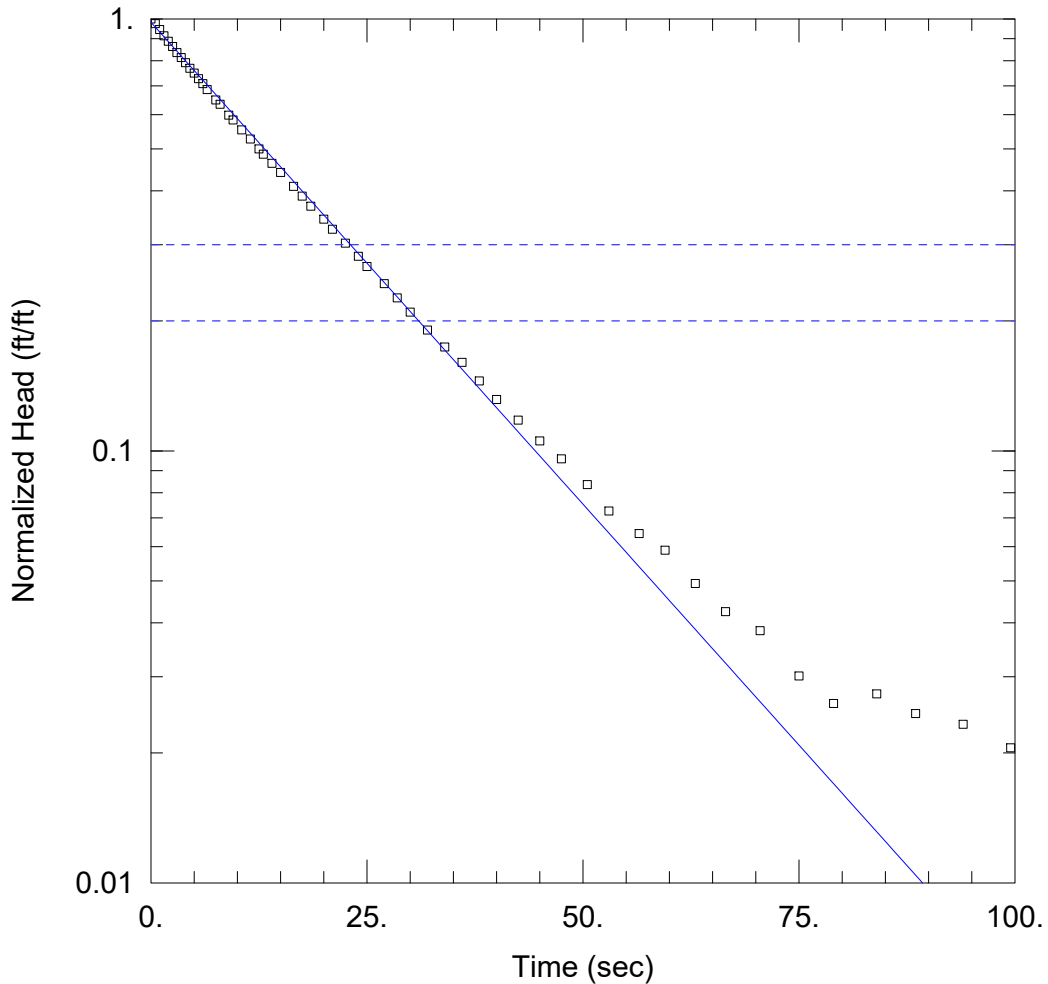
SOLUTION

Aquifer Model: Unconfined      Solution Method: Bower-Rice  
 K = 0.0129 cm/sec      y0 = 0.025 ft









XPW02 FH1

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW02  
 Test Date: 3/11/21

AQUIFER DATA

Saturated Thickness: 7.259 ft                                              Anisotropy Ratio ( $K_z/K_r$ ): 1.

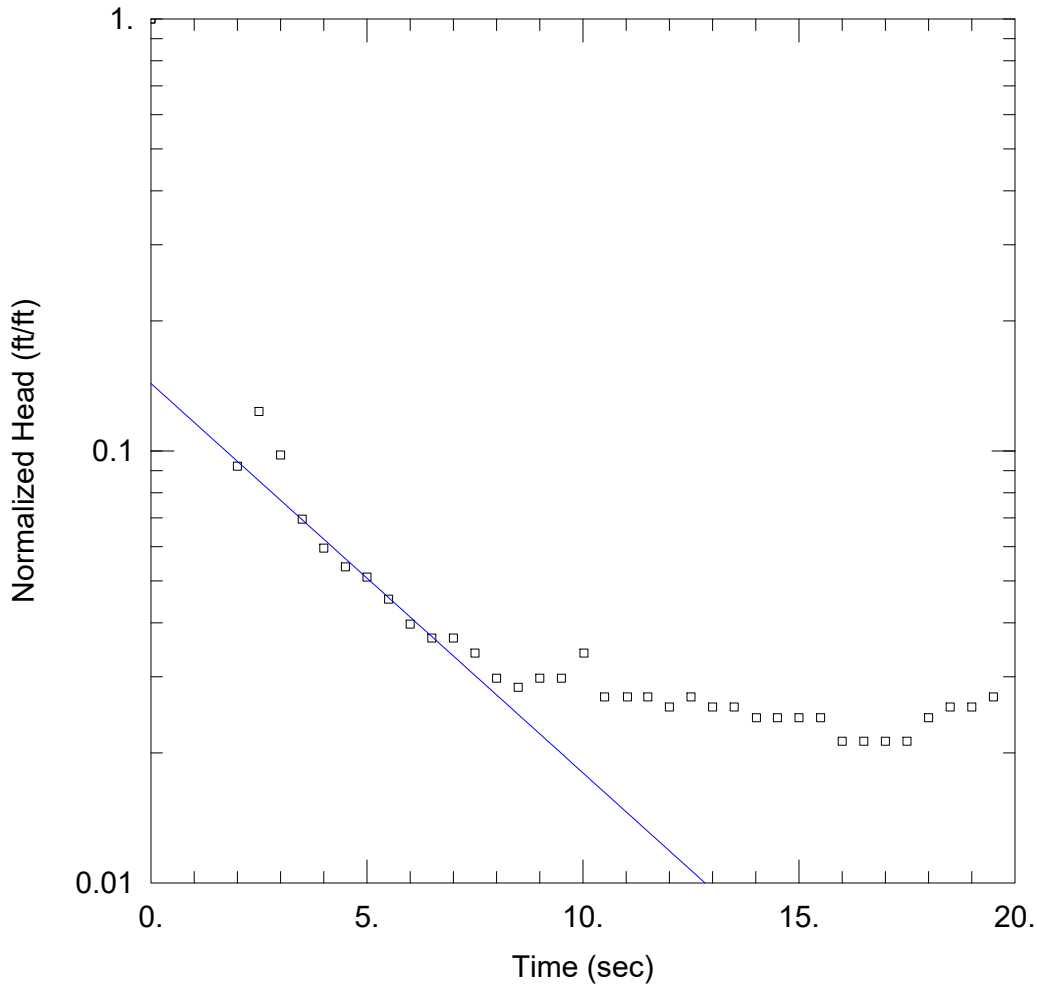
WELL DATA (XPW02)

Initial Displacement: <u>0.73 ft</u>	Static Water Column Height: <u>9.759 ft</u>
Total Well Penetration Depth: <u>7.259 ft</u>	Screen Length: <u>7.259 ft</u>
Casing Radius: <u>0.086 ft</u>	Well Radius: <u>0.25 ft</u>
	Gravel Pack Porosity: <u>0.</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>Bower-Rice</u>
K = <u>0.00197 cm/sec</u>	y0 = <u>0.717 ft</u>





XPW03 FH1

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW03  
 Test Date: 3/31/21

AQUIFER DATA

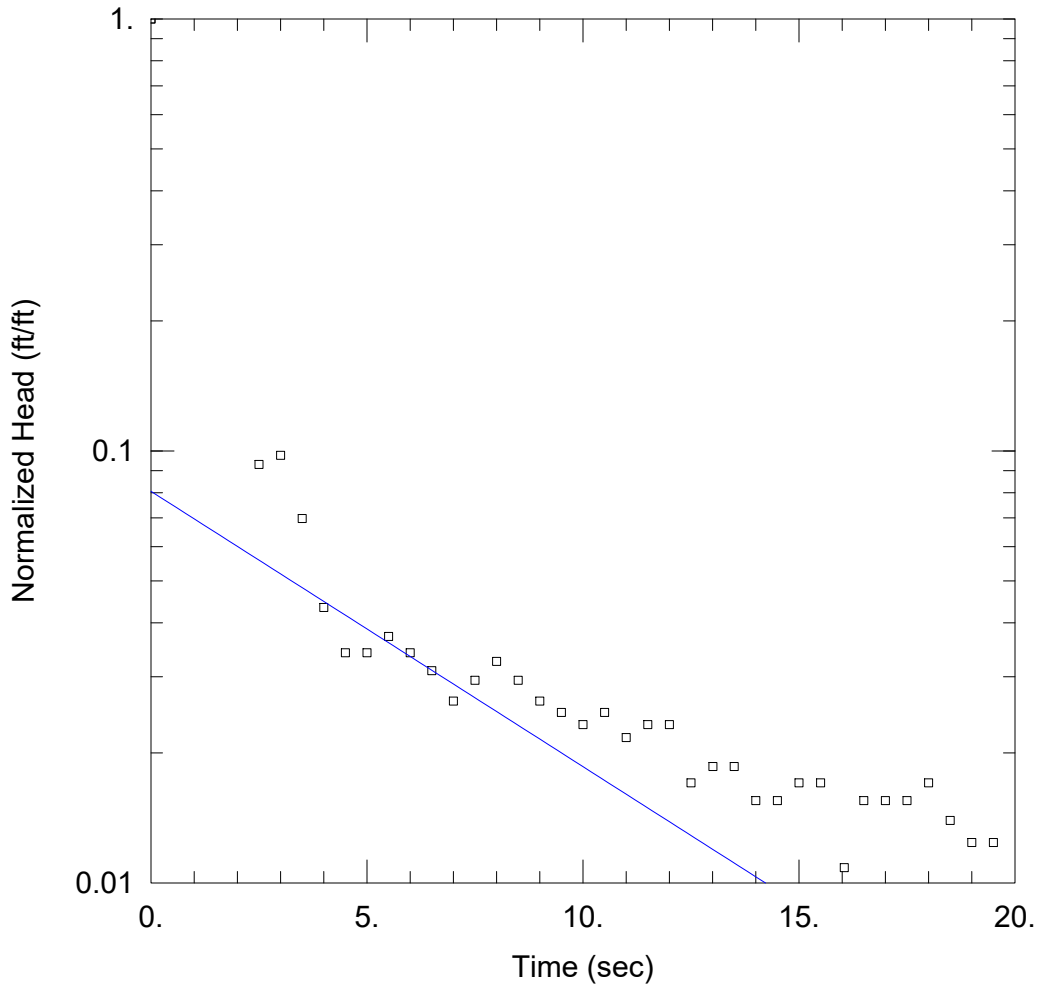
Saturated Thickness: 7.958 ft      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (XPW03)

Initial Displacement: 0.705 ft      Static Water Column Height: 13.26 ft  
 Total Well Penetration Depth: 4.7 ft      Screen Length: 4.7 ft  
 Casing Radius: 0.086 ft      Well Radius: 0.25 ft  
                                                                                                  Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined      Solution Method: Bowyer-Rice  
 K = 0.0573 cm/sec      y0 = 0.101 ft



XPW03 FH2

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW03  
 Test Date: 3/31/21

AQUIFER DATA

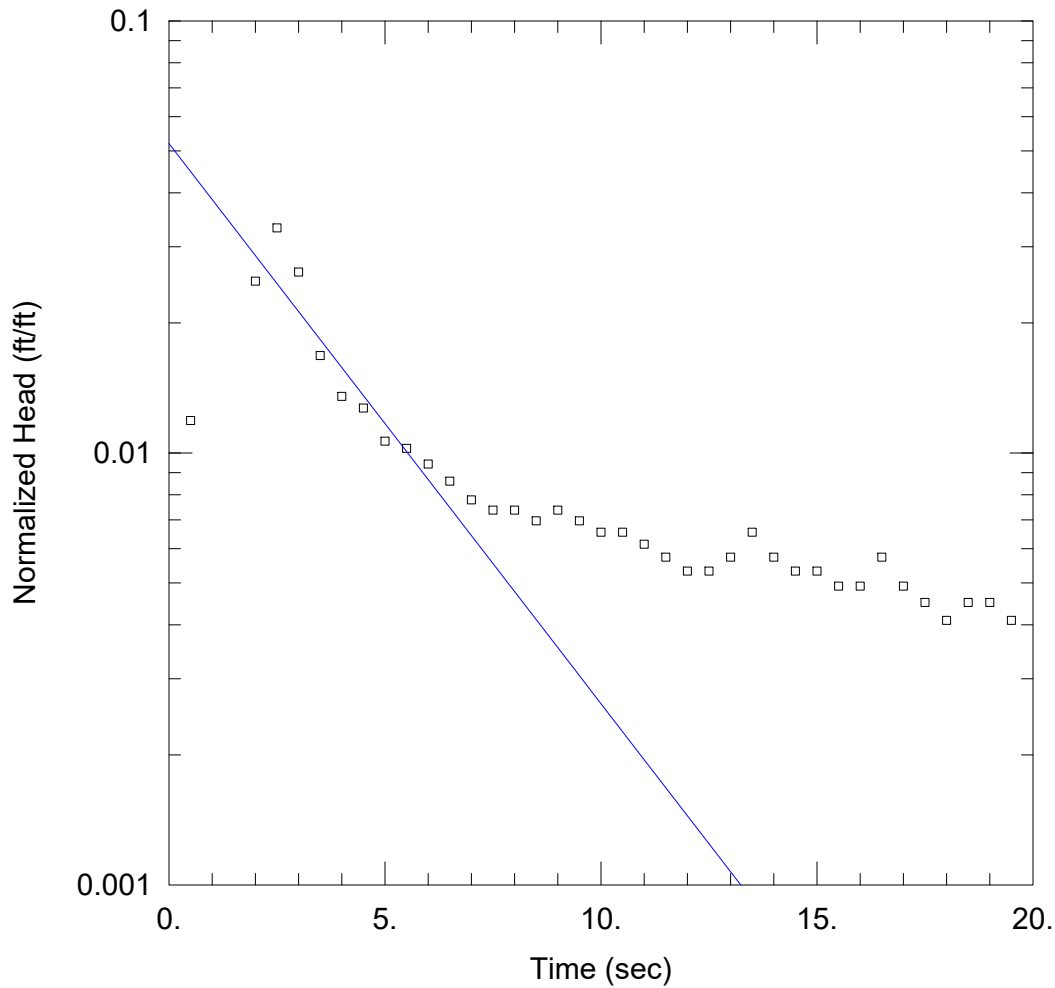
Saturated Thickness: 7.938 ft                      Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (XPW03)

Initial Displacement: 0.645 ft                      Static Water Column Height: 13.24 ft  
 Total Well Penetration Depth: 4.7 ft                      Screen Length: 4.7 ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft  
                                                                                          Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined                      Solution Method: Bower-Rice  
 $K = 0.072$  cm/sec                       $y_0 = 0.052$  ft



XPW03 FH3

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW03  
 Test Date: 3/31/21

AQUIFER DATA

Saturated Thickness: 7.948 ft      Anisotropy Ratio (Kz/Kr): 1.

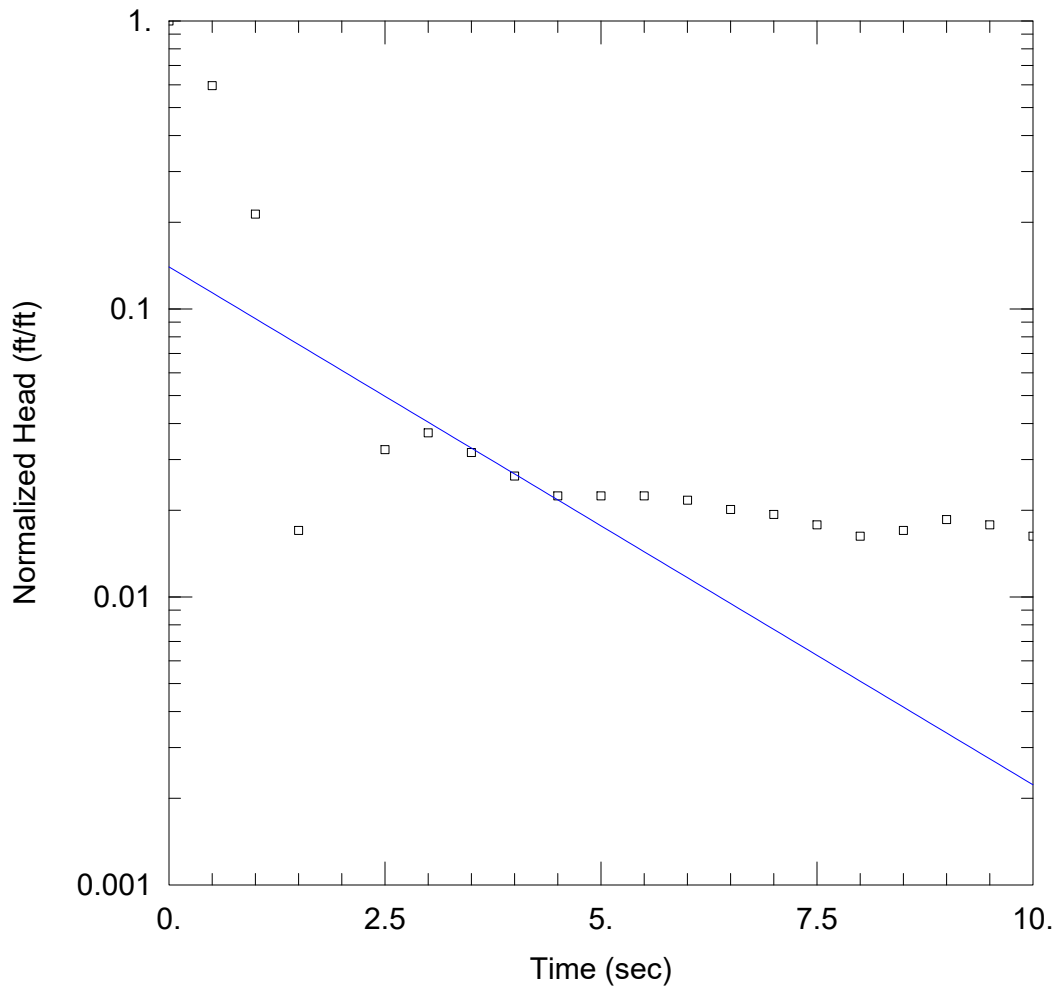
WELL DATA (XPW03)

Initial Displacement: 2.441 ft      Static Water Column Height: 13.25 ft  
 Total Well Penetration Depth: 4.7 ft      Screen Length: 4.7 ft  
 Casing Radius: 0.086 ft      Well Radius: 0.25 ft  
                                                  Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined      Solution Method: Bower-Rice  
 K = 0.227 cm/sec      y0 = 0.127 ft





XPW03 RH2

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW03  
 Test Date: 3/31/21

AQUIFER DATA

Saturated Thickness: 7.948 ft      Anisotropy Ratio ( $K_z/K_r$ ): 1.

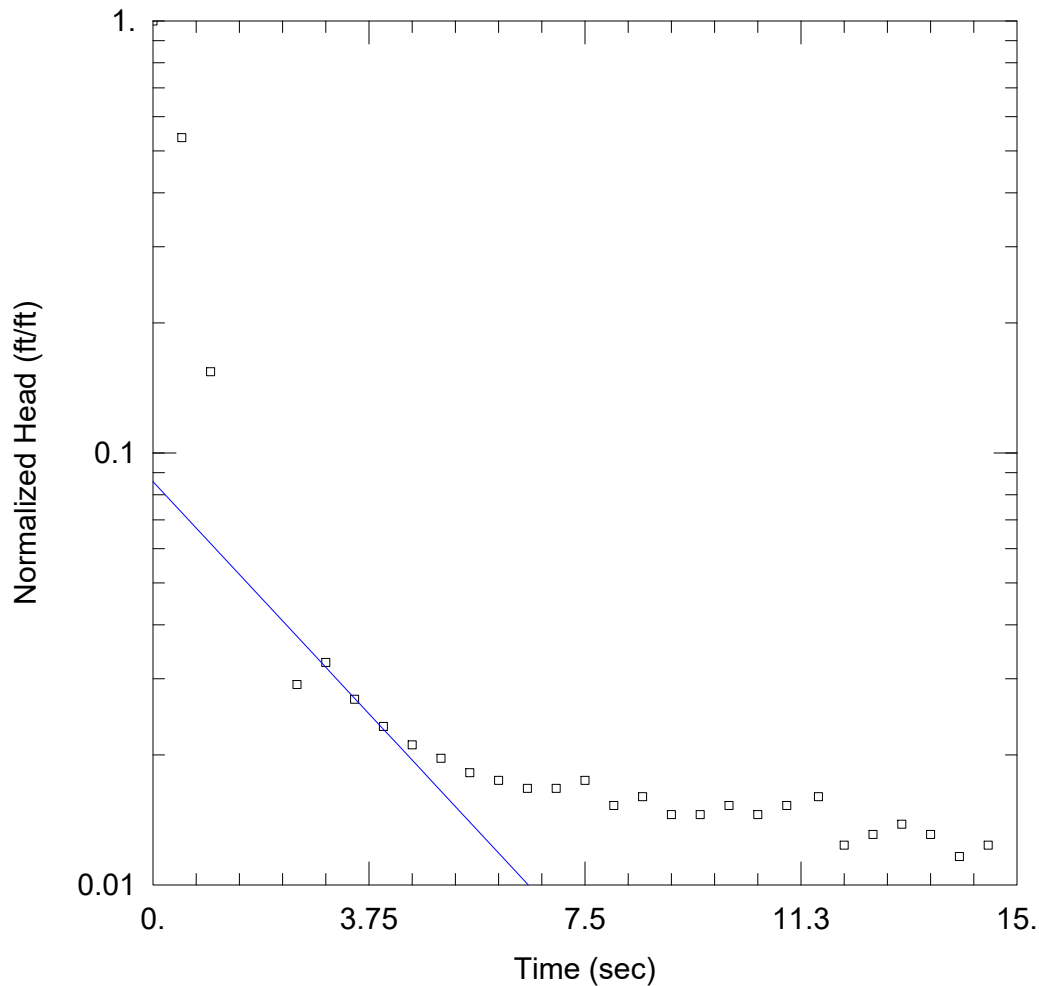
WELL DATA (XPW03)

Initial Displacement: -1.293 ft      Static Water Column Height: 13.25 ft  
 Total Well Penetration Depth: 4.7 ft      Screen Length: 4.7 ft  
 Casing Radius: 0.086 ft      Well Radius: 0.25 ft  
 Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined      Solution Method: Bower-Rice  
 $K = 0.117$  cm/sec       $y_0 = -0.181$  ft





### XPW03 RH3

#### PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW03  
 Test Date: 3/31/21

#### AQUIFER DATA

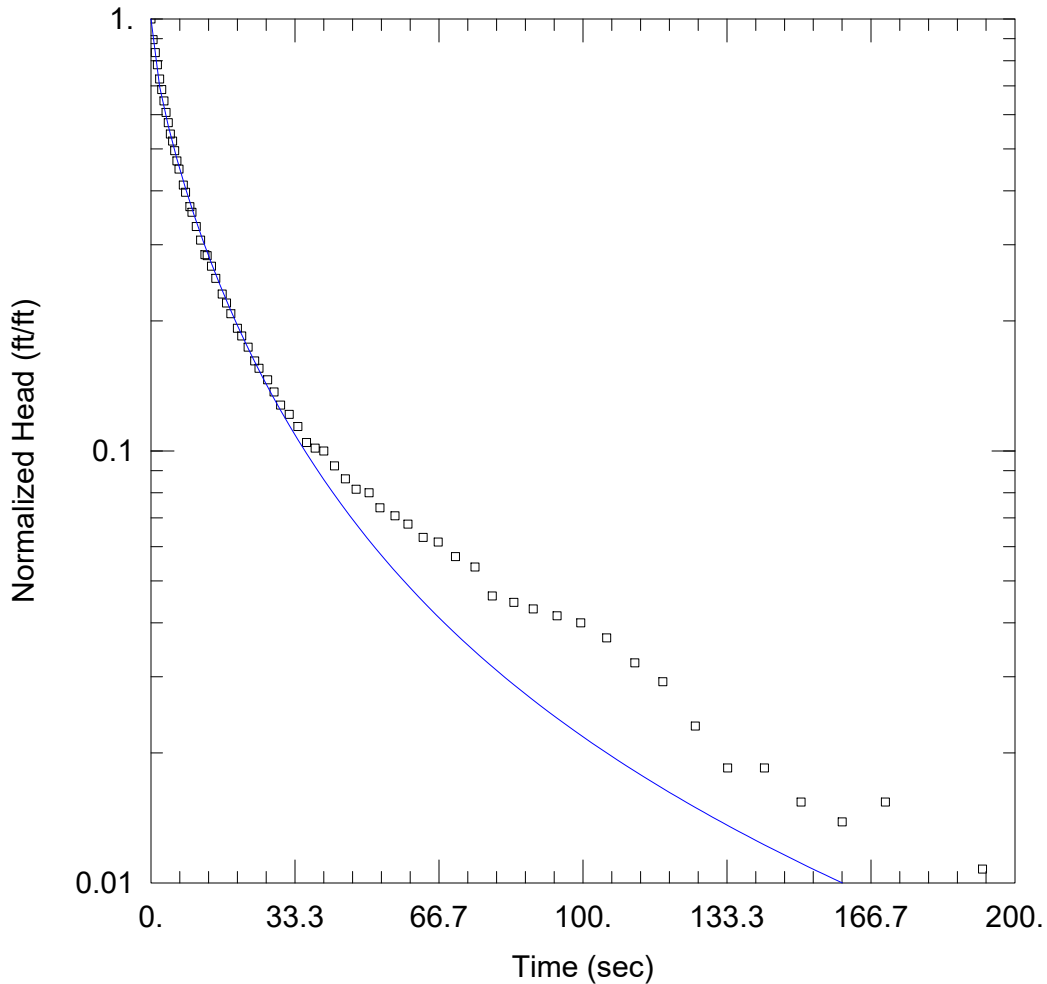
Saturated Thickness: 7.948 ft                      Anisotropy Ratio (Kz/Kr): 1.

#### WELL DATA (XPW03)

Initial Displacement: -1.375 ft                      Static Water Column Height: 13.25 ft  
 Total Well Penetration Depth: 4.7 ft                      Screen Length: 4.7 ft  
 Casing Radius: 0.086 ft                      Well Radius: 0.25 ft  
                                                                                                  Gravel Pack Porosity: 0.

#### SOLUTION

Aquifer Model: Unconfined                      Solution Method: Bower-Rice  
 K = 0.143 cm/sec                      y0 = -0.118 ft



XPW04 FH2

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW04  
 Test Date: 3/11/21

AQUIFER DATA

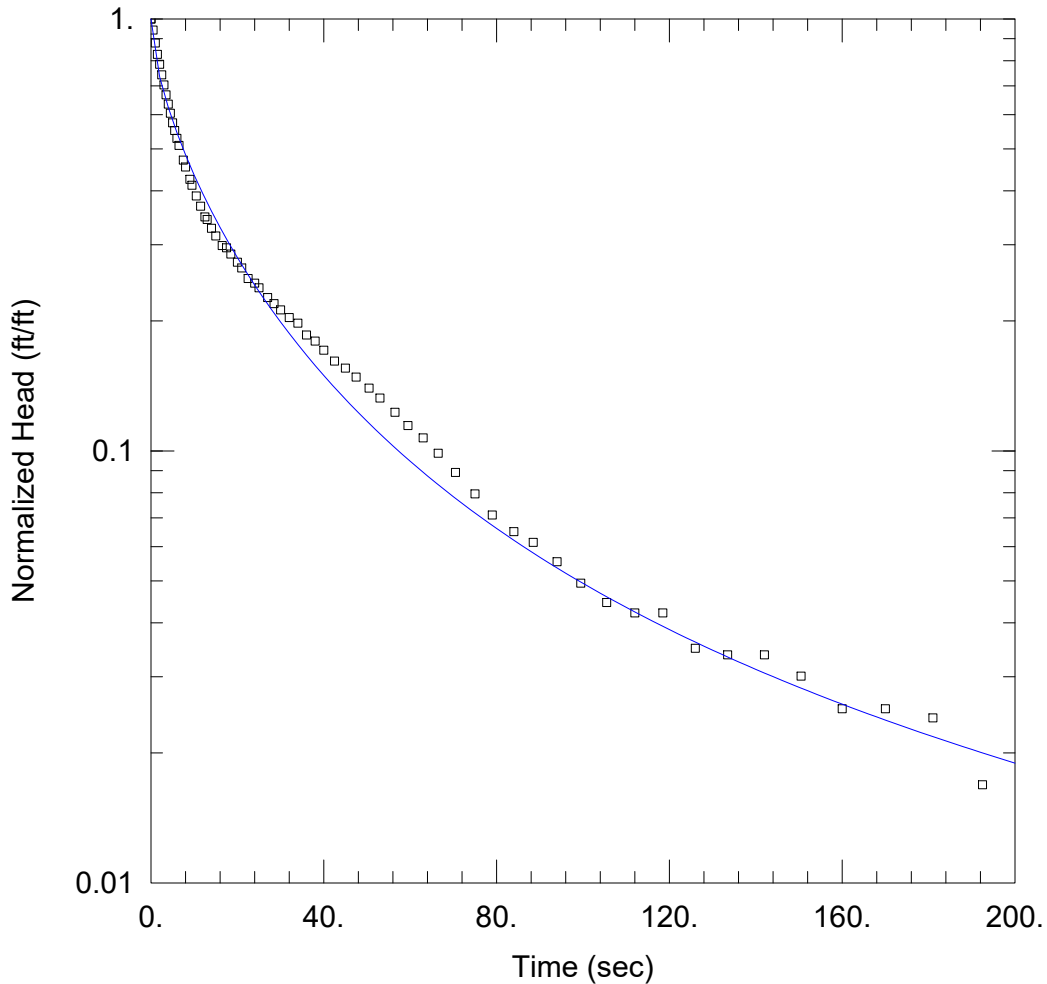
Saturated Thickness: 9.9 ft

WELL DATA (XPW04)

Initial Displacement: <u>0.65 ft</u>	Static Water Column Height: <u>10.4 ft</u>
Total Well Penetration Depth: <u>9.9 ft</u>	Screen Length: <u>9.5 ft</u>
Casing Radius: <u>0.086 ft</u>	Well Radius: <u>0.25 ft</u>
	Gravel Pack Porosity: <u>0.</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.0021</u> cm/sec	Ss = <u>0.00051</u> ft <sup>-1</sup>
Kz/Kr = <u>1.</u>	



XPW04 RH1

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW04  
 Test Date: 3/11/21

AQUIFER DATA

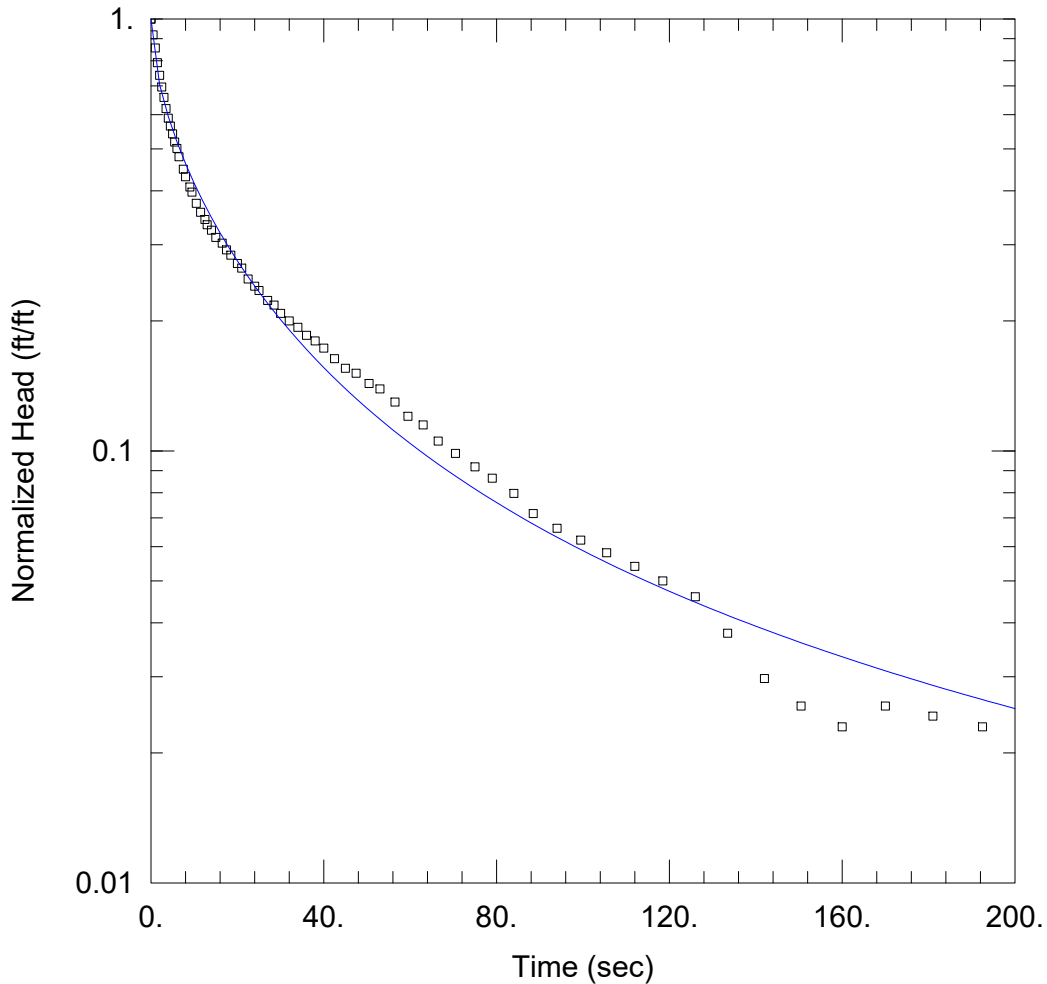
Saturated Thickness: 9.9 ft

WELL DATA (XPW04)

Initial Displacement: <u>0.83 ft</u>	Static Water Column Height: <u>10.4 ft</u>
Total Well Penetration Depth: <u>9.9 ft</u>	Screen Length: <u>9.5 ft</u>
Casing Radius: <u>0.086 ft</u>	Well Radius: <u>0.25 ft</u>
	Gravel Pack Porosity: <u>0.</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00122 cm/sec</u>	Ss = <u>0.00094 ft<sup>-1</sup></u>
Kz/Kr = <u>1.</u>	



XPW04 RH2

PROJECT INFORMATION

Company: Ramboll  
 Client: IPGC  
 Project: 1940100499-001  
 Location: Newton  
 Test Well: XPW04  
 Test Date: 3/11/21

AQUIFER DATA

Saturated Thickness: 9.9 ft

WELL DATA (XPW04)

Initial Displacement: <u>0.74 ft</u>	Static Water Column Height: <u>10.4 ft</u>
Total Well Penetration Depth: <u>9.9 ft</u>	Screen Length: <u>9.5 ft</u>
Casing Radius: <u>0.086 ft</u>	Well Radius: <u>0.25 ft</u>
	Gravel Pack Porosity: <u>0.</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>KGS Model</u>
Kr = <u>0.00101 cm/sec</u>	Ss = <u>0.0019 ft<sup>-1</sup></u>
Kz/Kr = <u>1.</u>	

## 2017 HYDRAULIC CONDUCTIVITY TEST DATA

**Appendix C - Table 1**  
**Newton Power Station**  
**Slug Test Results - Primary Ash Pond Wells (ID 501)**  
**Hydrogeologic Monitoring Plan**

Well ID	Slug In 1	Slug In 2	Slug In 3	Slug Out 1	Slug Out 2	Slug Out 3	Slug Out 4	MIN	MAX	GEOMEAN	Solution
APW2		4.41E-05		4.52E-05		3.45E-05		3.45E-05	4.52E-05	4.1E-05	Bouwer-Rice
APW3	8.44E-06			8.61E-06				8.44E-06	8.61E-06	8.5E-06	Bouwer-Rice
APW4	6.66E-06			5.14E-06				5.14E-06	6.66E-06	5.8E-06	Bouwer-Rice
APW5	5.66E-04	1.42E-03		1.54E-04	2.74E-04	2.56E-04		1.54E-04	1.42E-03	3.9E-04	Bouwer-Rice
APW6	1.64E-03	2.18E-03			2.09E-03	1.98E-03		1.64E-03	2.18E-03	2.0E-03	Bouwer-Rice
APW7	2.25E-03				3.24E-03	2.99E-03	2.75E-03	2.25E-03	3.24E-03	2.8E-03	Bouwer-Rice
APW8	6.60E-04	1.31E-03			1.06E-03	7.89E-04		6.60E-04	1.31E-03	9.2E-04	Bouwer-Rice
APW9	3.21E-03	3.28E-03		3.40E-03	3.00E-03			3.00E-03	3.40E-03	3.2E-03	Bouwer-Rice
APW10	5.27E-04	5.49E-04			5.73E-04	5.60E-04		5.27E-04	5.73E-04	5.5E-04	Bouwer-Rice

All slug test (i.e. hydraulic conductivity) results are in centimeters per second

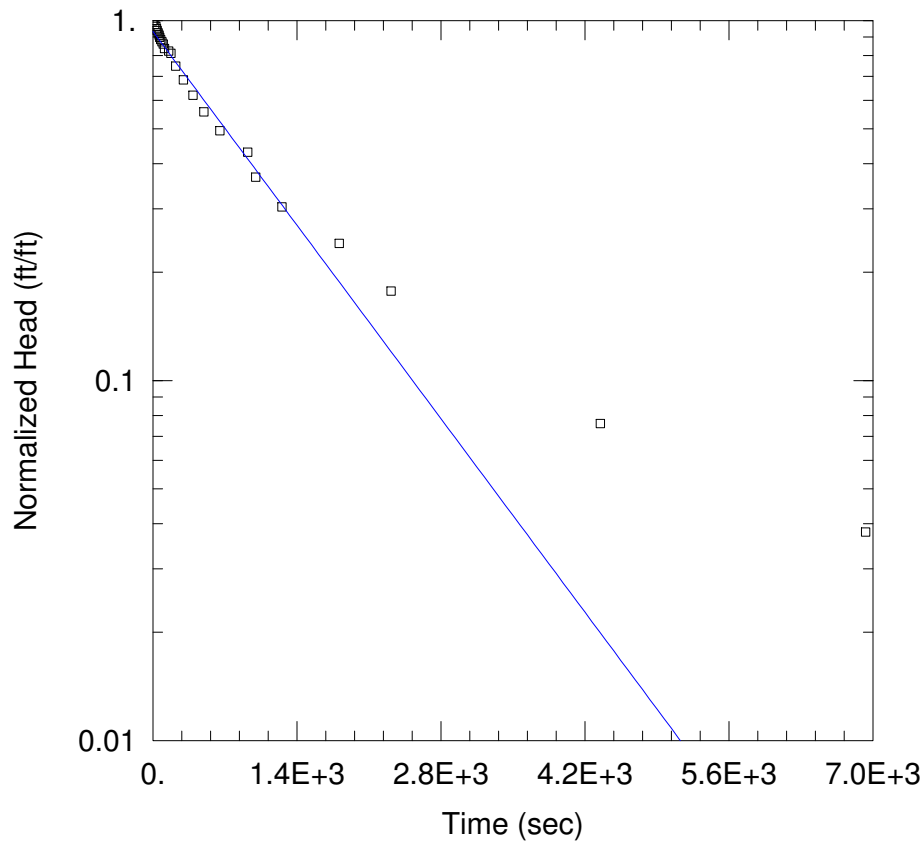
Not Applicable

**Appendix C - Table 2**  
**Newton Power Station**  
**Slug Test Results - Landfill 2 CCR Wells (ID 502)**  
**Hydrogeologic Monitoring Plan**

Well ID	Slug In 1	Slug In 2	Slug In 3	Slug Out 1	Slug Out 2	Slug Out 3	MIN	MAX	GEOMEAN	Solution
G06D				3.92E-08			3.92E-08	3.92E-08	3.9E-08	Bouwer-Rice
G202	1.70E-02	1.43E-02			2.87E-02	2.33E-02	1.43E-02	2.87E-02	2.0E-02	Bouwer-Rice
G203	2.53E-02			2.42E-02	3.47E-02		2.42E-02	3.47E-02	2.8E-02	Bouwer-Rice
G208				1.32E-08			1.32E-08	1.32E-08	1.3E-08	Bouwer-Rice
G217D	2.27E-04	2.92E-04				3.03E-04	2.27E-04	3.03E-04	2.7E-04	Bouwer-Rice
G220				3.51E-07			3.51E-07	3.51E-07	3.5E-07	Bouwer-Rice
G222				1.54E-06			1.54E-06	1.54E-06	1.5E-06	Bouwer-Rice
G223	5.19E-05	2.50E-05		1.37E-05	1.79E-05		1.37E-05	5.19E-05	2.4E-05	Bouwer-Rice
G224	5.15E-02	1.90E-02	4.64E-02	4.31E-02		2.97E-02	1.90E-02	5.15E-02	3.6E-02	Bouwer-Rice

All slug test (i.e. hydraulic conductivity) results are in centimeters per second

Not Applicable



### WELL TEST ANALYSIS

Data Set: P:\...\APW2 SI2.aqt

Date: 10/09/17

Time: 15:04:26

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW2

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 4.414E-5$  cm/sec

$y_0 = 0.7361$  ft

### AQUIFER DATA

Saturated Thickness: 9. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW2 SI2)

Initial Displacement: 0.79 ft

Total Well Penetration Depth: 6.4 ft

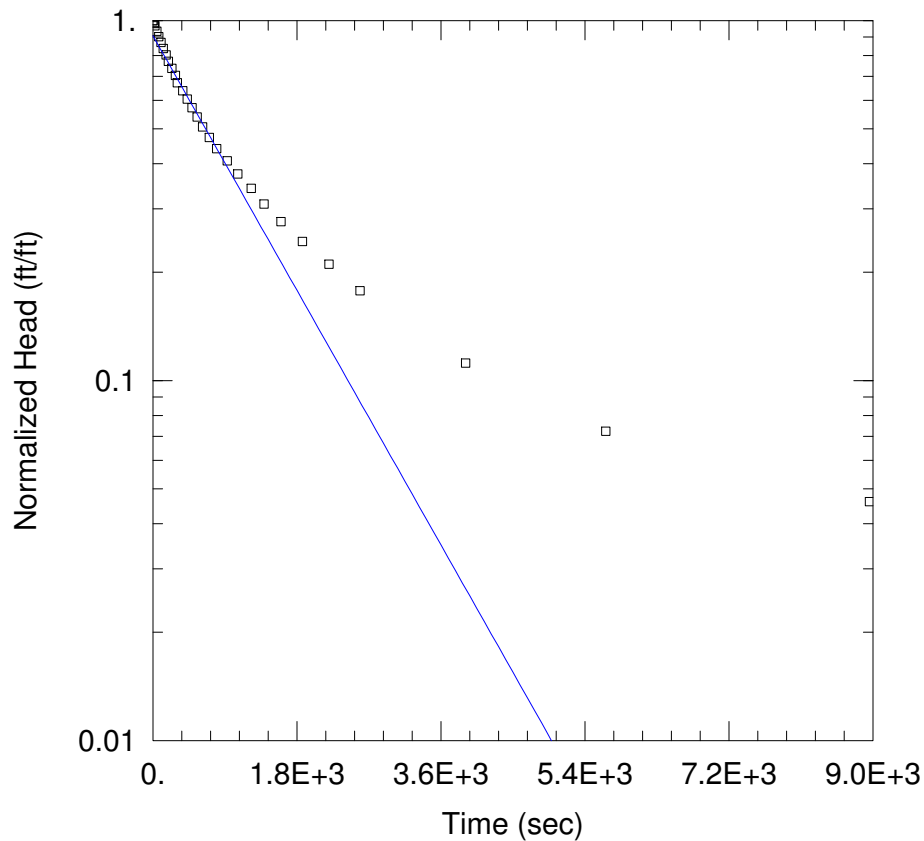
Casing Radius: 0.08333 ft

Static Water Column Height: 9. ft

Screen Length: 3.4 ft

Well Radius: 0.3458 ft





### WELL TEST ANALYSIS

Data Set: P:\...\APW2 SO1.aqt  
 Date: 10/09/17 Time: 15:05:33

### PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW2  
 Test Date: 4/6/17

### SOLUTION

Aquifer Model: Unconfined  
 Solution Method: Bouwer-Rice  
 $K = 4.517E-5$  cm/sec  
 $y_0 = 1.38$  ft

### AQUIFER DATA

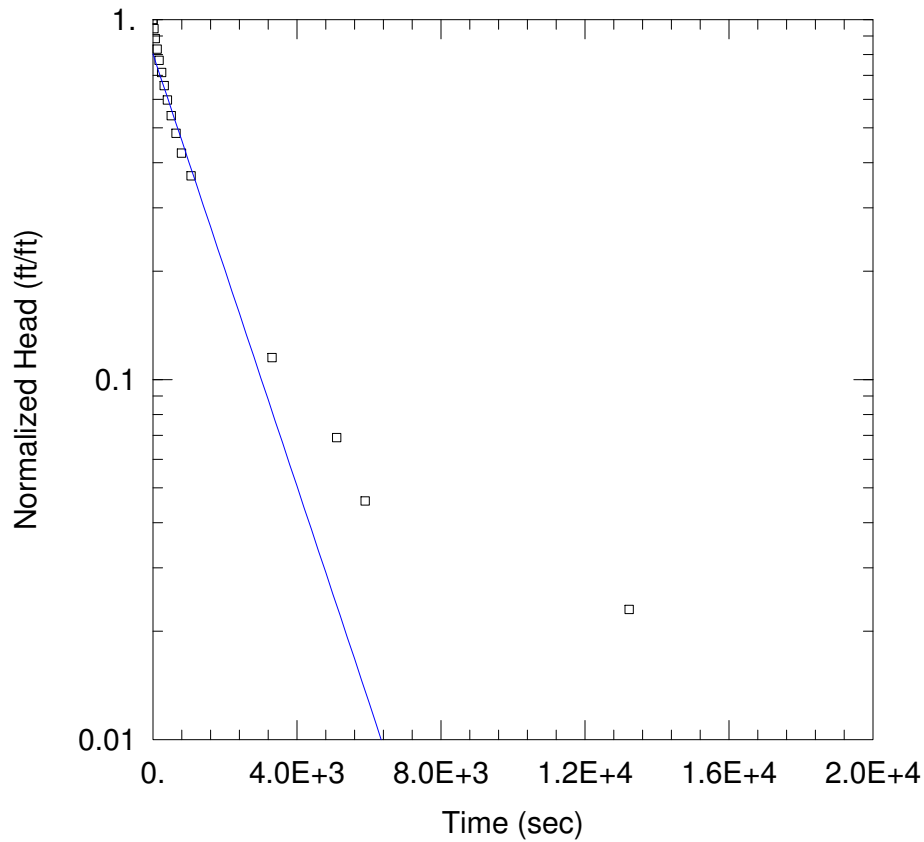
Saturated Thickness: 9. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW2 SO1)

Initial Displacement: 1.52 ft  
 Total Well Penetration Depth: 6.4 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 9. ft  
 Screen Length: 3.4 ft  
 Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW2 SO3.aqt

Date: 10/09/17

Time: 15:06:23

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW2

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 3.449E-5$  cm/sec

$y_0 = 0.698$  ft

### AQUIFER DATA

Saturated Thickness: 9. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW2 SO3)

Initial Displacement: 0.87 ft

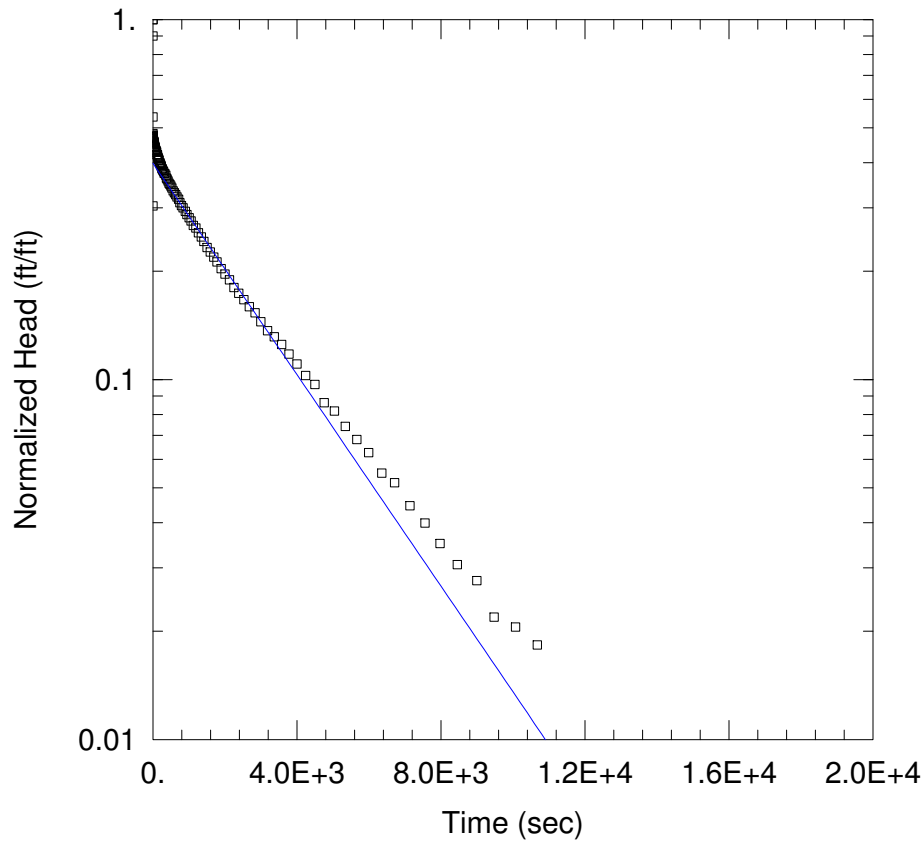
Total Well Penetration Depth: 6.4 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 9. ft

Screen Length: 3.4 ft

Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\APW 3 SI1.aqt  
 Date: 10/09/17 Time: 15:13:21

PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW3  
 Test Date: 4/6/17

SOLUTION

Aquifer Model: Unconfined  
 Solution Method: Bouwer-Rice  
 $K = 8.437E-6$  cm/sec  
 $y_0 = 1.458$  ft

AQUIFER DATA

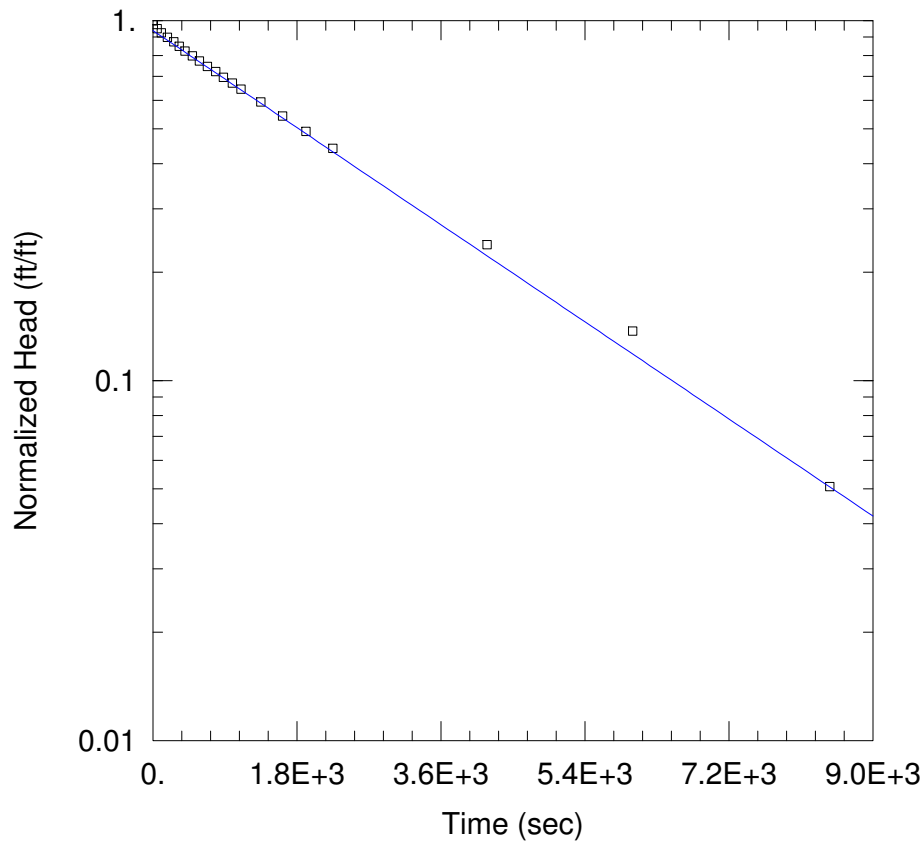
Saturated Thickness: 14. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW3 SI1)

Initial Displacement: 3.656 ft  
 Total Well Penetration Depth: 11.5 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 14. ft  
 Screen Length: 10. ft  
 Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW 3 SO1.aqt

Date: 10/09/17

Time: 15:08:16

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW3

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 8.611E-6$  cm/sec

$y_0 = 1.848$  ft

### AQUIFER DATA

Saturated Thickness: 14. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW3 SO1)

Initial Displacement: 1.97 ft

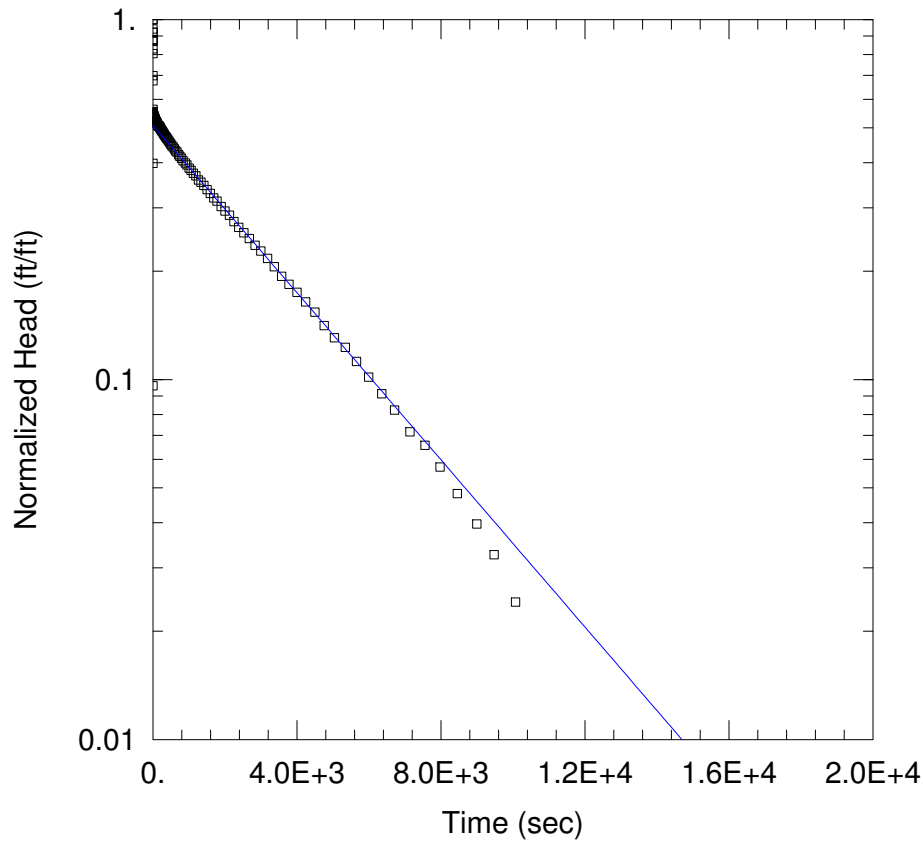
Total Well Penetration Depth: 11.5 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 14. ft

Screen Length: 10. ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW 4 S11.aqt

Date: 10/09/17

Time: 15:15:09

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW4

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 6.66E-6$  cm/sec

$y_0 = 1.37$  ft

### AQUIFER DATA

Saturated Thickness: 11. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW4 S11)

Initial Displacement: 2.697 ft

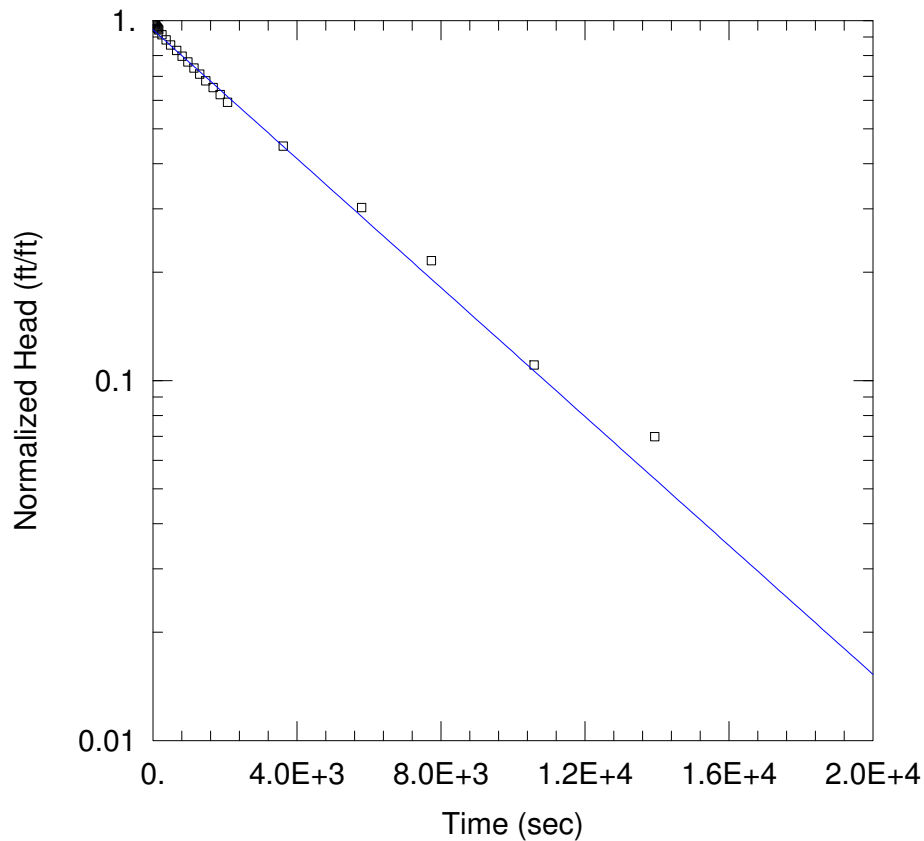
Total Well Penetration Depth: 10. ft

Casing Radius: 0.08333 ft

Static Water Column Height: 11. ft

Screen Length: 10. ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW 4 SO1.aqt

Date: 10/09/17

Time: 15:15:46

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW4

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 5.137E-6$  cm/sec

$y_0 = 1.622$  ft

### AQUIFER DATA

Saturated Thickness: 11. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW4 SO1)

Initial Displacement: 1.72 ft

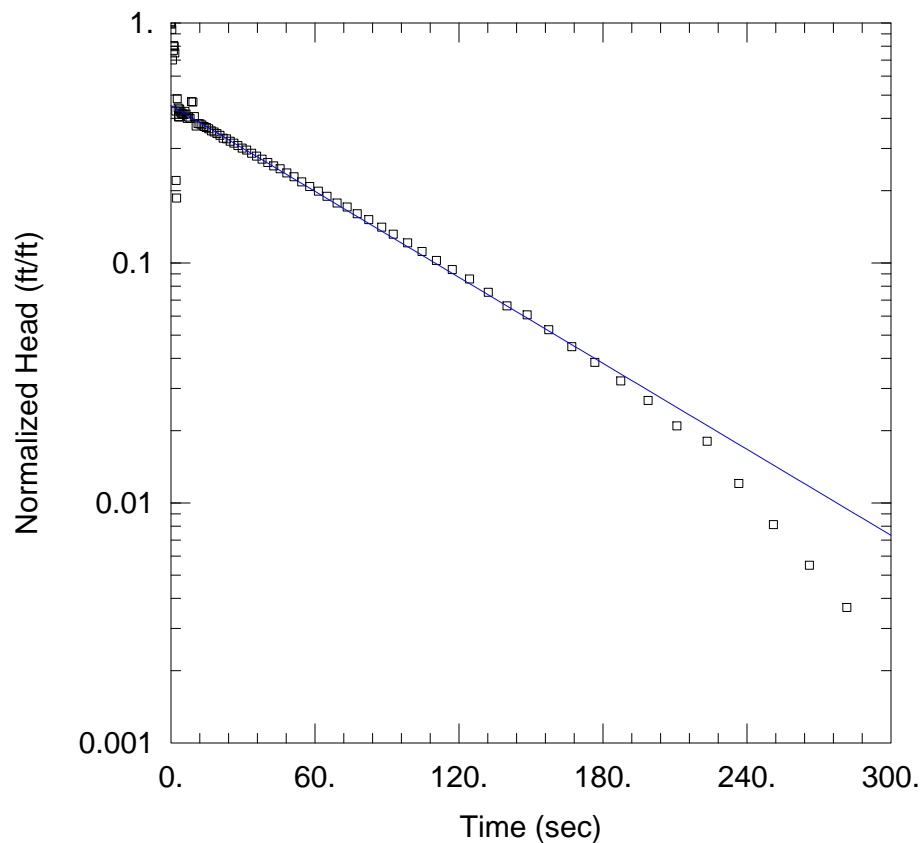
Total Well Penetration Depth: 10. ft

Casing Radius: 0.08333 ft

Static Water Column Height: 11. ft

Screen Length: 10. ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW5 SI1.aqt

Date: 06/15/17

Time: 11:53:01

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW5

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 0.0005655$  cm/sec

$y_0 = 1.731$  ft

### AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW5 SI1)

Initial Displacement: 3.818 ft

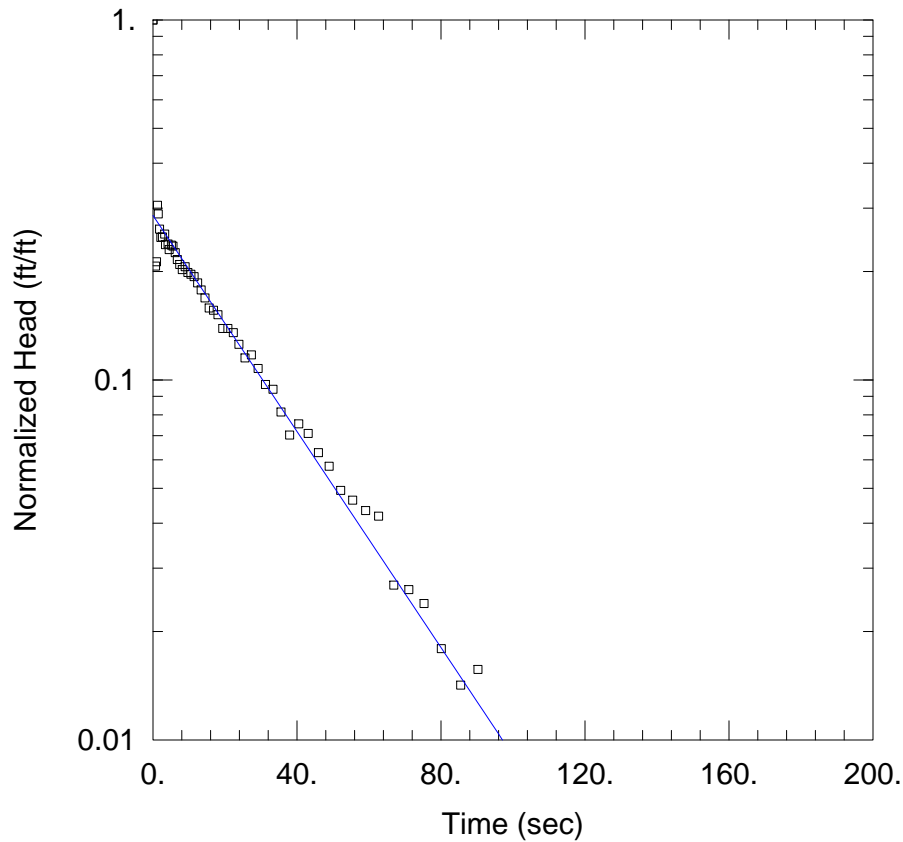
Total Well Penetration Depth: 6.81 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 4.68 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW5 SI2.aqt

Date: 05/12/17

Time: 17:23:52

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW5

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.001421$  cm/sec

$y_0 = 0.383$  ft

### AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW5 SI2)

Initial Displacement: 1.338 ft

Total Well Penetration Depth: 6.81 ft

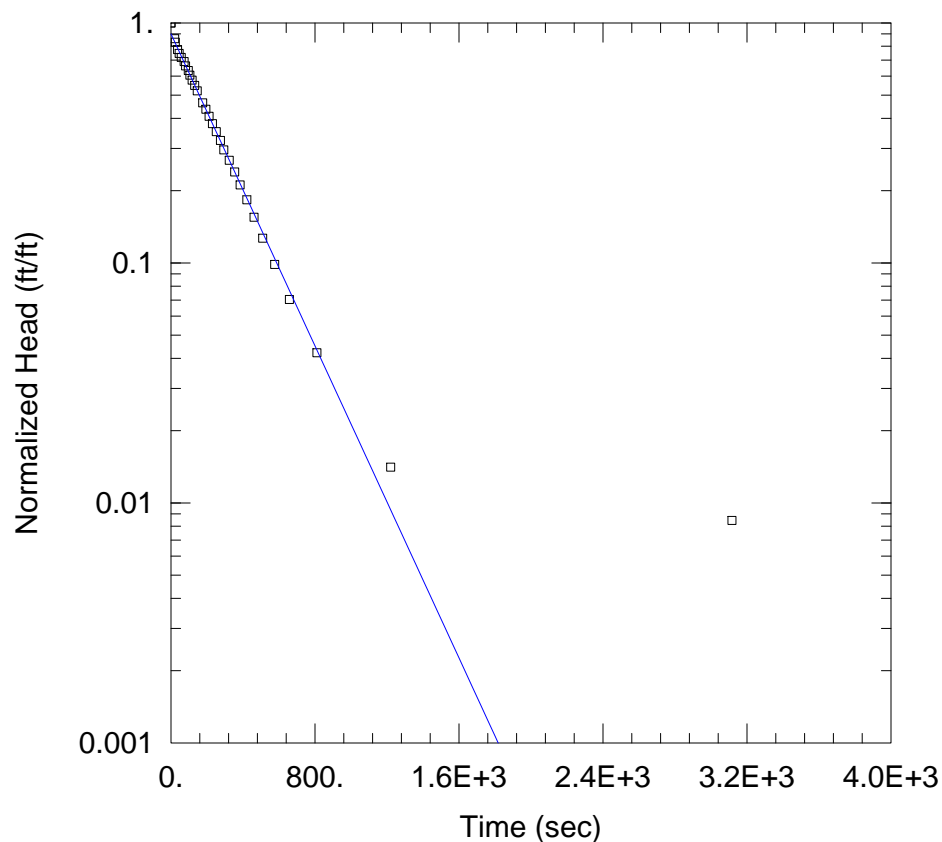
Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 4.68 ft

Well Radius: 0.3458 ft





### WELL TEST ANALYSIS

Data Set: P:\...\APW5 SO1.aqt

Date: 05/12/17

Time: 17:30:12

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW5

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.0001539$  cm/sec

$y_0 = 3.197$  ft

### AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW5 SO1)

Initial Displacement: 3.55 ft

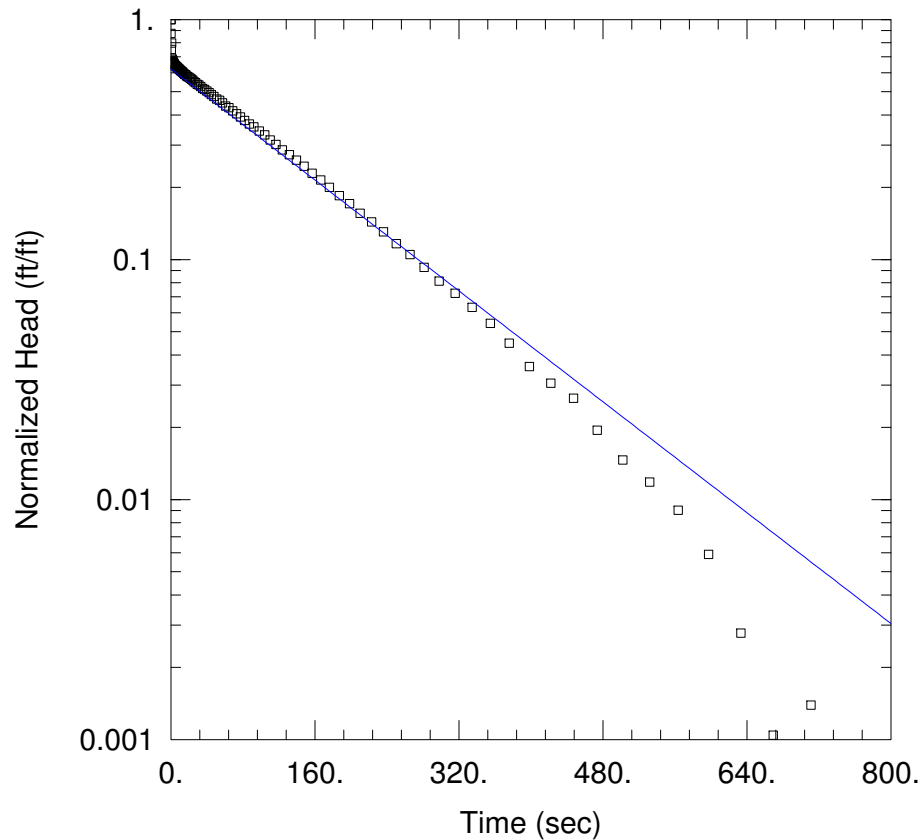
Total Well Penetration Depth: 6.81 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 4.68 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW5 SO2.aqt

Date: 10/09/17

Time: 14:59:07

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW5

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.0002735$  cm/sec

$y_0 = 1.789$  ft

### AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW5 SO2)

Initial Displacement: 2.879 ft

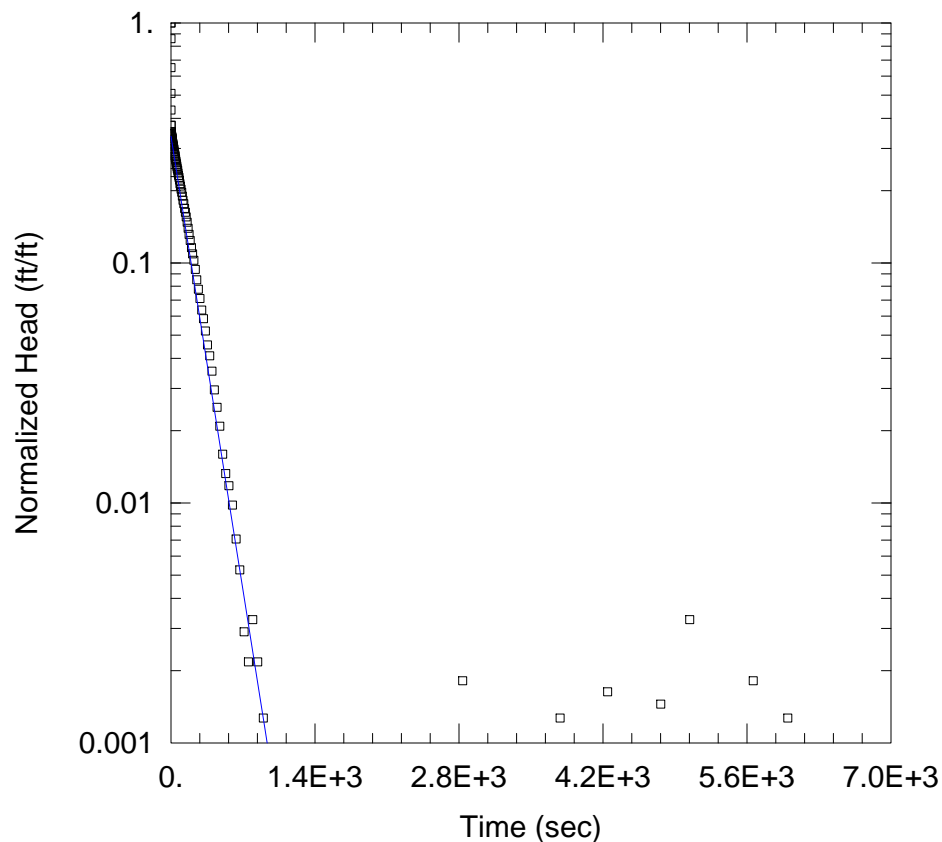
Total Well Penetration Depth: 6.81 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 4.68 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW5 SO3.aqt

Date: 06/15/17

Time: 11:57:15

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW5

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.0002559$  cm/sec

$y_0 = 1.858$  ft

### AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW5 SO3)

Initial Displacement: 5.512 ft

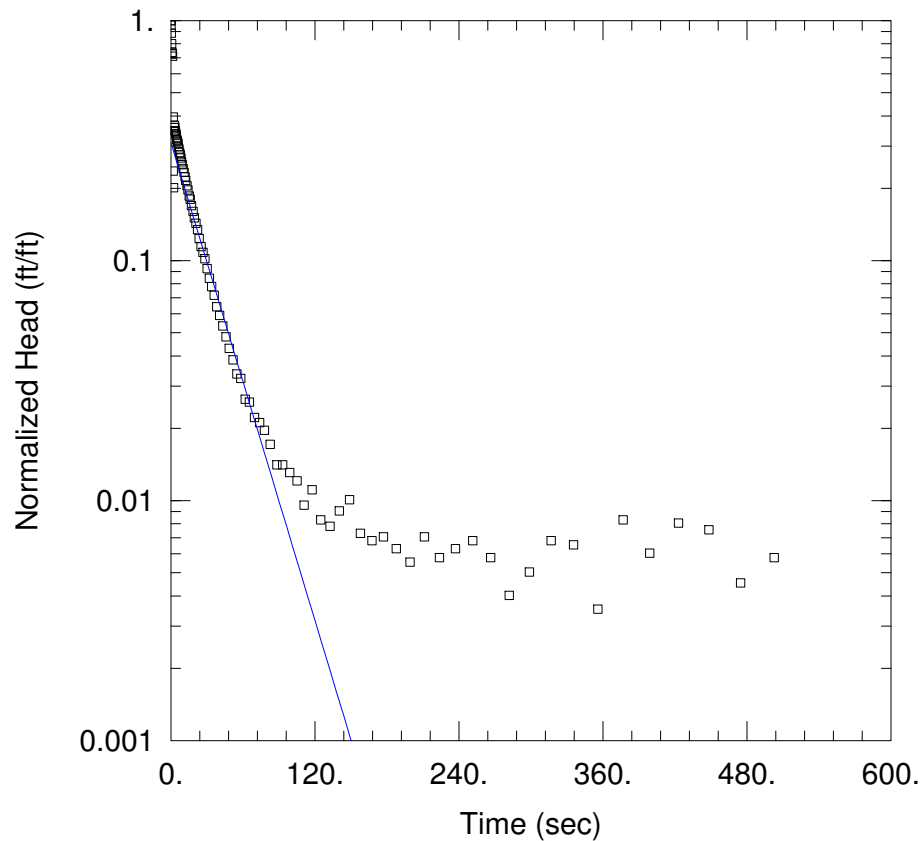
Total Well Penetration Depth: 6.81 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 4.68 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW6 SI1.aqt

Date: 10/10/17

Time: 08:43:51

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW6

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.001642$  cm/sec

$y_0 = 1.231$  ft

### AQUIFER DATA

Saturated Thickness: 6.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW6 SI1)

Initial Displacement: 3.973 ft

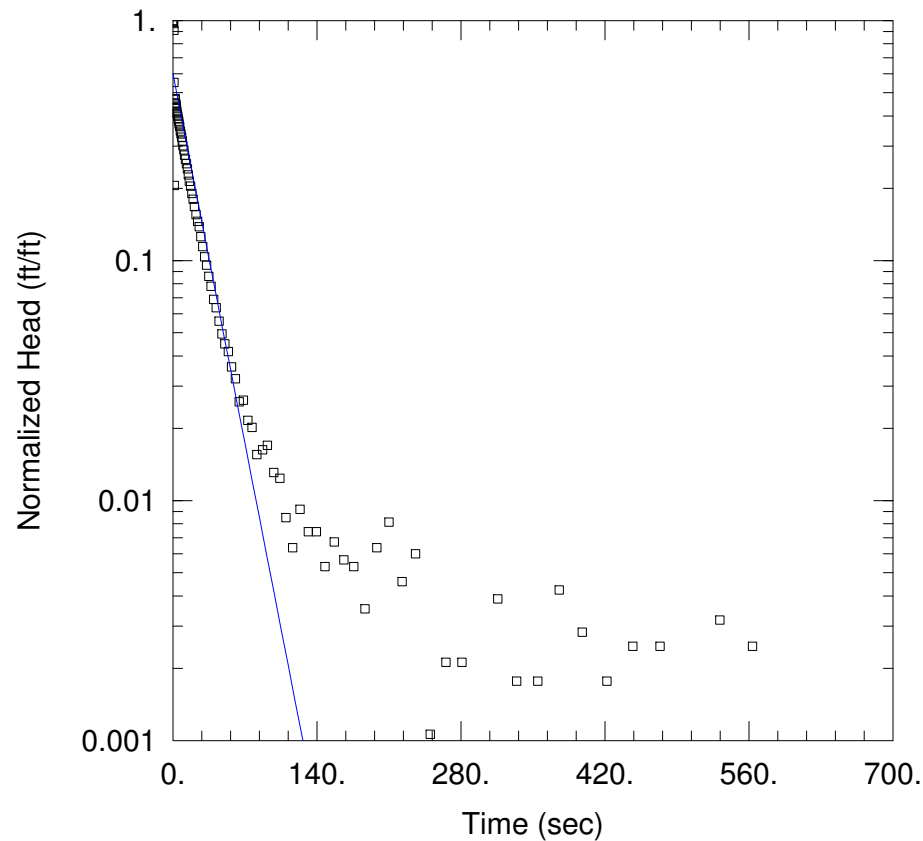
Total Well Penetration Depth: 3.3 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 6.5 ft

Screen Length: 3.3 ft

Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\APW6 SI2.aqt

Date: 10/10/17

Time: 08:45:57

PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW6

Test Date: 4/6/17

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.002177$  cm/sec

$y_0 = 1.702$  ft

AQUIFER DATA

Saturated Thickness: 6.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW6 SI2)

Initial Displacement: 2.83 ft

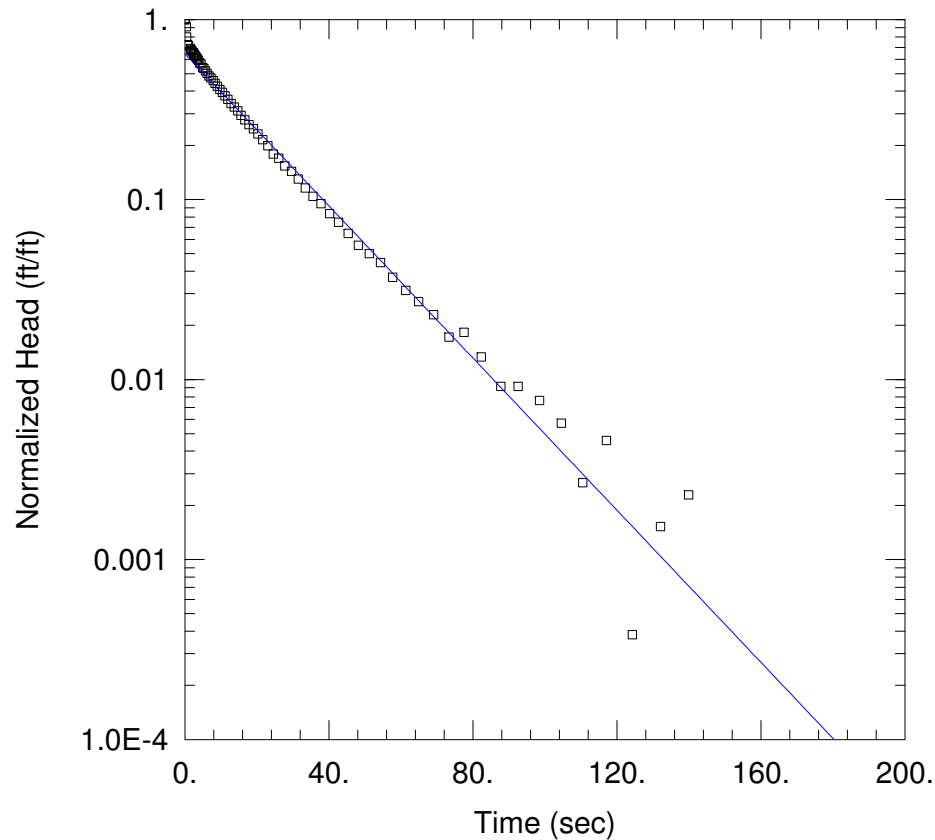
Total Well Penetration Depth: 3.3 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 6.5 ft

Screen Length: 3.3 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW6 SO2.aqt

Date: 10/10/17

Time: 08:48:43

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW6

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.002091$  cm/sec

$y_0 = 1.689$  ft

### AQUIFER DATA

Saturated Thickness: 6.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW6 SO2)

Initial Displacement: 2.62 ft

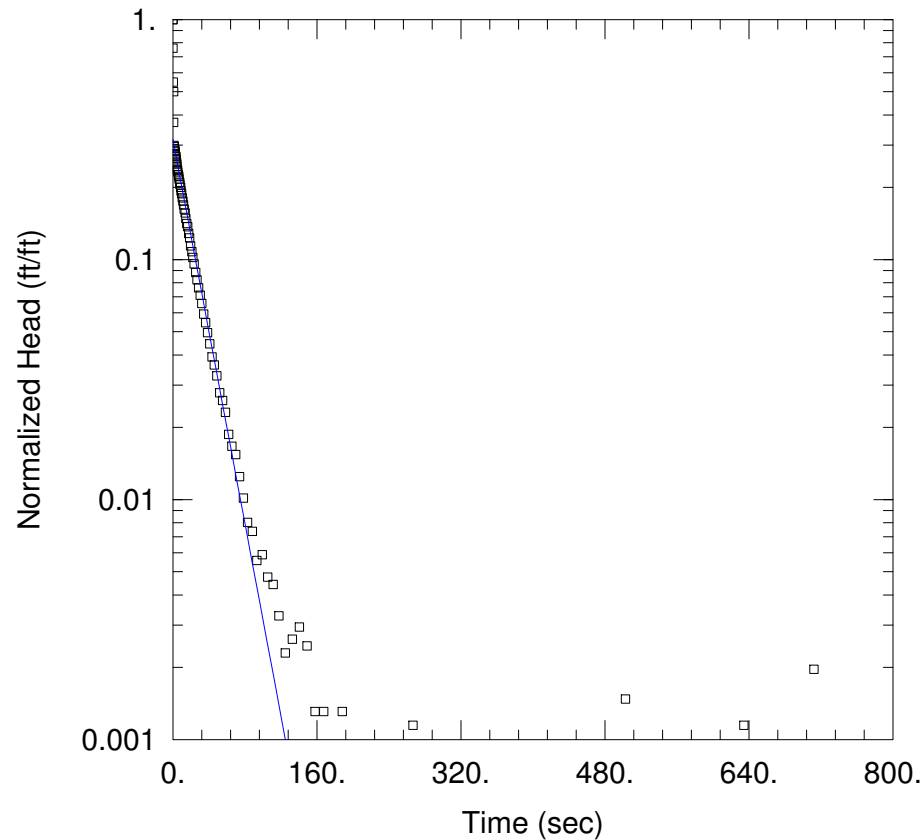
Total Well Penetration Depth: 3.3 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 6.5 ft

Screen Length: 3.3 ft

Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\APW6 SO3.aqt  
 Date: 10/10/17 Time: 08:51:05

PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW6  
 Test Date: 4/6/17

SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 0.001979$  cm/sec  
 $y_0 = 1.936$  ft

AQUIFER DATA

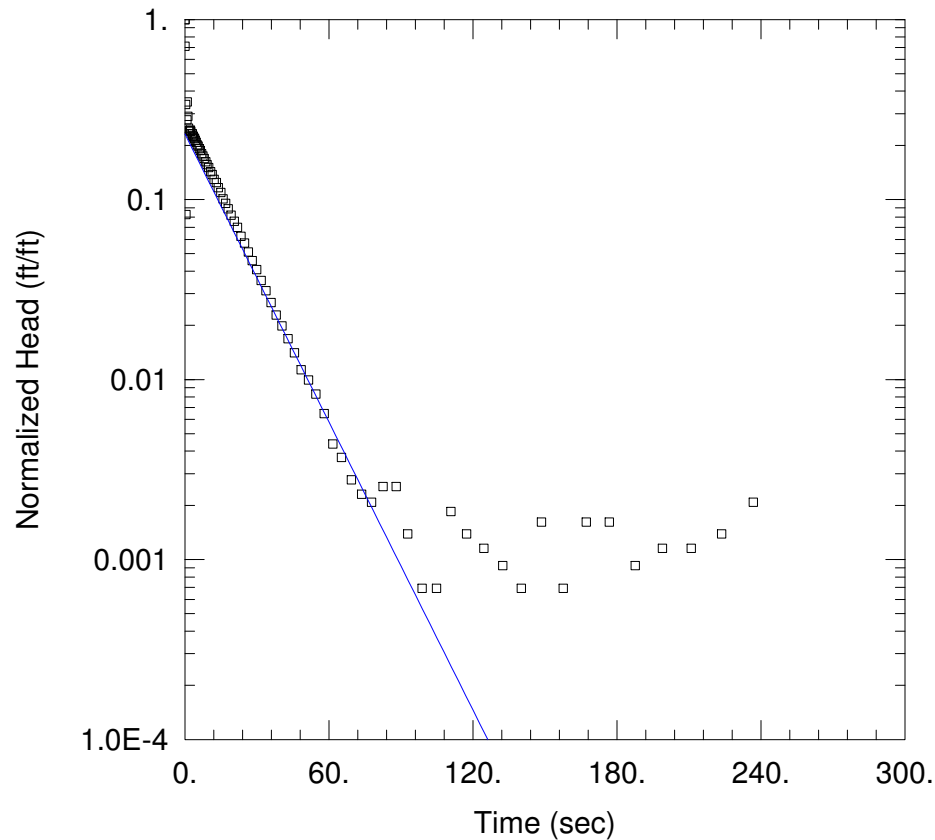
Saturated Thickness: 6.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW6 SO3)

Initial Displacement: 6.109 ft  
 Total Well Penetration Depth: 3.3 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 6.5 ft  
 Screen Length: 3.3 ft  
 Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW7 SI1.aqt

Date: 10/10/17

Time: 09:03:20

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW7

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.00225$  cm/sec

$y_0 = 1.004$  ft

### AQUIFER DATA

Saturated Thickness: 7.1 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW7 SI1)

Initial Displacement: 4.331 ft

Total Well Penetration Depth: 4.8 ft

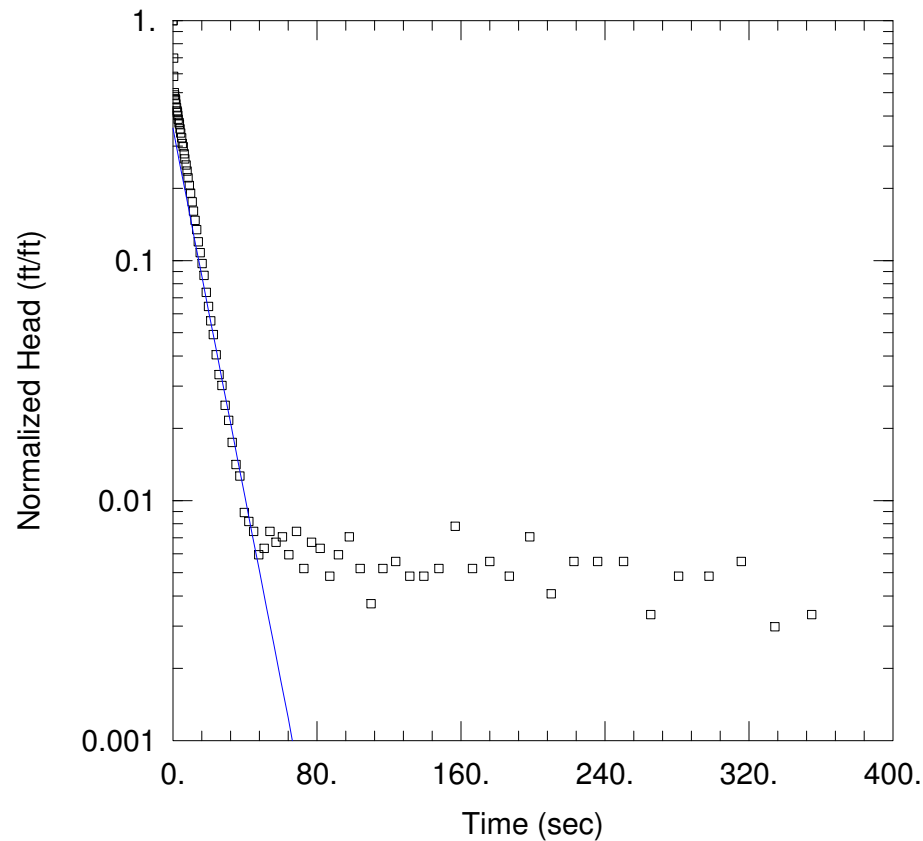
Casing Radius: 0.08333 ft

Static Water Column Height: 7.1 ft

Screen Length: 4.8 ft

Well Radius: 0.3458 ft





### WELL TEST ANALYSIS

Data Set: P:\...\APW7 S02.aqt

Date: 10/10/17

Time: 09:05:47

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW7

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.003237$  cm/sec

$y_0 = 0.9561$  ft

### AQUIFER DATA

Saturated Thickness: 7.1 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW7 S02)

Initial Displacement: 2.69 ft

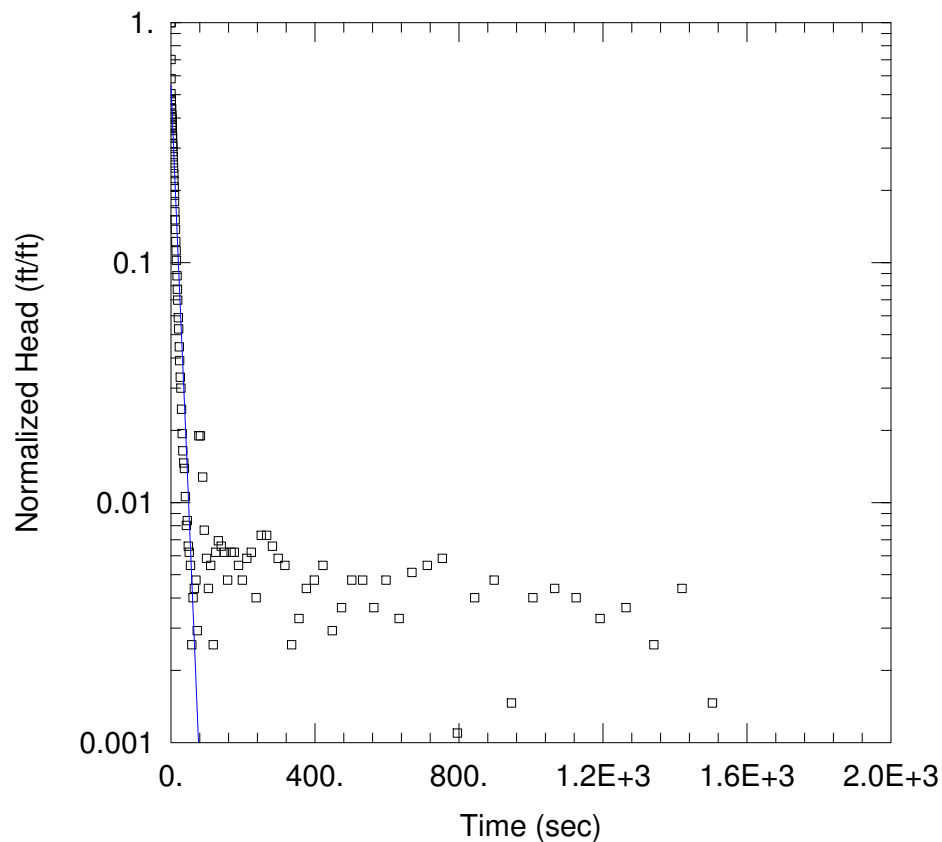
Total Well Penetration Depth: 4.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 7.1 ft

Screen Length: 4.8 ft

Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\APW7 S03.aqt  
 Date: 10/10/17 Time: 09:07:38

PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW7  
 Test Date: 4/6/17

SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 0.002989$  cm/sec  
 $y_0 = 1.503$  ft

AQUIFER DATA

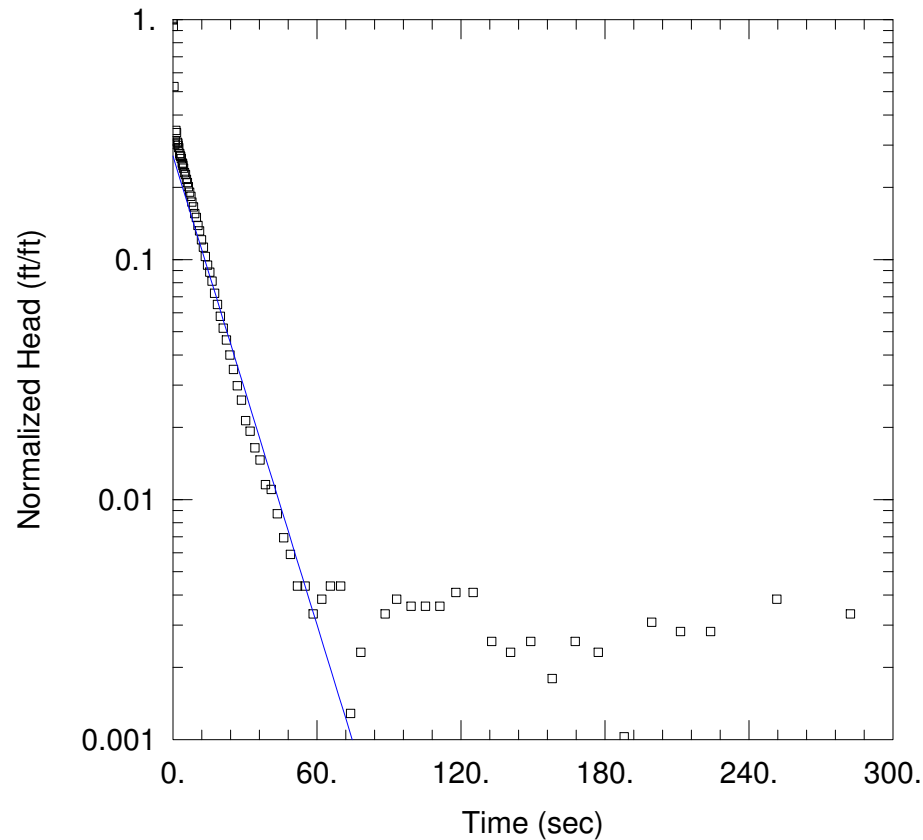
Saturated Thickness: 7.1 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW7 S03)

Initial Displacement: 2.738 ft  
 Total Well Penetration Depth: 4.8 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 7.1 ft  
 Screen Length: 4.8 ft  
 Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\APW7 SO4.aqt  
 Date: 10/10/17 Time: 09:09:26

PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW7  
 Test Date: 4/6/17

SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 0.002745$  cm/sec  
 $y_0 = 1.052$  ft

AQUIFER DATA

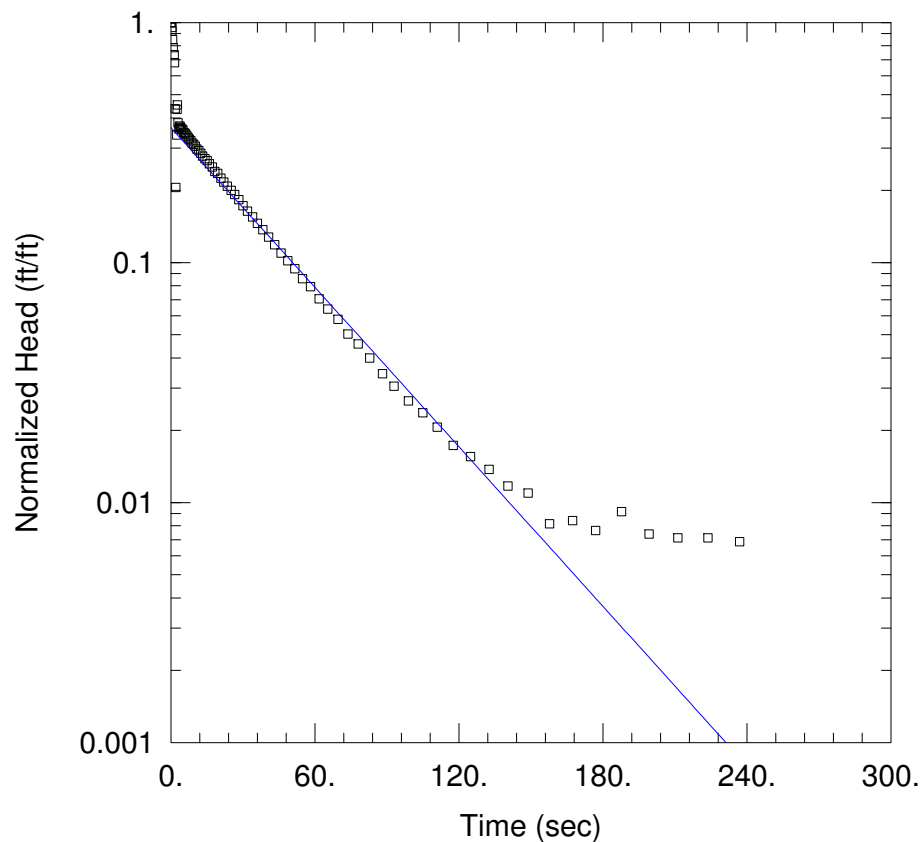
Saturated Thickness: 7.1 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW7 SO4)

Initial Displacement: 3.899 ft  
 Total Well Penetration Depth: 4.8 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 7.1 ft  
 Screen Length: 4.8 ft  
 Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW8 SI1.aqt

Date: 10/10/17

Time: 09:12:16

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW8

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.0006602$  cm/sec

$y_0 = 1.431$  ft

### AQUIFER DATA

Saturated Thickness: 16.3 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW8 SI1)

Initial Displacement: 3.929 ft

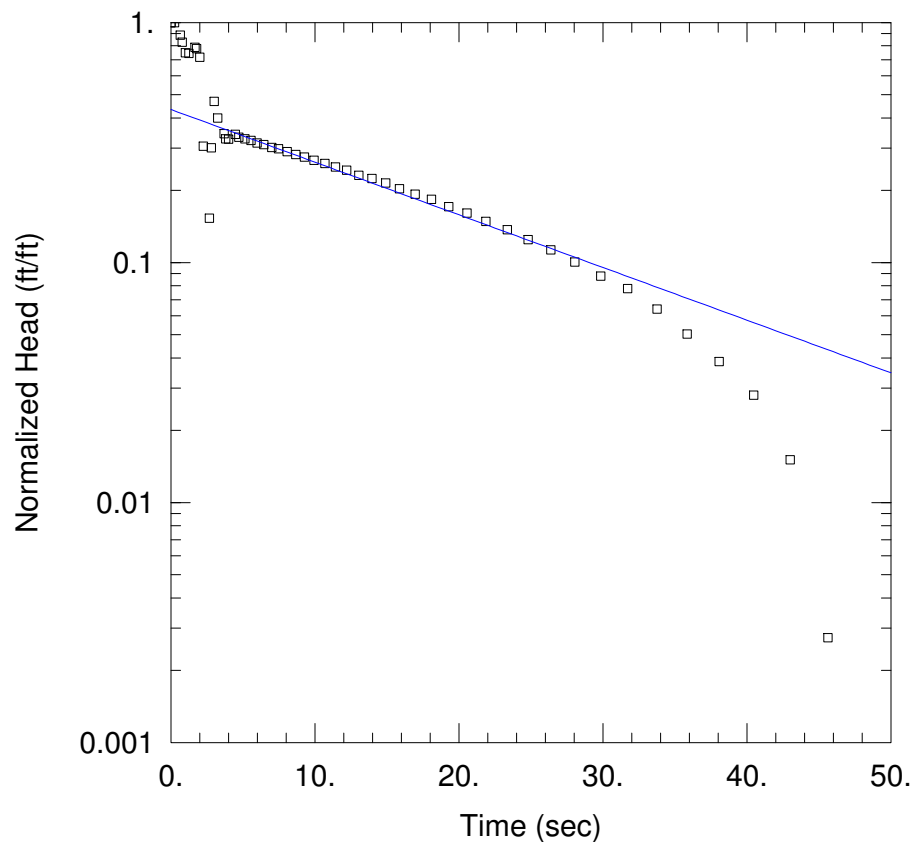
Total Well Penetration Depth: 12.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 16.3 ft

Screen Length: 9.7 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW8 SI2.aqt

Date: 10/10/17

Time: 09:39:50

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW8

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.001308$  cm/sec

$y_0 = 1.269$  ft

### AQUIFER DATA

Saturated Thickness: 16.3 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW8 SI2)

Initial Displacement: 2.924 ft

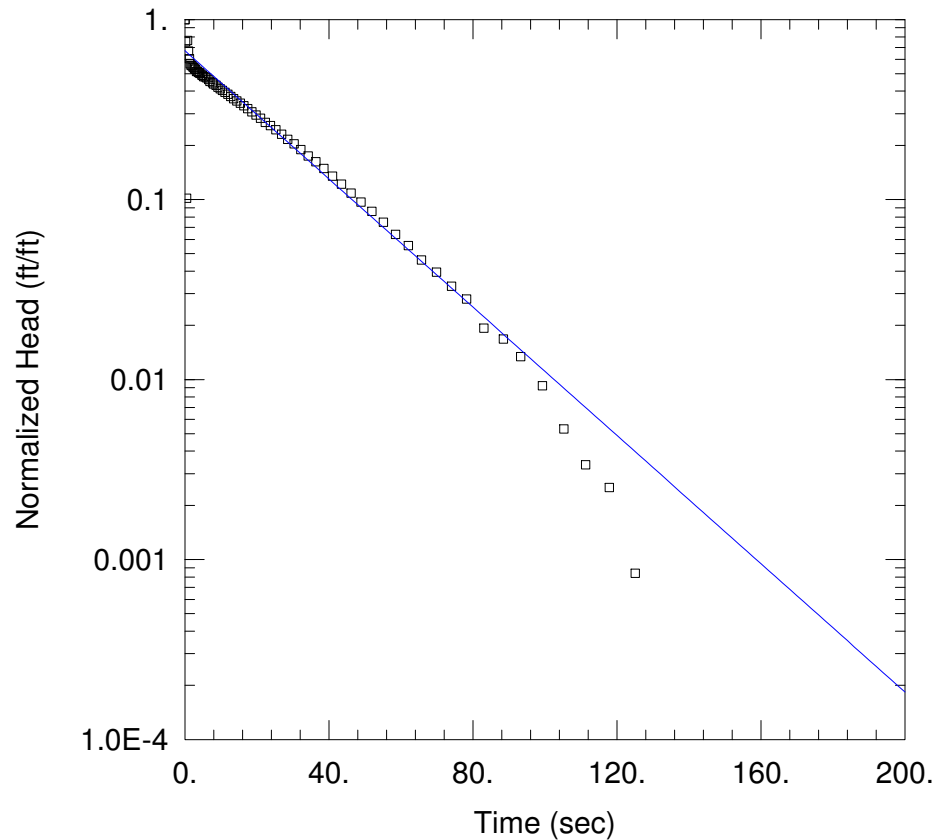
Total Well Penetration Depth: 12.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 16.3 ft

Screen Length: 9.7 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW8 SO2.aqt

Date: 10/10/17

Time: 09:41:42

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW8

Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.001062$  cm/sec

$y_0 = 2.403$  ft

### AQUIFER DATA

Saturated Thickness: 16.3 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW8 SO2)

Initial Displacement: 3.577 ft

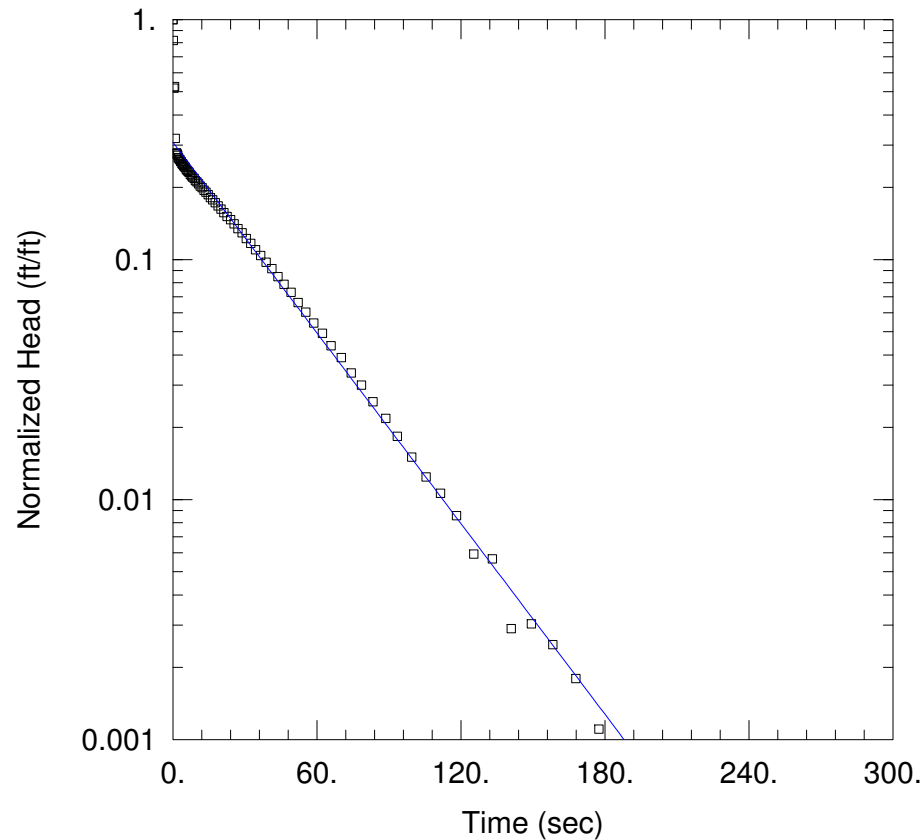
Total Well Penetration Depth: 12.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 16.3 ft

Screen Length: 9.7 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW8 SO3.aqt  
 Date: 10/10/17 Time: 09:43:26

### PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW8  
 Test Date: 4/6/17

### SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 0.0007891$  cm/sec  
 $y_0 = 2.233$  ft

### AQUIFER DATA

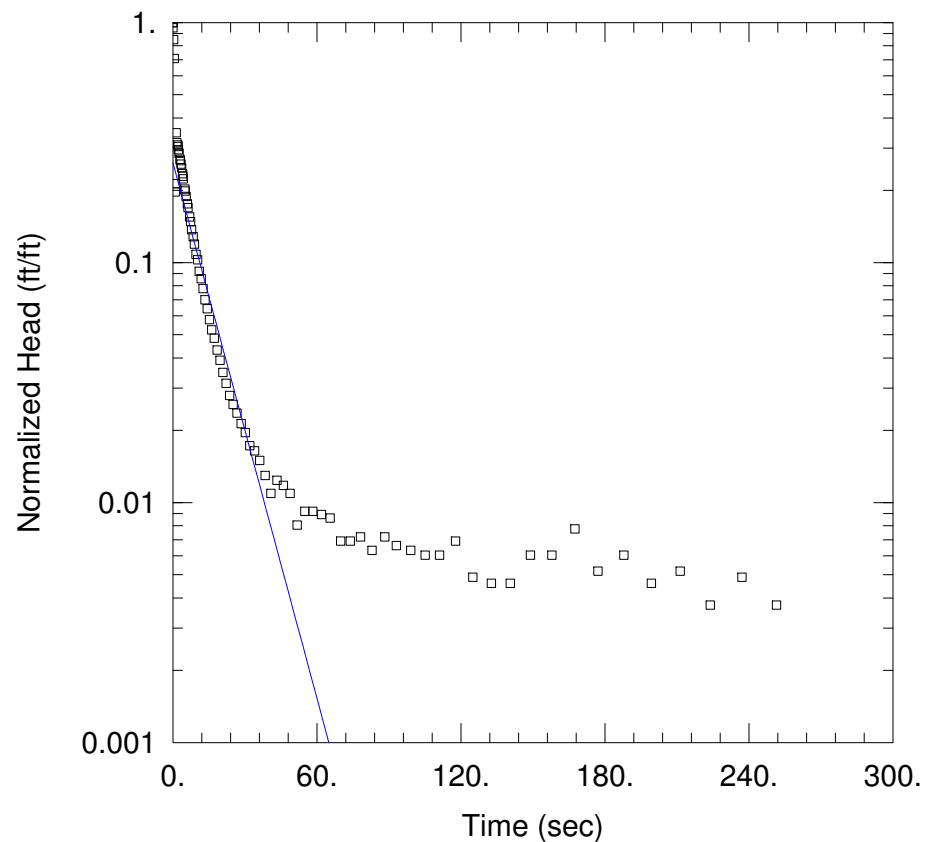
Saturated Thickness: 16.3 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW8 SO3)

Initial Displacement: 7.249 ft  
 Total Well Penetration Depth: 12.8 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 16.3 ft  
 Screen Length: 9.7 ft  
 Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\APW9 SI1.aqt  
 Date: 10/10/17 Time: 09:48:54

PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW9  
 Test Date: 4/7/17

SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 0.00321$  cm/sec  
 $y_0 = 0.9059$  ft

AQUIFER DATA

Saturated Thickness: 6.3 ft

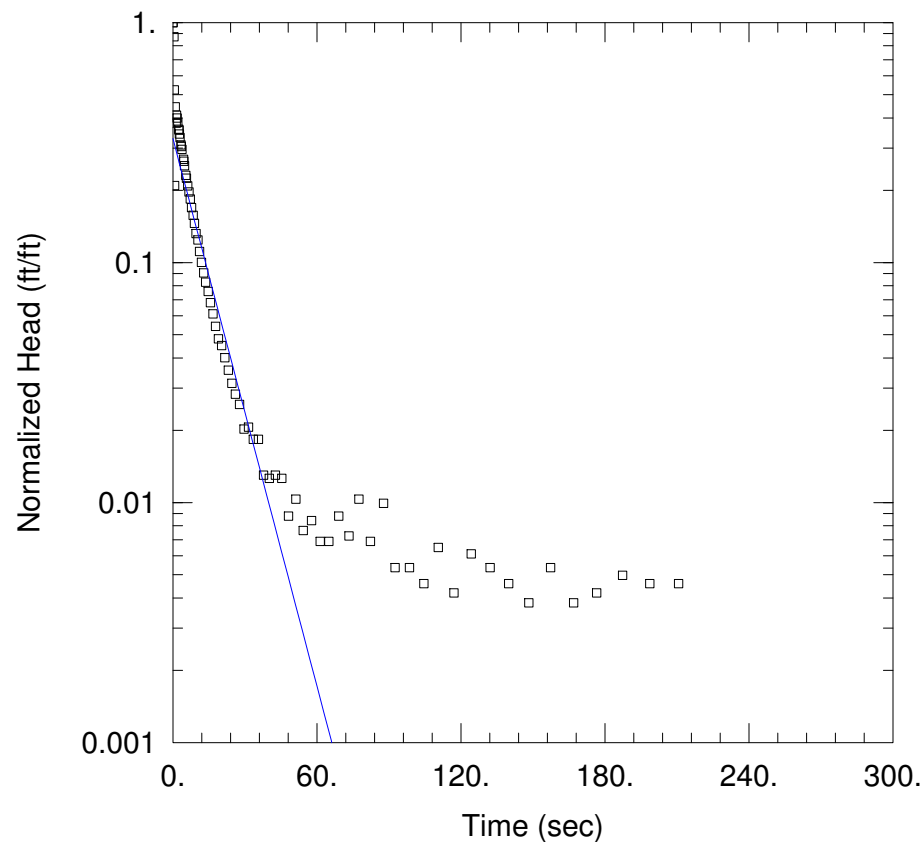
Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW9 SI1)

Initial Displacement: 3.477 ft  
 Total Well Penetration Depth: 4.7 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 6.3 ft  
 Screen Length: 4.7 ft  
 Well Radius: 0.3458 ft





WELL TEST ANALYSIS

Data Set: P:\...\APW9 SI2.aqt  
 Date: 10/10/17 Time: 09:50:42

PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW9  
 Test Date: 4/7/17

SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 0.003282$  cm/sec  
 $y_0 = 0.8588$  ft

AQUIFER DATA

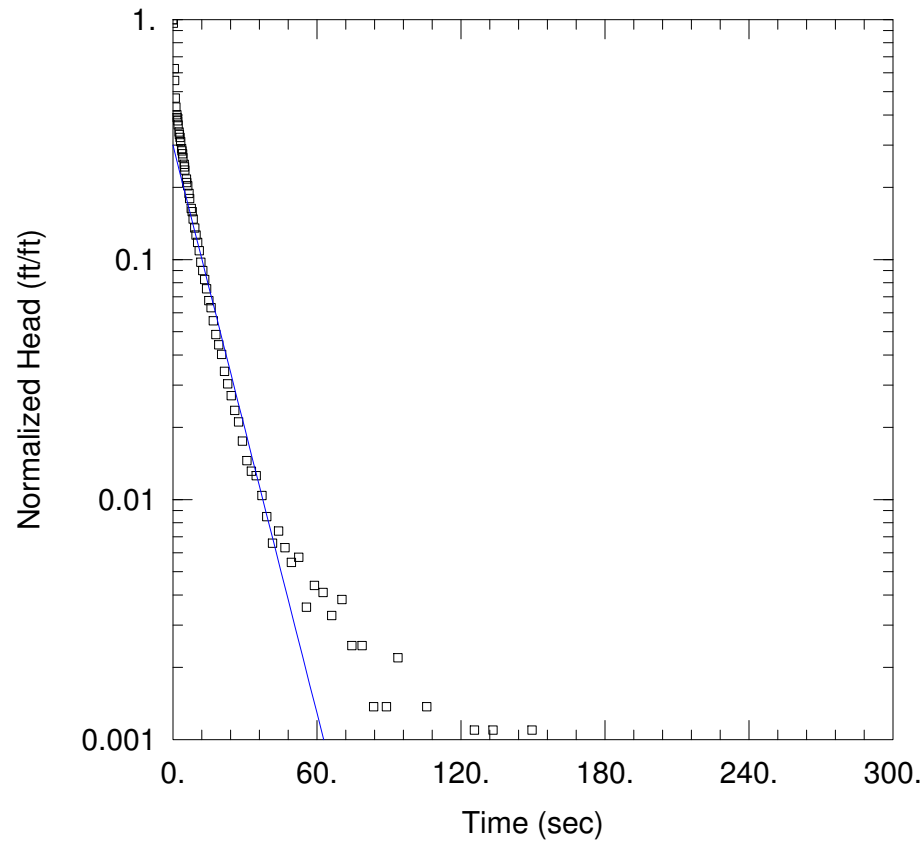
Saturated Thickness: 6.3 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW9 SI2)

Initial Displacement: 2.617 ft  
 Total Well Penetration Depth: 4.7 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 6.3 ft  
 Screen Length: 4.7 ft  
 Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\APW9 SO1.aqt  
 Date: 10/10/17 Time: 09:52:04

PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW9  
 Test Date: 4/7/17

SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 0.003404$  cm/sec  
 $y_0 = 1.094$  ft

AQUIFER DATA

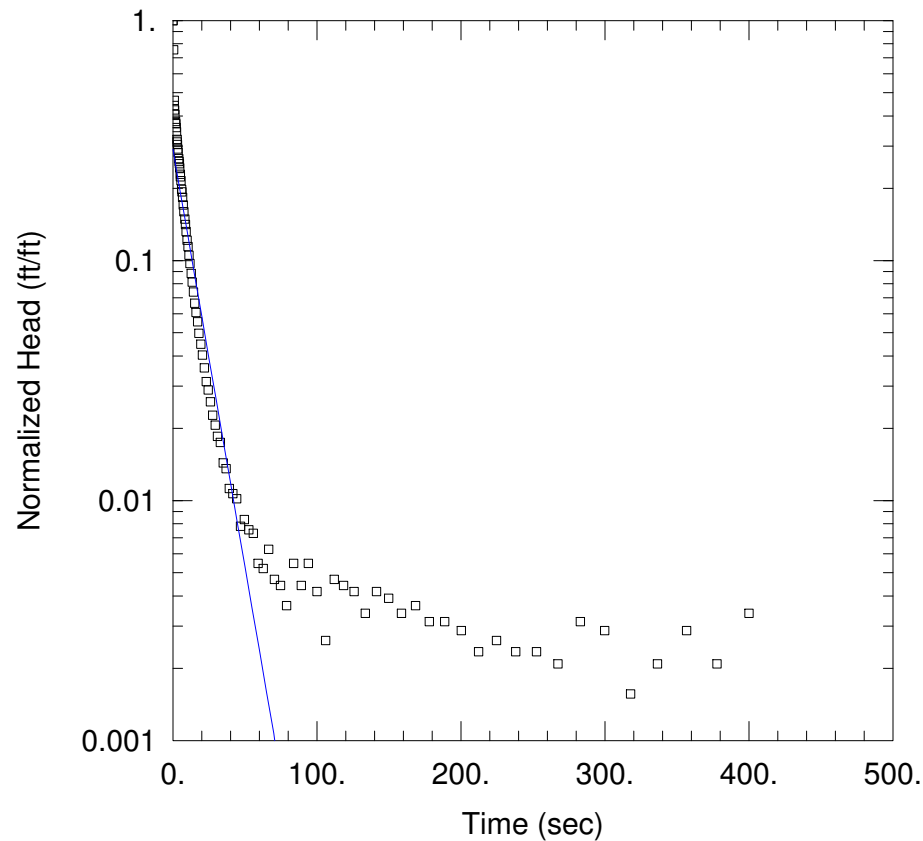
Saturated Thickness: 6.3 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW9 SO1)

Initial Displacement: 3.654 ft  
 Total Well Penetration Depth: 4.7 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 6.3 ft  
 Screen Length: 4.7 ft  
 Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\APW9 SO2.aqt  
 Date: 10/10/17 Time: 09:53:49

PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW9  
 Test Date: 4/7/17

SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 0.003003$  cm/sec  
 $y_0 = 1.117$  ft

AQUIFER DATA

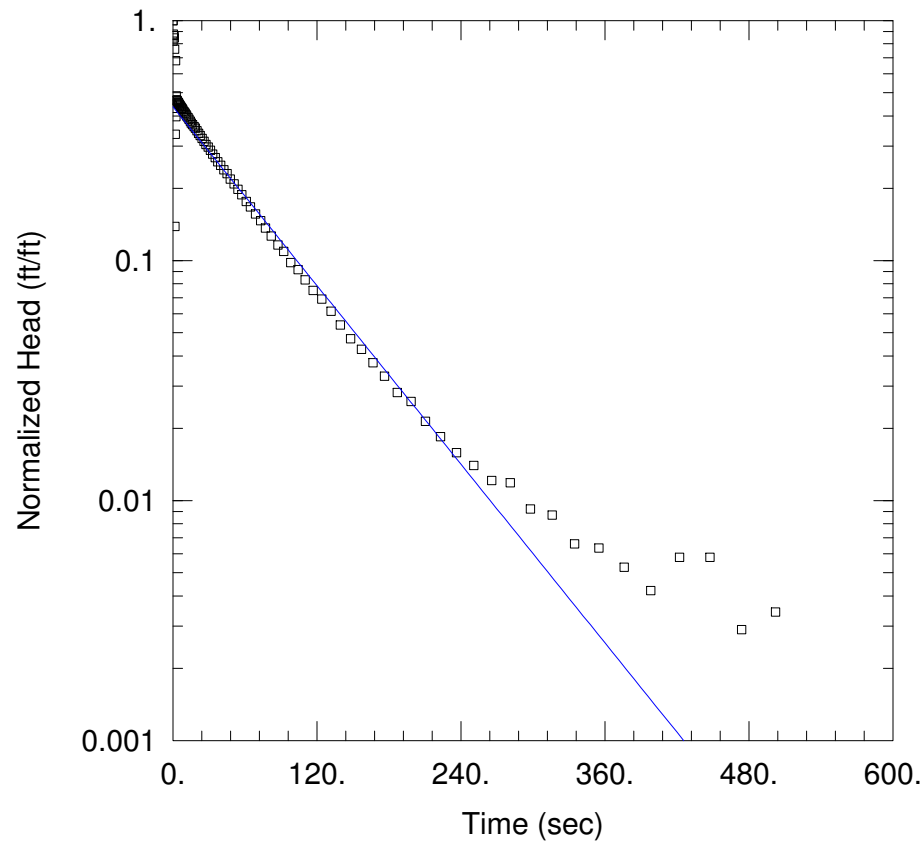
Saturated Thickness: 6.3 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (APW9 SO2)

Initial Displacement: 3.837 ft  
 Total Well Penetration Depth: 4.7 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 6.3 ft  
 Screen Length: 4.7 ft  
 Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW10 SI1.aqt

Date: 10/10/17

Time: 09:56:32

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW10

Test Date: 4/7/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.0005269$  cm/sec

$y_0 = 1.656$  ft

### AQUIFER DATA

Saturated Thickness: 6.7 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW10 SI1)

Initial Displacement: 3.792 ft

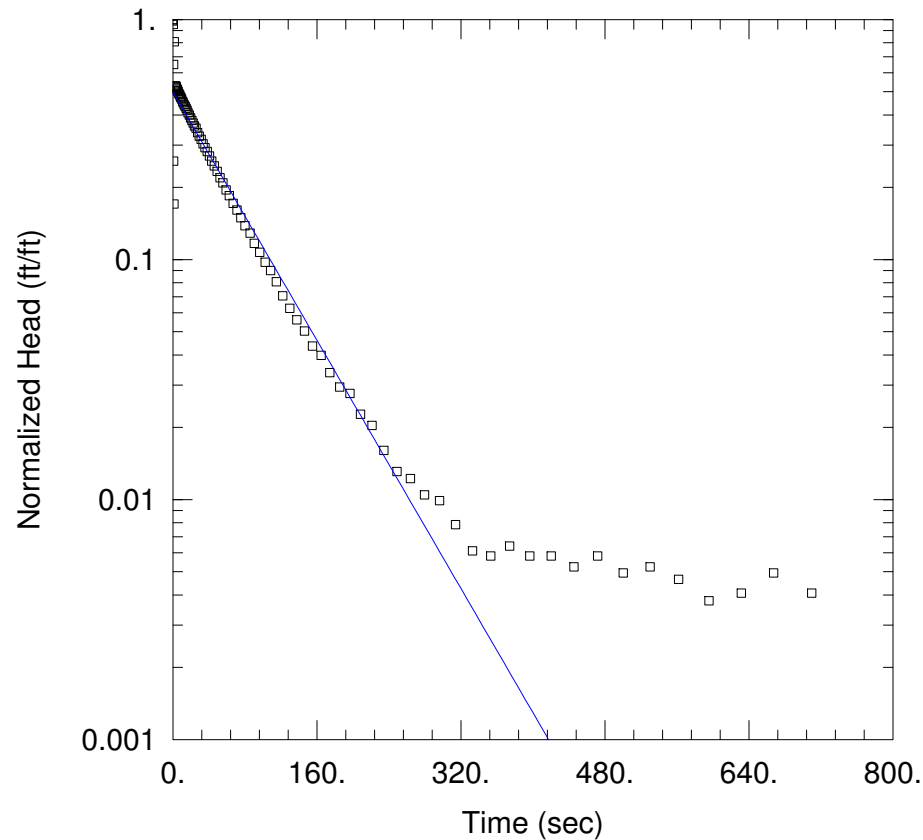
Total Well Penetration Depth: 4.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 6.7 ft

Screen Length: 4.8 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW10 SI2.aqt

Date: 10/10/17

Time: 09:59:35

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW10

Test Date: 4/7/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.0005491$  cm/sec

$y_0 = 1.716$  ft

### AQUIFER DATA

Saturated Thickness: 6.7 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW10 SI2)

Initial Displacement: 3.438 ft

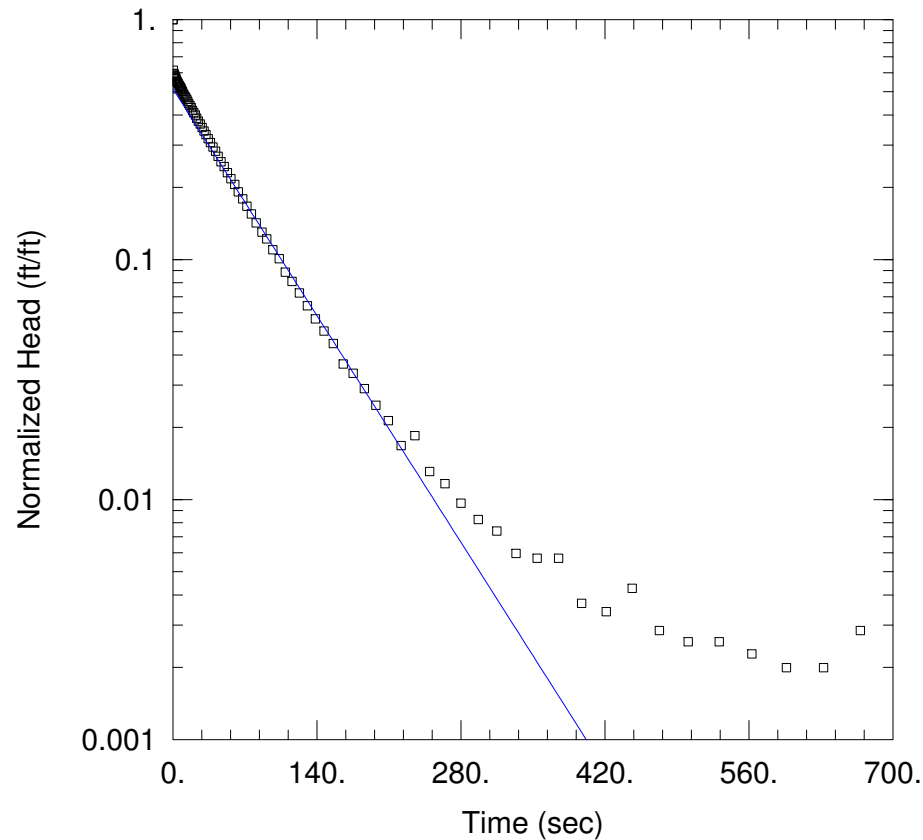
Total Well Penetration Depth: 4.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 6.7 ft

Screen Length: 4.8 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW10 SO2.aqt  
 Date: 10/10/17 Time: 10:01:28

### PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Primary Ash Pond  
 Test Well: APW10  
 Test Date: 4/7/17

### SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 0.0005731$  cm/sec  
 $y_0 = 1.809$  ft

### AQUIFER DATA

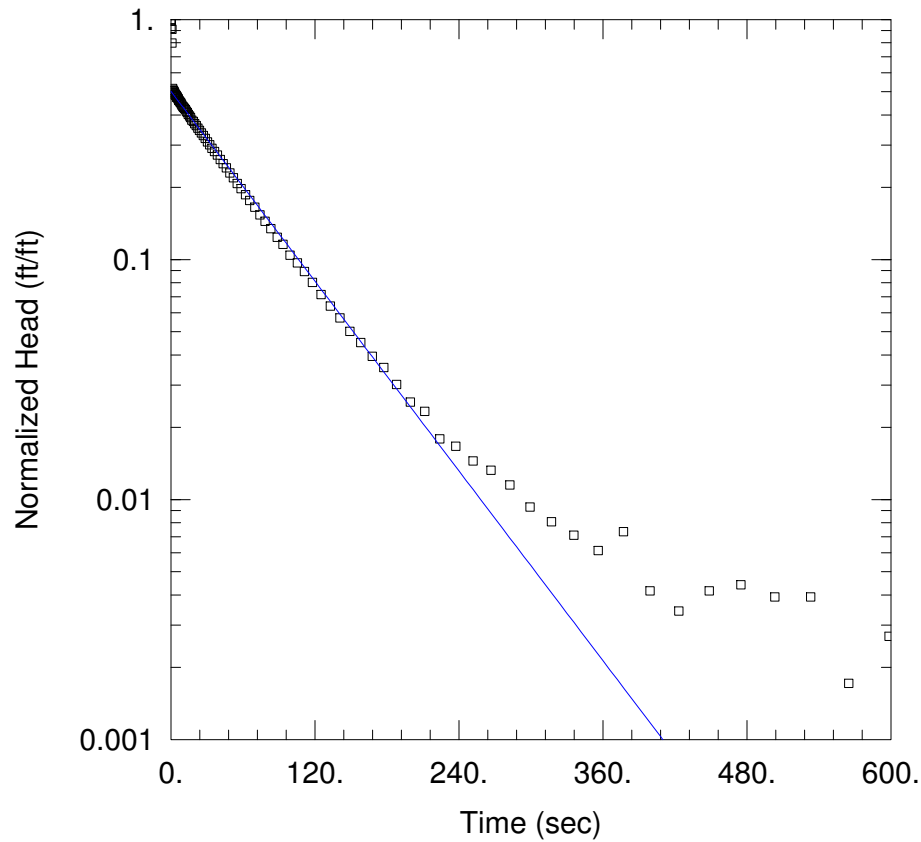
Saturated Thickness: 6.7 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW10 SO2)

Initial Displacement: 3.518 ft  
 Total Well Penetration Depth: 4.8 ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 6.7 ft  
 Screen Length: 4.8 ft  
 Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\APW10 SO3.aqt

Date: 10/10/17

Time: 10:09:04

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Primary Ash Pond

Test Well: APW10

Test Date: 4/7/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.0005595$  cm/sec

$y_0 = 2.048$  ft

### AQUIFER DATA

Saturated Thickness: 6.7 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (APW10 SO2)

Initial Displacement: 4.081 ft

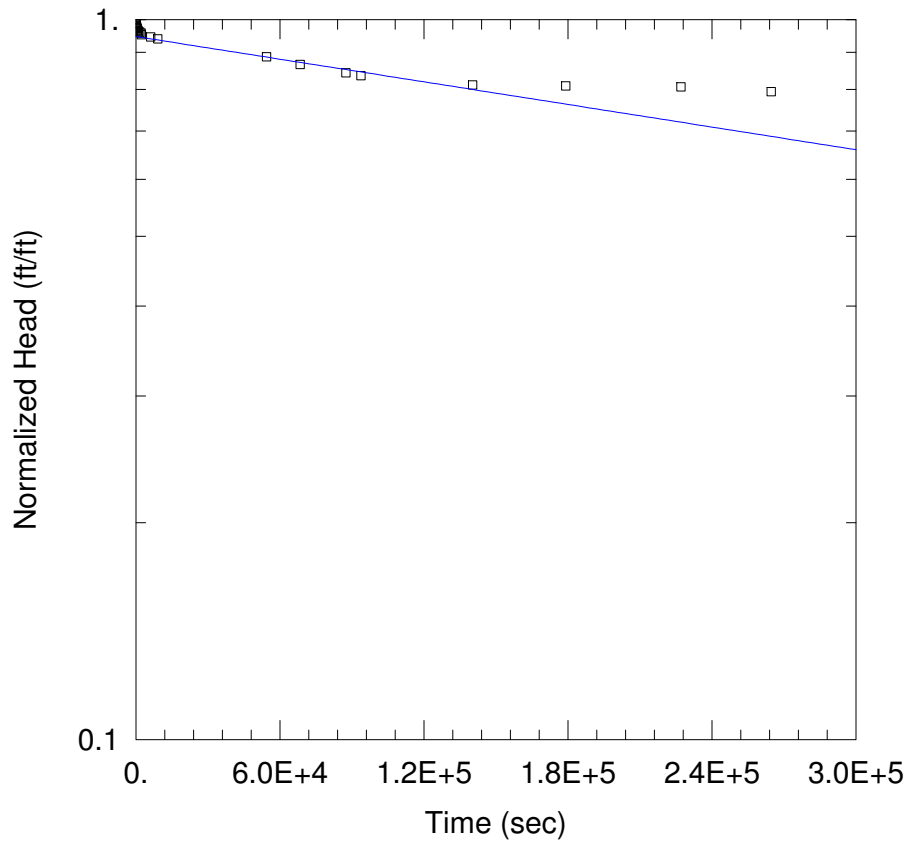
Total Well Penetration Depth: 4.8 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 6.7 ft

Screen Length: 4.8 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G06D SO1.aqt

Date: 10/10/17

Time: 10:15:04

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G06D

Test Date: 4/4/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

K = 3.917E-8 cm/sec

y0 = 3.807 ft

### AQUIFER DATA

Saturated Thickness: 0.4 ft

Anisotropy Ratio (Kz/Kr): 1.

### WELL DATA (G06D)

Initial Displacement: 4.02 ft

Total Well Penetration Depth: 0.4 ft

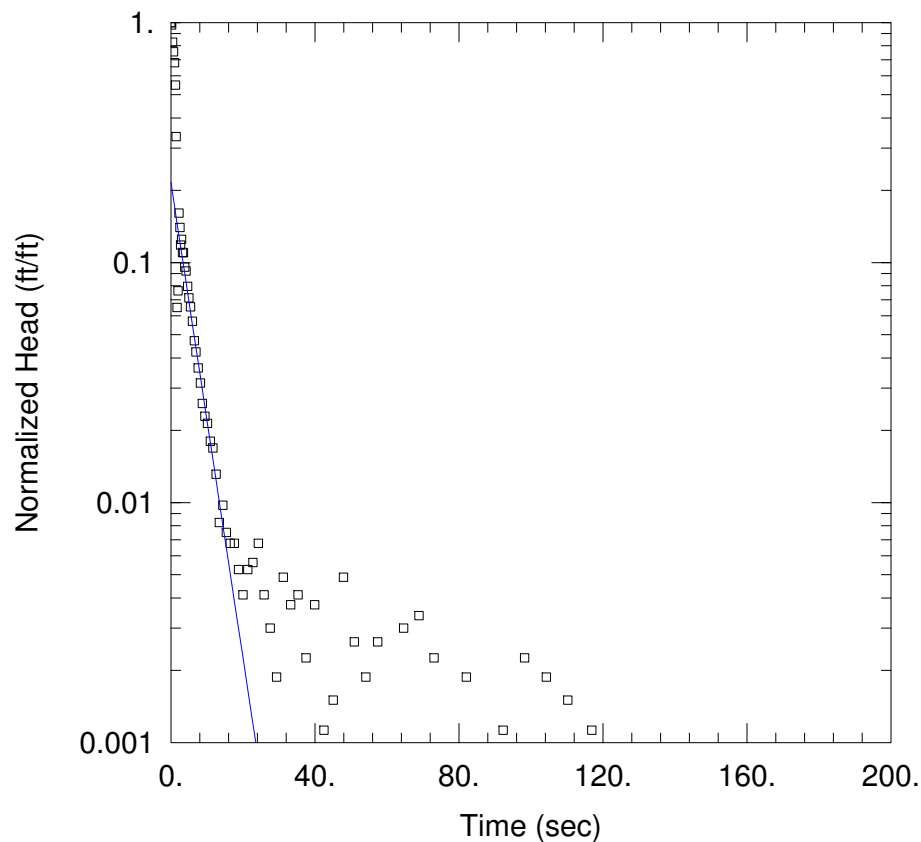
Casing Radius: 0.08333 ft

Static Water Column Height: 0.4 ft

Screen Length: 0.4 ft

Well Radius: 0.3458 ft





WELL TEST ANALYSIS

Data Set: P:\...\G202 SI1.aqt

Date: 10/10/17

Time: 10:19:06

PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G202

Test Date: 4/5/17

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.01698$  cm/sec

$y_0 = 0.5744$  ft

AQUIFER DATA

Saturated Thickness: 0.6 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (G202 SI1)

Initial Displacement: 2.666 ft

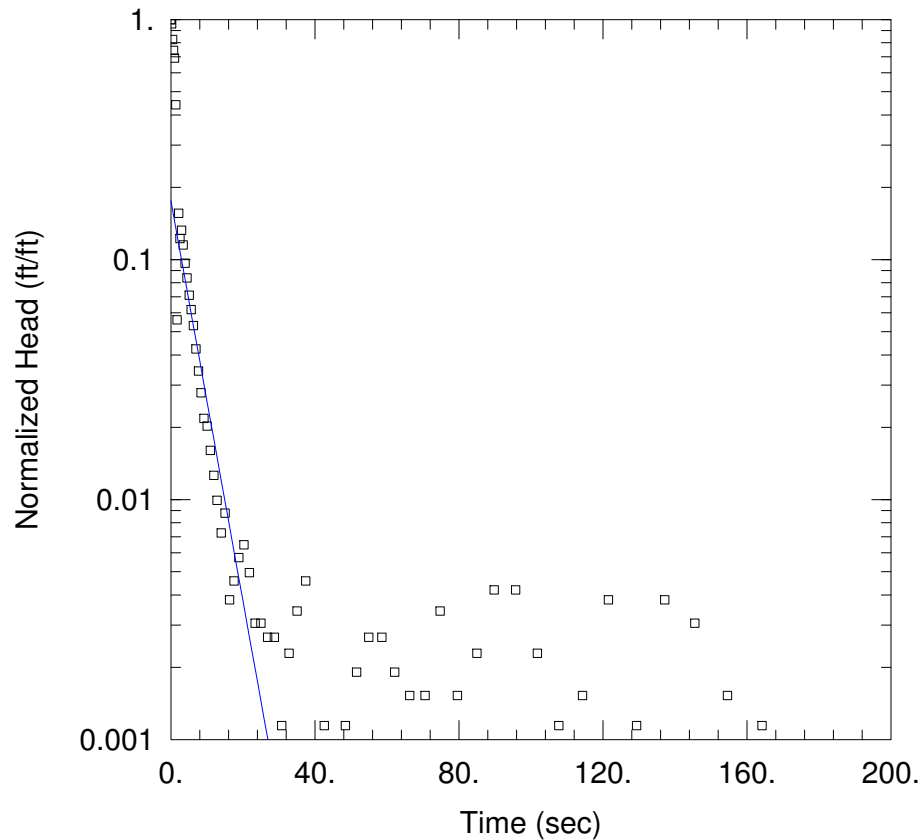
Total Well Penetration Depth: 0.6 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 0.6 ft

Screen Length: 0.6 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G202 SI2.aqt

Date: 10/10/17

Time: 10:20:26

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G202

Test Date: 4/5/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.0143$  cm/sec

$y_0 = 0.4599$  ft

### AQUIFER DATA

Saturated Thickness: 0.6 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G202 SI2)

Initial Displacement: 2.621 ft

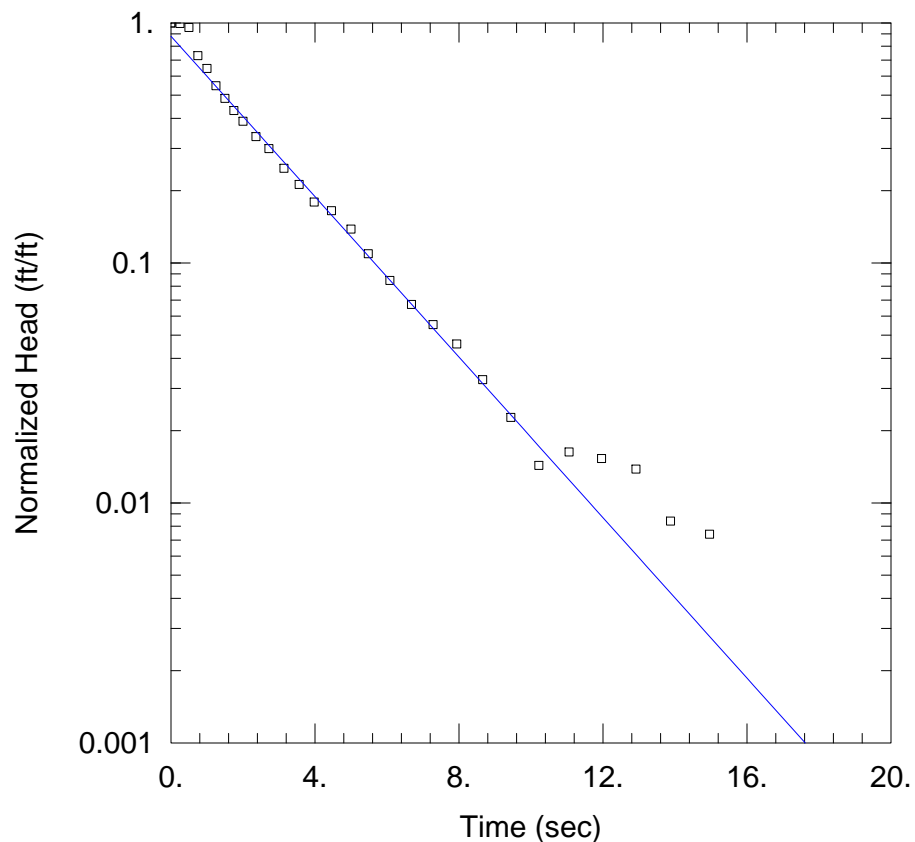
Total Well Penetration Depth: 0.6 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 0.6 ft

Screen Length: 0.6 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G202 SO2.aqt

Date: 06/15/17

Time: 10:21:12

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G202

Test Date: 4/5/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.02868$  cm/sec

$y_0 = 1.781$  ft

### AQUIFER DATA

Saturated Thickness: 0.6 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G202 SO2)

Initial Displacement: 2.024 ft

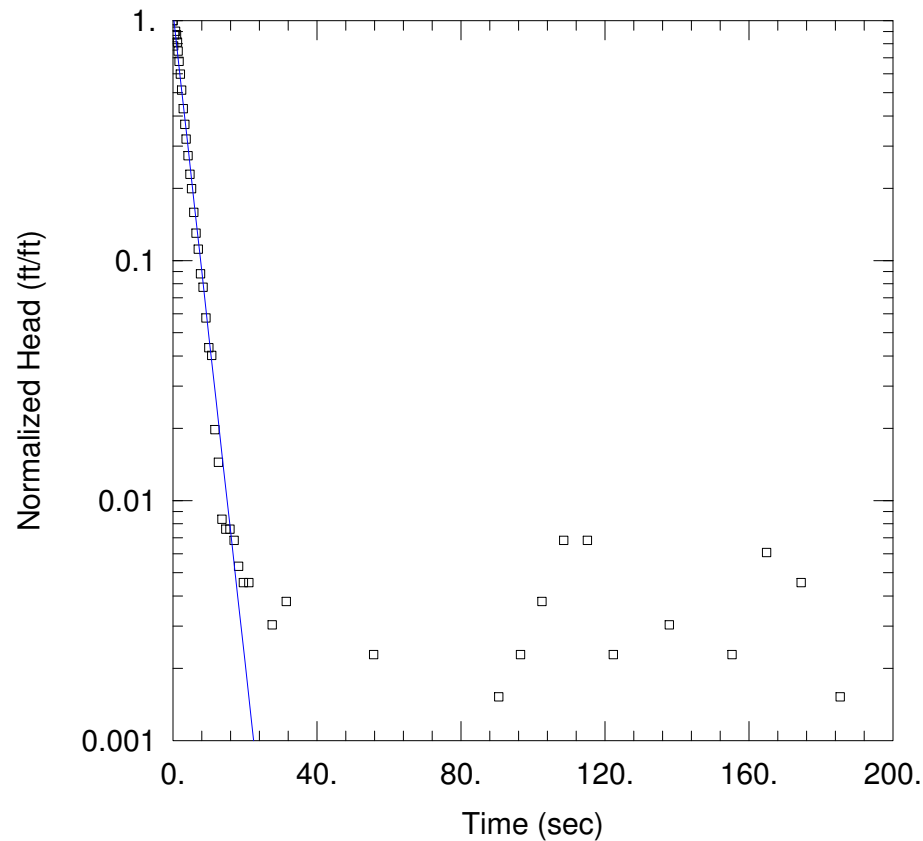
Total Well Penetration Depth: 0.6 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 0.6 ft

Screen Length: 0.6 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G202 SO3.aqt

Date: 10/10/17

Time: 10:21:38

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G202

Test Date: 4/5/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.02325$  cm/sec

$y_0 = 1.444$  ft

### AQUIFER DATA

Saturated Thickness: 0.6 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G202 SO3)

Initial Displacement: 1.317 ft

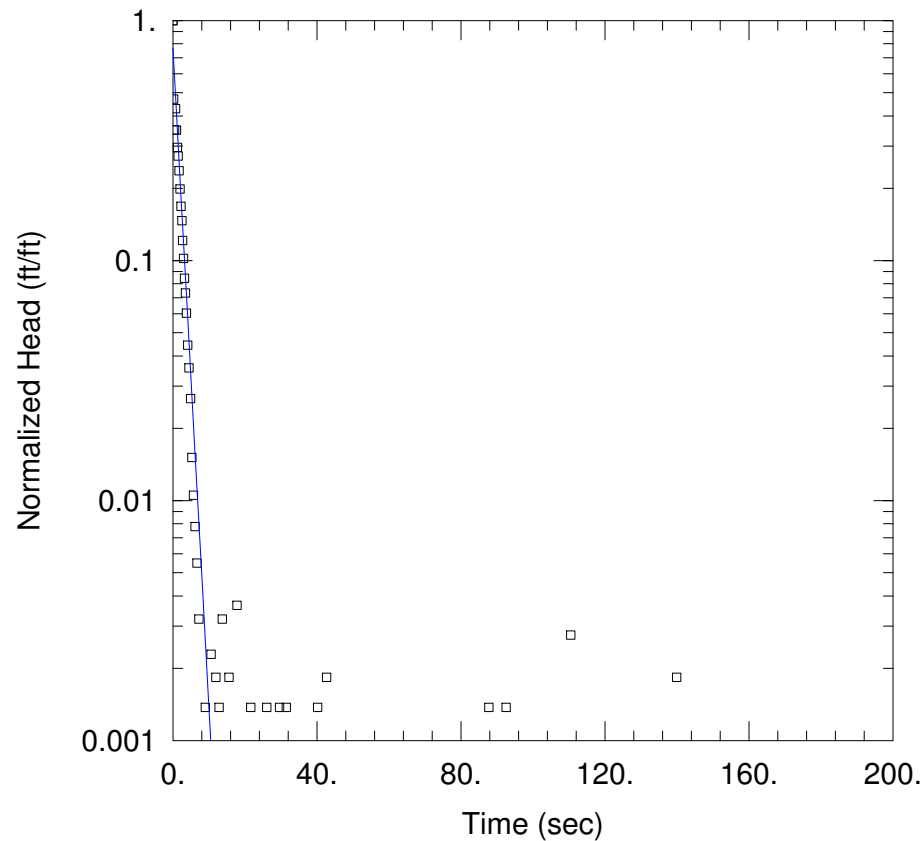
Total Well Penetration Depth: 0.6 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 0.6 ft

Screen Length: 0.6 ft

Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\G203 SI1.aqt

Date: 10/10/17

Time: 10:24:55

PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G203

Test Date: 4/4/17

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.02529$  cm/sec

$y_0 = 1.676$  ft

AQUIFER DATA

Saturated Thickness: 6.9 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (G203 SI1)

Initial Displacement: 2.184 ft

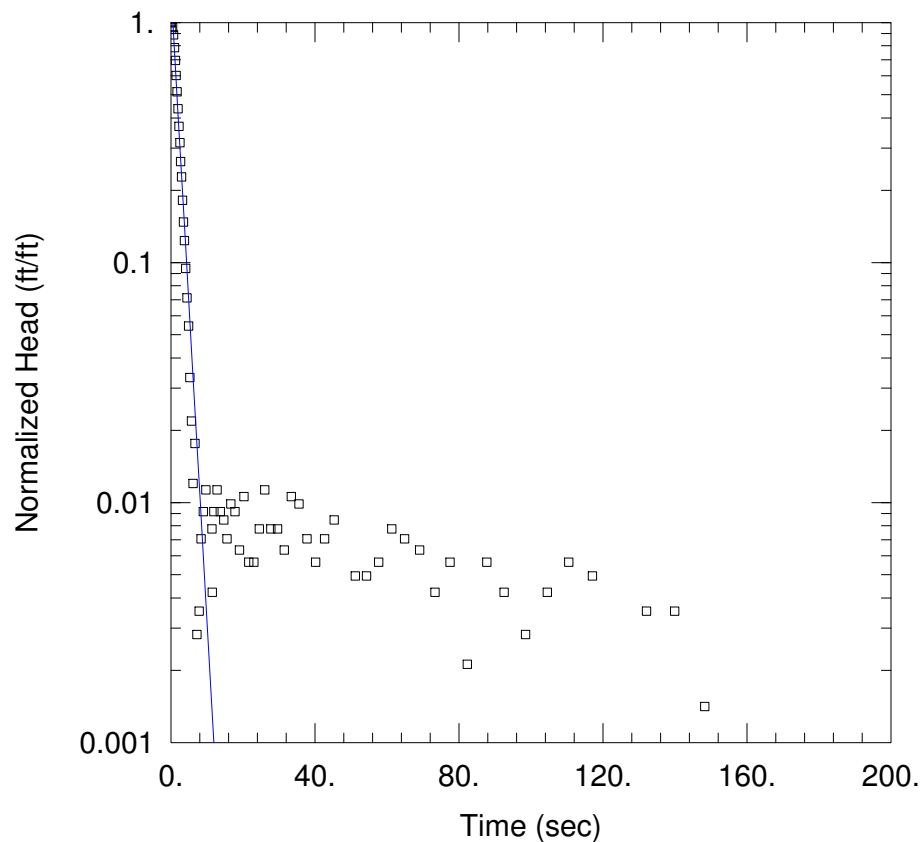
Total Well Penetration Depth: 3.9 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 6.9 ft

Screen Length: 3.9 ft

Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\G203 SO1.aqt

Date: 10/10/17

Time: 10:28:31

PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G203

Test Date: 4/4/17

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.02421$  cm/sec

$y_0 = 1.958$  ft

AQUIFER DATA

Saturated Thickness: 6.9 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (G203 SO1)

Initial Displacement: 1.418 ft

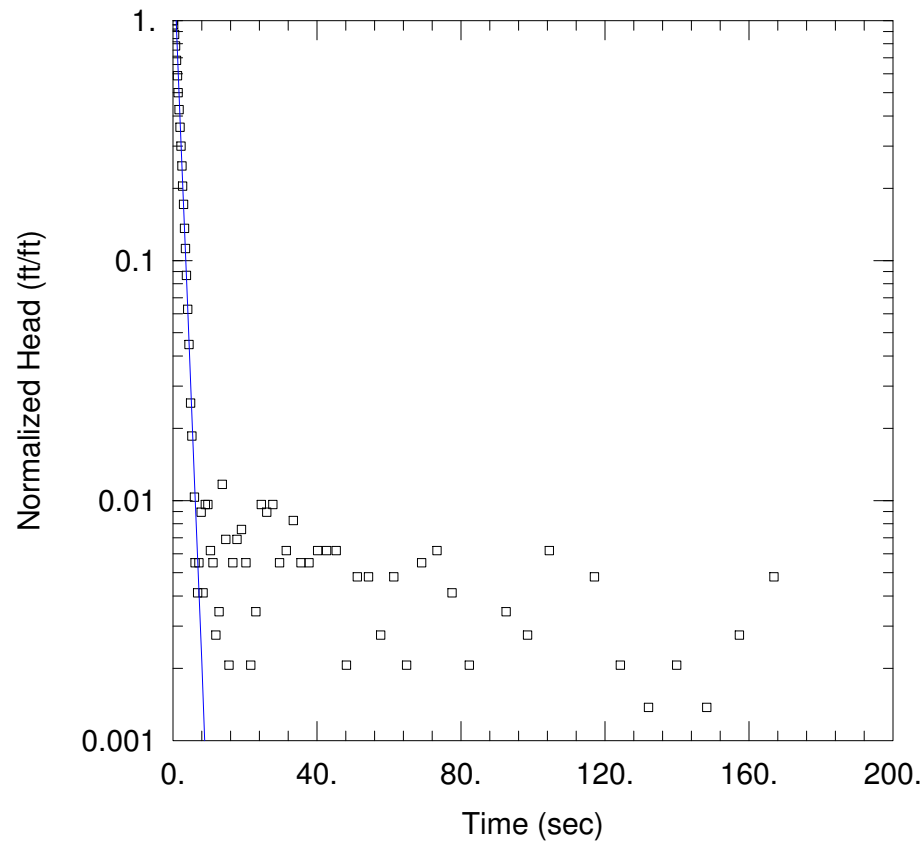
Total Well Penetration Depth: 3.9 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 6.9 ft

Screen Length: 3.9 ft

Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\G203 SO2.aqt

Date: 10/10/17

Time: 10:30:34

PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G203

Test Date: 4/4/17

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.03469$  cm/sec

$y_0 = 3.185$  ft

AQUIFER DATA

Saturated Thickness: 6.9 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (G203 SO2)

Initial Displacement: 1.454 ft

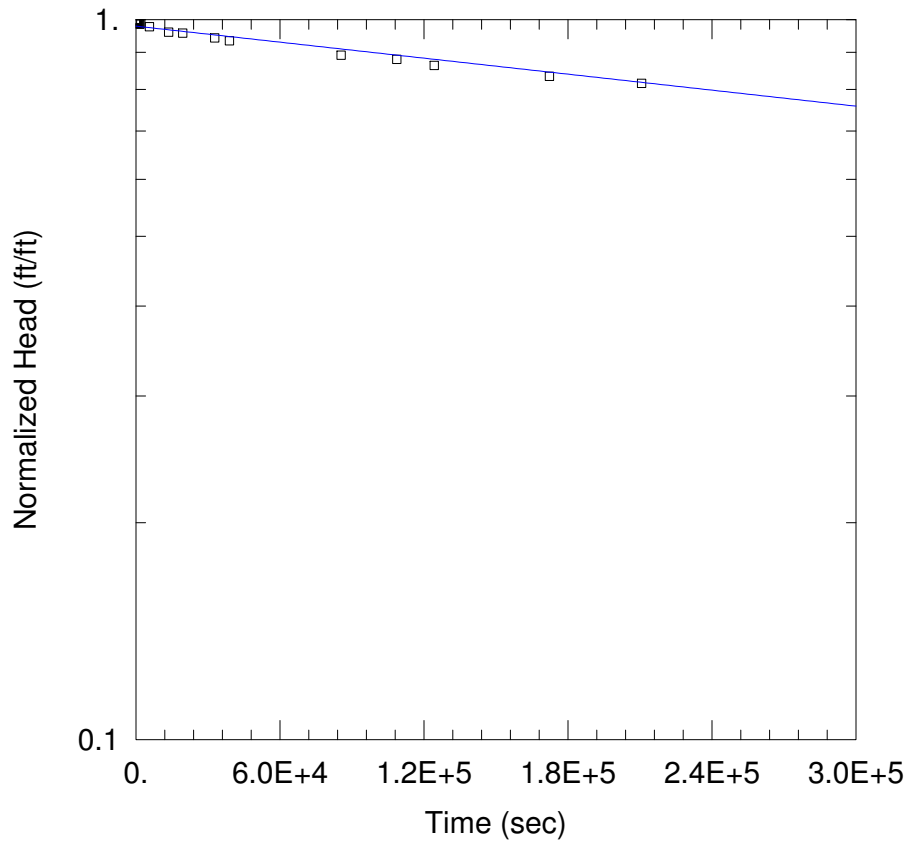
Total Well Penetration Depth: 3.9 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 6.9 ft

Screen Length: 3.9 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G208 SO1.aqt

Date: 10/10/17

Time: 10:33:25

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G208

Test Date: 4/4/17

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 1.315E-8 cm/sec

y0 = 10.16 ft

### AQUIFER DATA

Saturated Thickness: 22.1 ft

Anisotropy Ratio (Kz/Kr): 1.

### WELL DATA (G208 SO1)

Initial Displacement: 10.38 ft

Total Well Penetration Depth: 19.8 ft

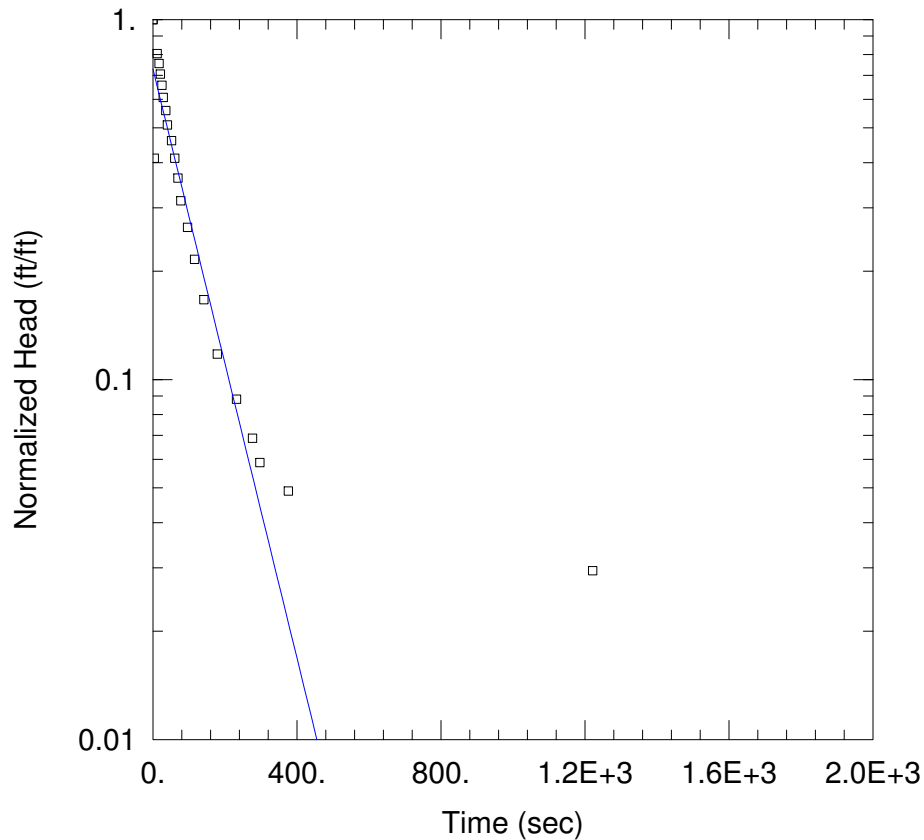
Casing Radius: 0.08333 ft

Static Water Column Height: 22.1 ft

Screen Length: 19.8 ft

Well Radius: 0.3458 ft





### WELL TEST ANALYSIS

Data Set: P:\...\G217D SI1.aqt

Date: 10/10/17

Time: 10:35:45

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G217D

Test Date: 4/4/17

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 0.0002266$  cm/sec

$y_0 = 0.743$  ft

### AQUIFER DATA

Saturated Thickness: 13. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G217D SI1)

Initial Displacement: 1.02 ft

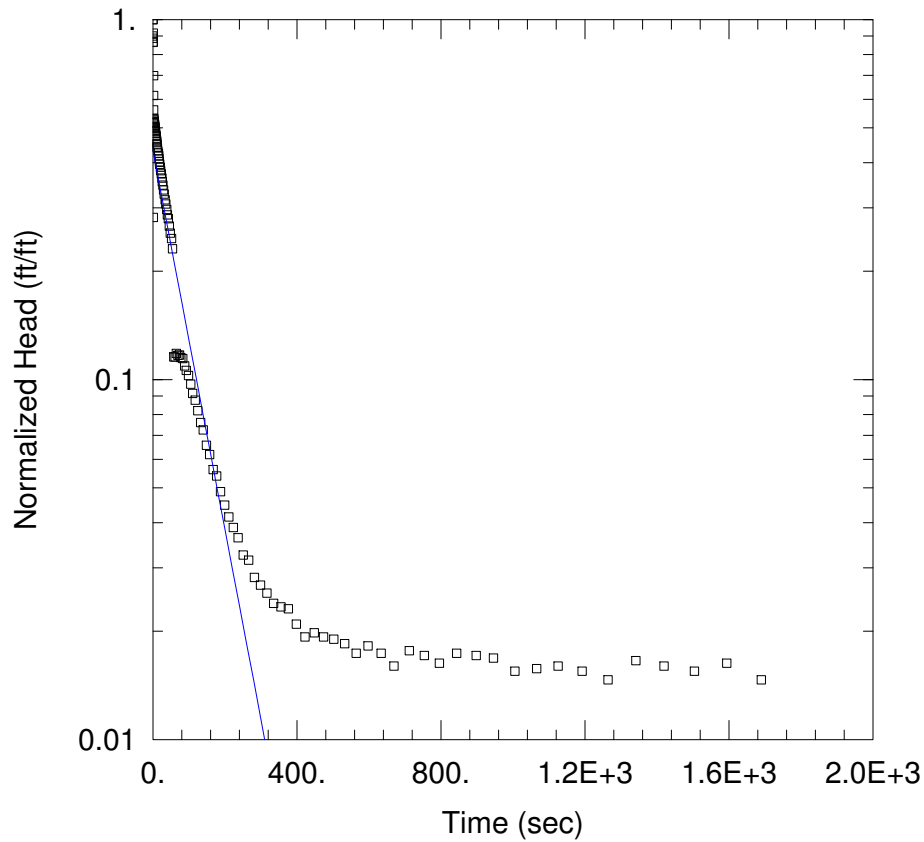
Total Well Penetration Depth: 10. ft

Casing Radius: 0.08333 ft

Static Water Column Height: 13. ft

Screen Length: 10. ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G217D SI2.aqt

Date: 10/10/17

Time: 10:38:05

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G217D

Test Date: 4/4/17

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 0.0002919$  cm/sec

$y_0 = 1.598$  ft

### AQUIFER DATA

Saturated Thickness: 13. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G217D SI2)

Initial Displacement: 3.685 ft

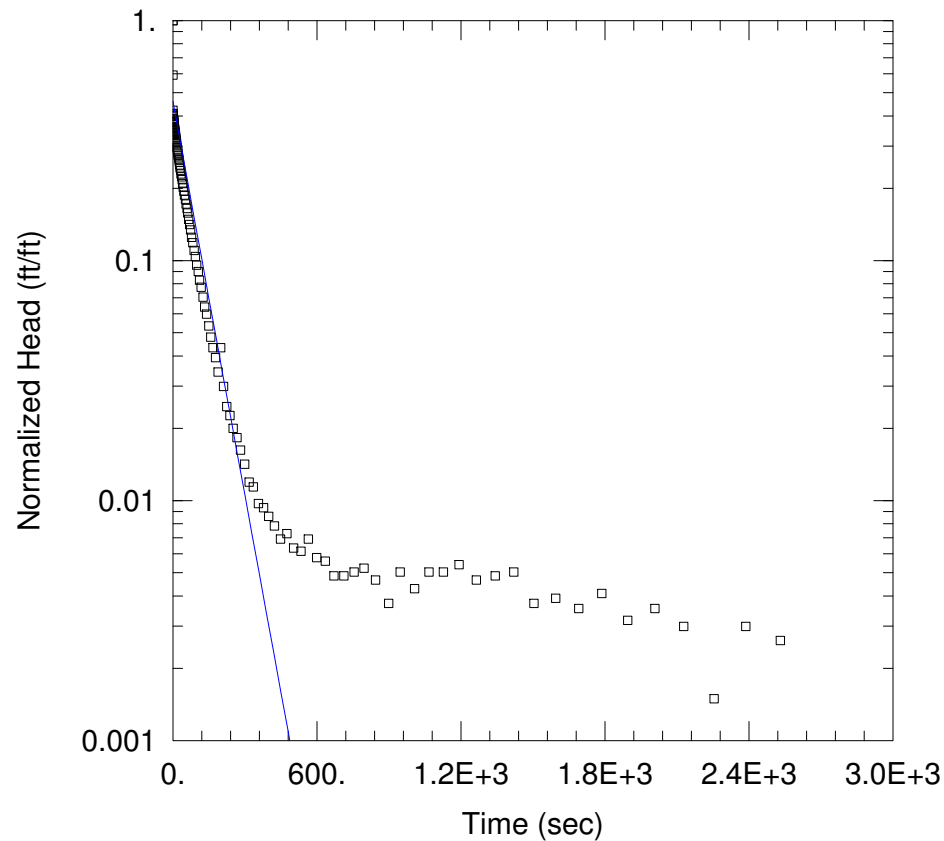
Total Well Penetration Depth: 10. ft

Casing Radius: 0.08333 ft

Static Water Column Height: 13. ft

Screen Length: 10. ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G217D SO3.aqt  
 Date: 10/10/17 Time: 10:40:18

### PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Landfill  
 Test Well: G217D  
 Test Date: 4/4/17

### SOLUTION

Aquifer Model: Unconfined  
 Solution Method: Bouwer-Rice  
 $K = 0.0003032$  cm/sec  
 $y_0 = 2.469$  ft

### AQUIFER DATA

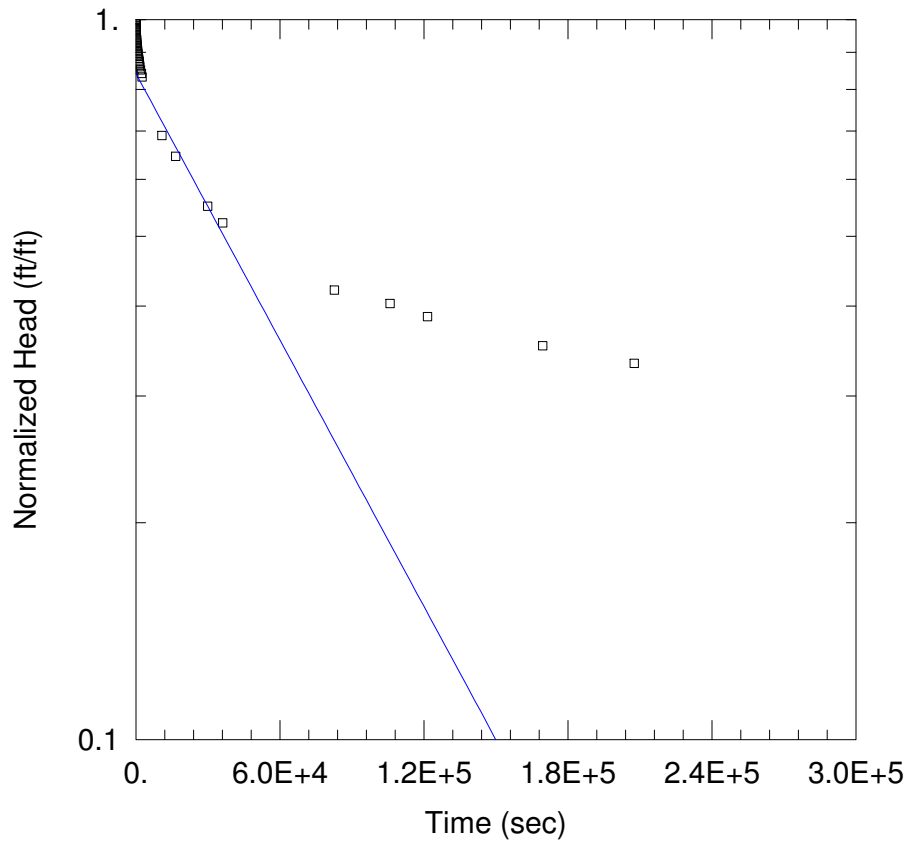
Saturated Thickness: 13. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G217D SO3)

Initial Displacement: 5.362 ft  
 Total Well Penetration Depth: 10. ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 13. ft  
 Screen Length: 10. ft  
 Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G220 SO1.aqt

Date: 10/10/17

Time: 10:42:50

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G220

Test Date: 4/4/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 3.513E-7$  cm/sec

$y_0 = 9.098$  ft

### AQUIFER DATA

Saturated Thickness: 12. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G220 SO1)

Initial Displacement: 10.81 ft

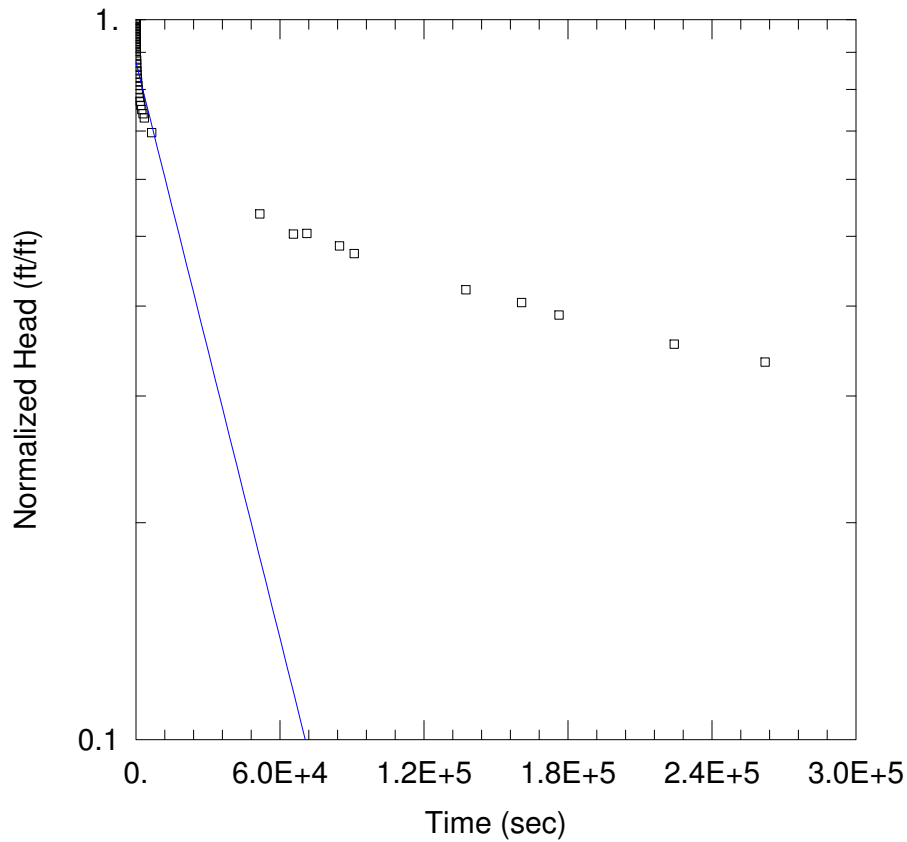
Total Well Penetration Depth: 9.7 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 12. ft

Screen Length: 9.7 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G222 SO1.aqt

Date: 10/10/17

Time: 10:49:55

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G222

Test Date: 4/4/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 1.541E-6$  cm/sec

$y_0 = 8.832$  ft

### AQUIFER DATA

Saturated Thickness: 3.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G222 SO1)

Initial Displacement: 10.11 ft

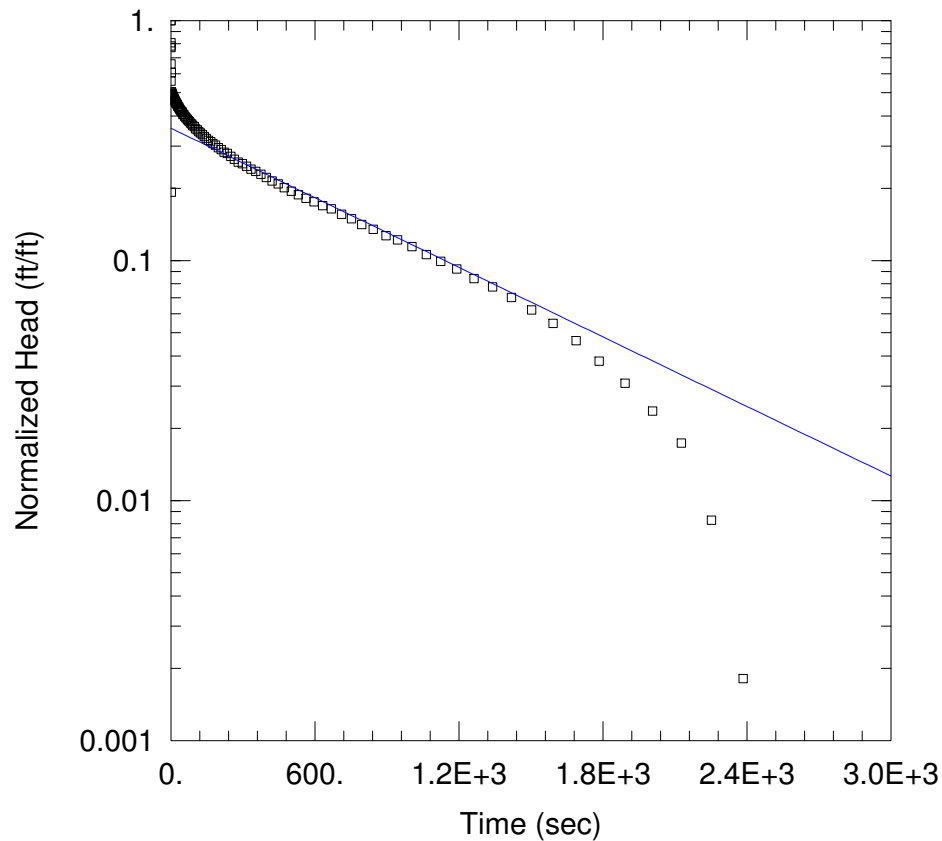
Total Well Penetration Depth: 3.5 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 3.5 ft

Screen Length: 3.5 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G223 SI1.aqt

Date: 10/10/17

Time: 10:55:09

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G223

Test Date: 4/5/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 5.19E-5$  cm/sec

$y_0 = 1.374$  ft

### AQUIFER DATA

Saturated Thickness: 4. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G223 SI1)

Initial Displacement: 3.86 ft

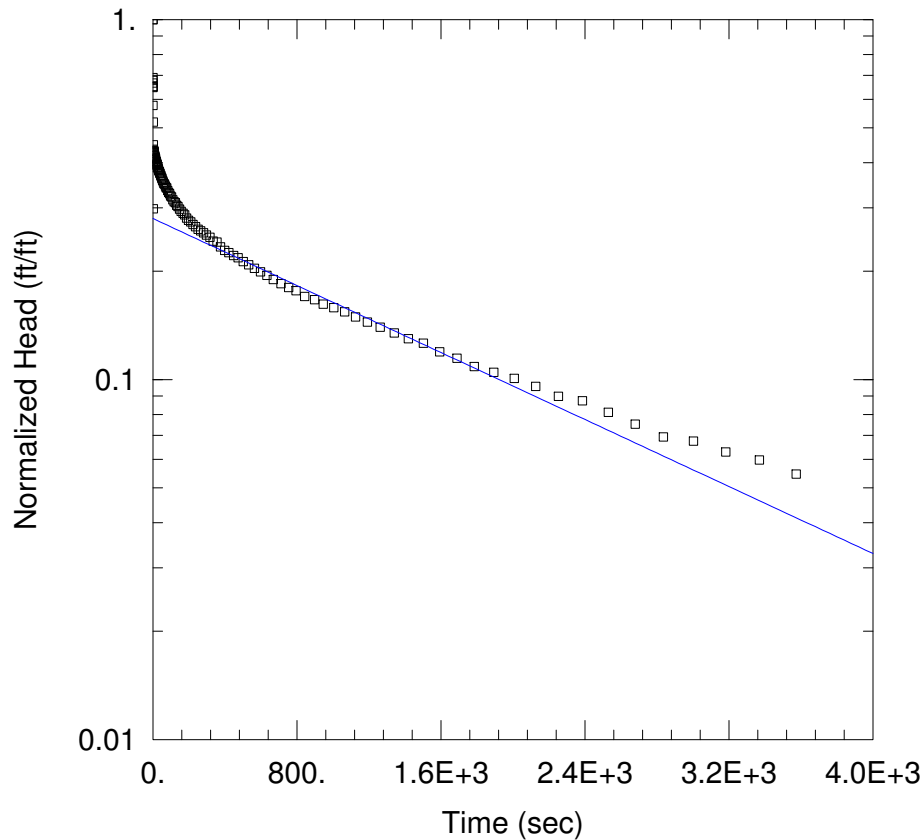
Total Well Penetration Depth: 4. ft

Casing Radius: 0.08333 ft

Static Water Column Height: 4. ft

Screen Length: 4. ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G223 SI2.aqt

Date: 10/10/17

Time: 10:57:35

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G223

Test Date: 4/5/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 2.5E-5$  cm/sec

$y_0 = 1.251$  ft

### AQUIFER DATA

Saturated Thickness: 4. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G223 SI2)

Initial Displacement: 4.466 ft

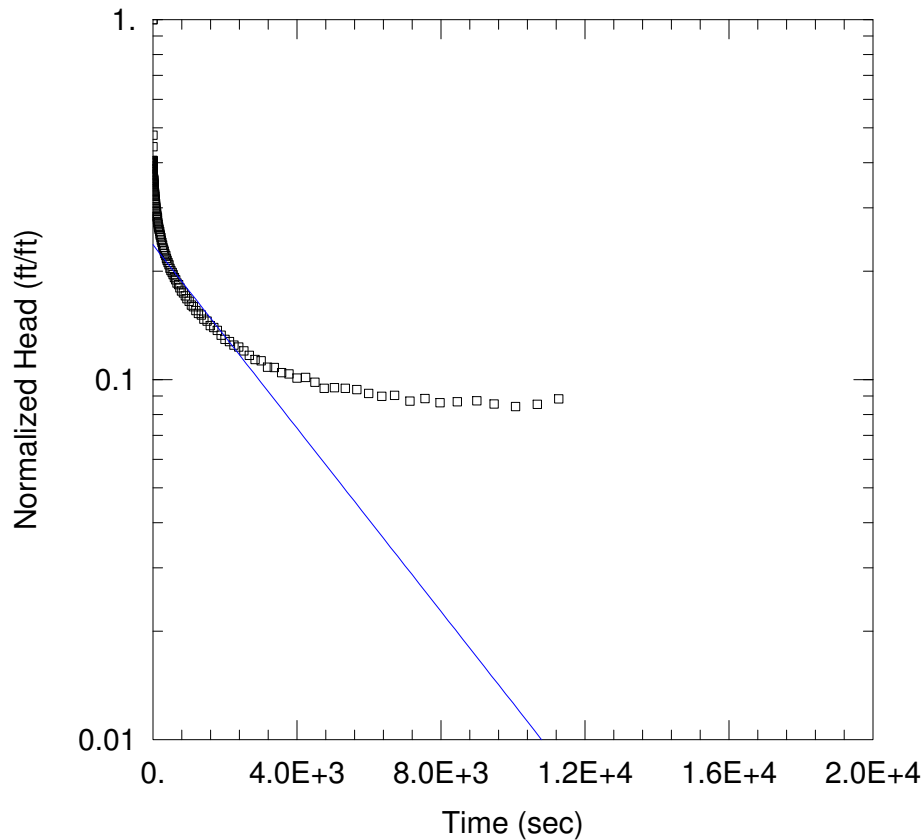
Total Well Penetration Depth: 4. ft

Casing Radius: 0.08333 ft

Static Water Column Height: 4. ft

Screen Length: 4. ft

Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\G223 SO1.aqt

Date: 10/10/17

Time: 11:00:37

PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G223

Test Date: 4/5/17

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 1.368E-5$  cm/sec

$y_0 = 1.281$  ft

AQUIFER DATA

Saturated Thickness: 4. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (G223 SO1)

Initial Displacement: 5.412 ft

Total Well Penetration Depth: 4. ft

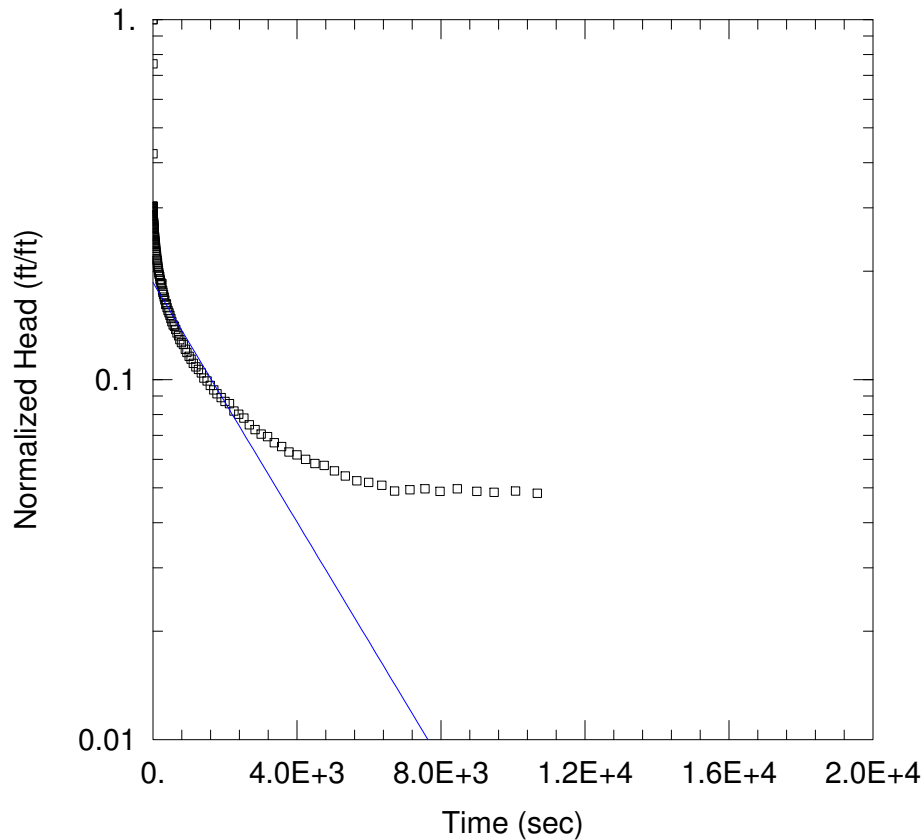
Casing Radius: 0.08333 ft

Static Water Column Height: 4. ft

Screen Length: 4. ft

Well Radius: 0.3458 ft





WELL TEST ANALYSIS

Data Set: P:\...\G223 SO2.aqt  
 Date: 10/10/17 Time: 11:01:58

PROJECT INFORMATION

Company: Natural Resource Technology  
 Client: Dynegy  
 Project: 2285  
 Location: Newton Landfill  
 Test Well: G223  
 Test Date: 4/5/17

SOLUTION

Aquifer Model: Confined  
 Solution Method: Bouwer-Rice  
 $K = 1.786E-5$  cm/sec  
 $y_0 = 1.359$  ft

AQUIFER DATA

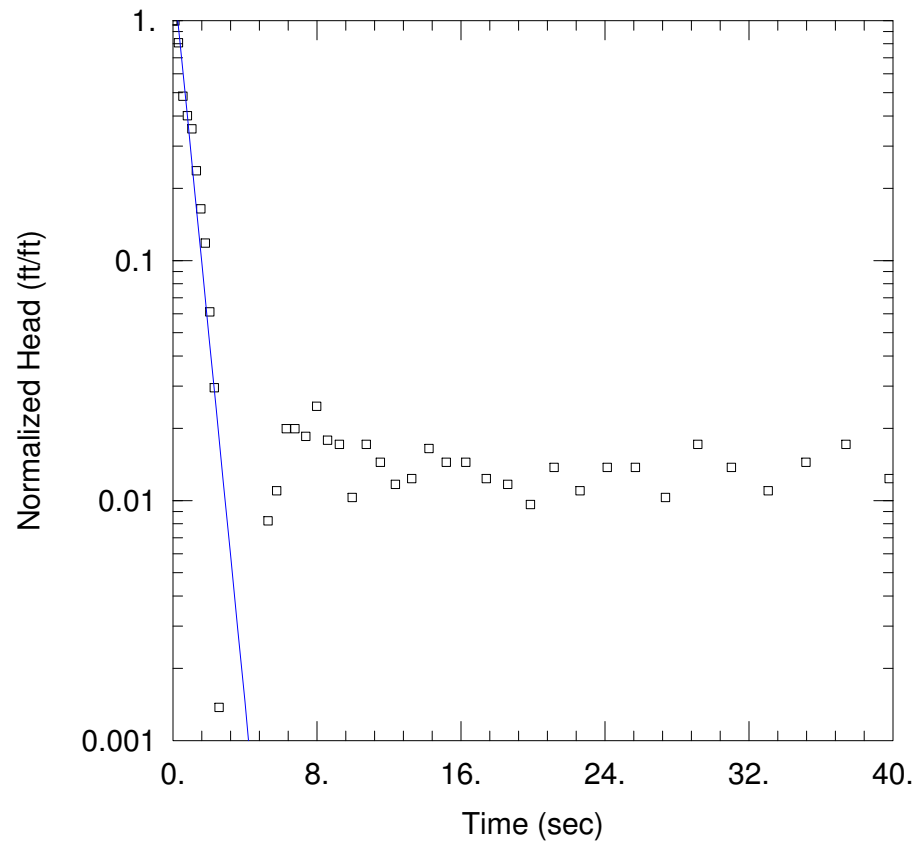
Saturated Thickness: 4. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (G223 SO2)

Initial Displacement: 7.304 ft  
 Total Well Penetration Depth: 4. ft  
 Casing Radius: 0.08333 ft

Static Water Column Height: 4. ft  
 Screen Length: 4. ft  
 Well Radius: 0.3458 ft



WELL TEST ANALYSIS

Data Set: P:\...\G224 SI1.aqt

Date: 10/10/17

Time: 11:04:28

PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G224

Test Date: 4/5/17

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.05146$  cm/sec

$y_0 = 2.38$  ft

AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (G224 SI1)

Initial Displacement: 1.457 ft

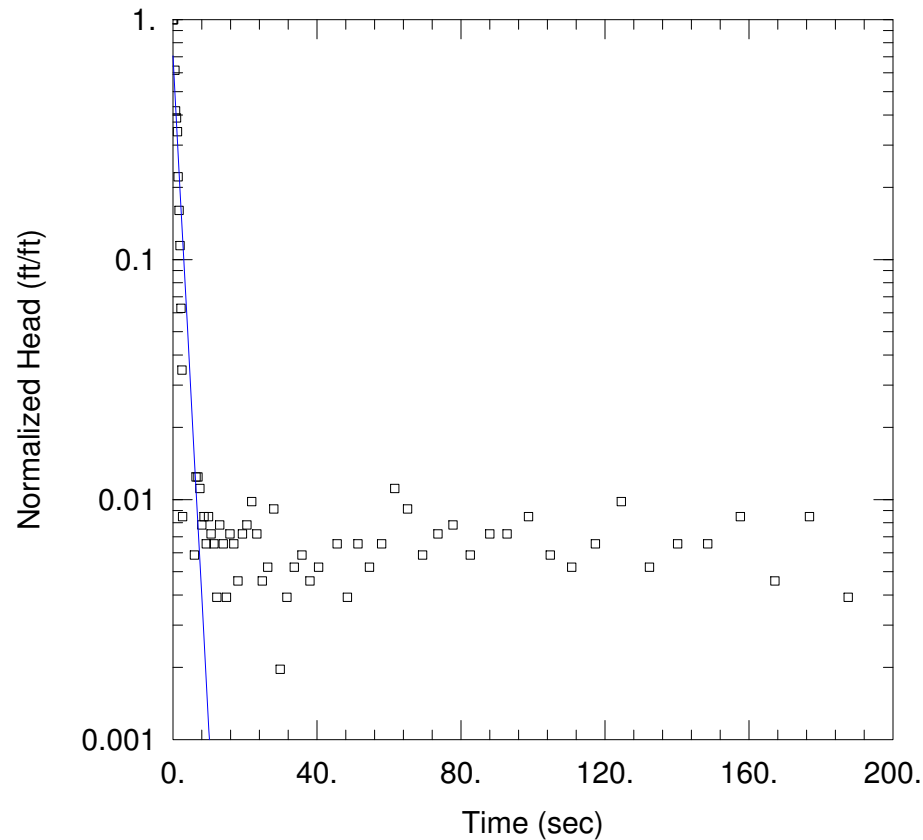
Total Well Penetration Depth: 8.2 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 8.2 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G224 SI2.aqt

Date: 10/10/17

Time: 11:06:55

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G224

Test Date: 4/5/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.01897$  cm/sec

$y_0 = 1.081$  ft

### AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G224 SI2)

Initial Displacement: 1.531 ft

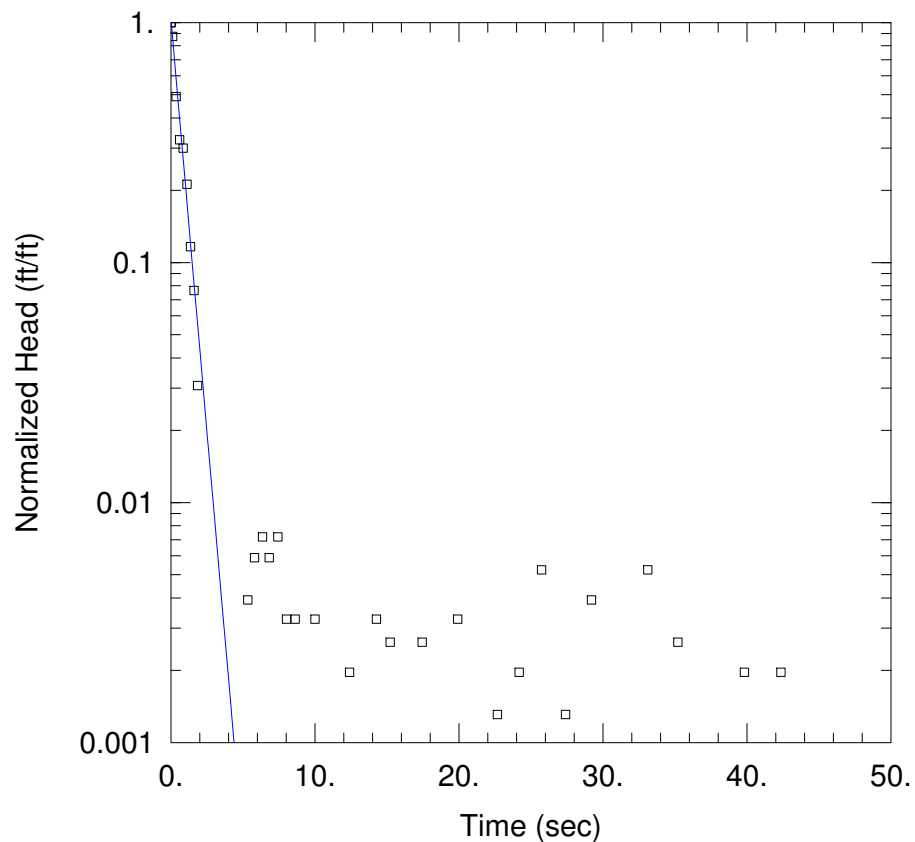
Total Well Penetration Depth: 8.2 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 8.2 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G224 SI3.aqt

Date: 10/10/17

Time: 11:08:48

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G224

Test Date: 4/5/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.04637$  cm/sec

$y_0 = 1.586$  ft

### AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G224 SI3)

Initial Displacement: 1.529 ft

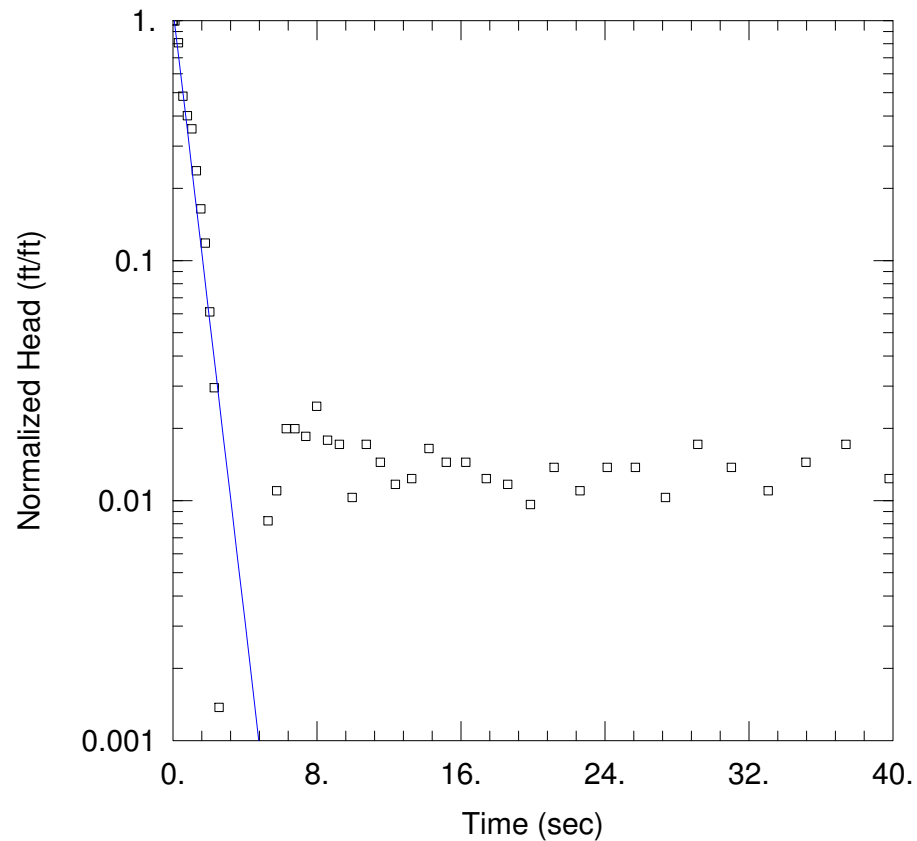
Total Well Penetration Depth: 8.2 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 8.2 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G224 SO1.aqt

Date: 10/10/17

Time: 11:10:44

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G224

Test Date: 4/5/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.04312$  cm/sec

$y_0 = 1.657$  ft

### AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G224 SI1)

Initial Displacement: 1.457 ft

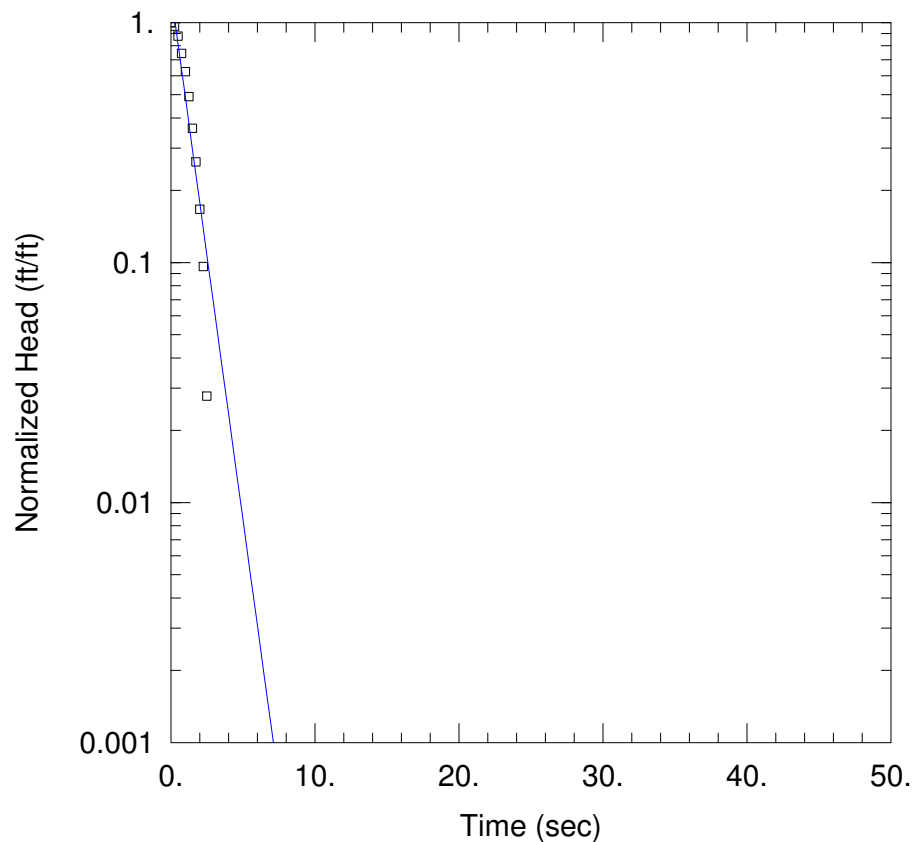
Total Well Penetration Depth: 8.2 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 8.2 ft

Well Radius: 0.3458 ft



### WELL TEST ANALYSIS

Data Set: P:\...\G224 SO3.aqt

Date: 10/10/17

Time: 11:12:56

### PROJECT INFORMATION

Company: Natural Resource Technology

Client: Dynegy

Project: 2285

Location: Newton Landfill

Test Well: G224

Test Date: 4/5/17

### SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

$K = 0.0297$  cm/sec

$y_0 = 1.264$  ft

### AQUIFER DATA

Saturated Thickness: 8.5 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (G224 SO2)

Initial Displacement: 0.936 ft

Total Well Penetration Depth: 8.2 ft

Casing Radius: 0.08333 ft

Static Water Column Height: 8.5 ft

Screen Length: 8.2 ft

Well Radius: 0.3458 ft

**INFORMATION AND DATA PROVIDED IN THE NEWTON  
POWER STATION LANDFILL, APPLICATION FOR LANDFILL  
PERMIT**

**SUBMITTED BY RAPPS TO IEPA IN 1997**

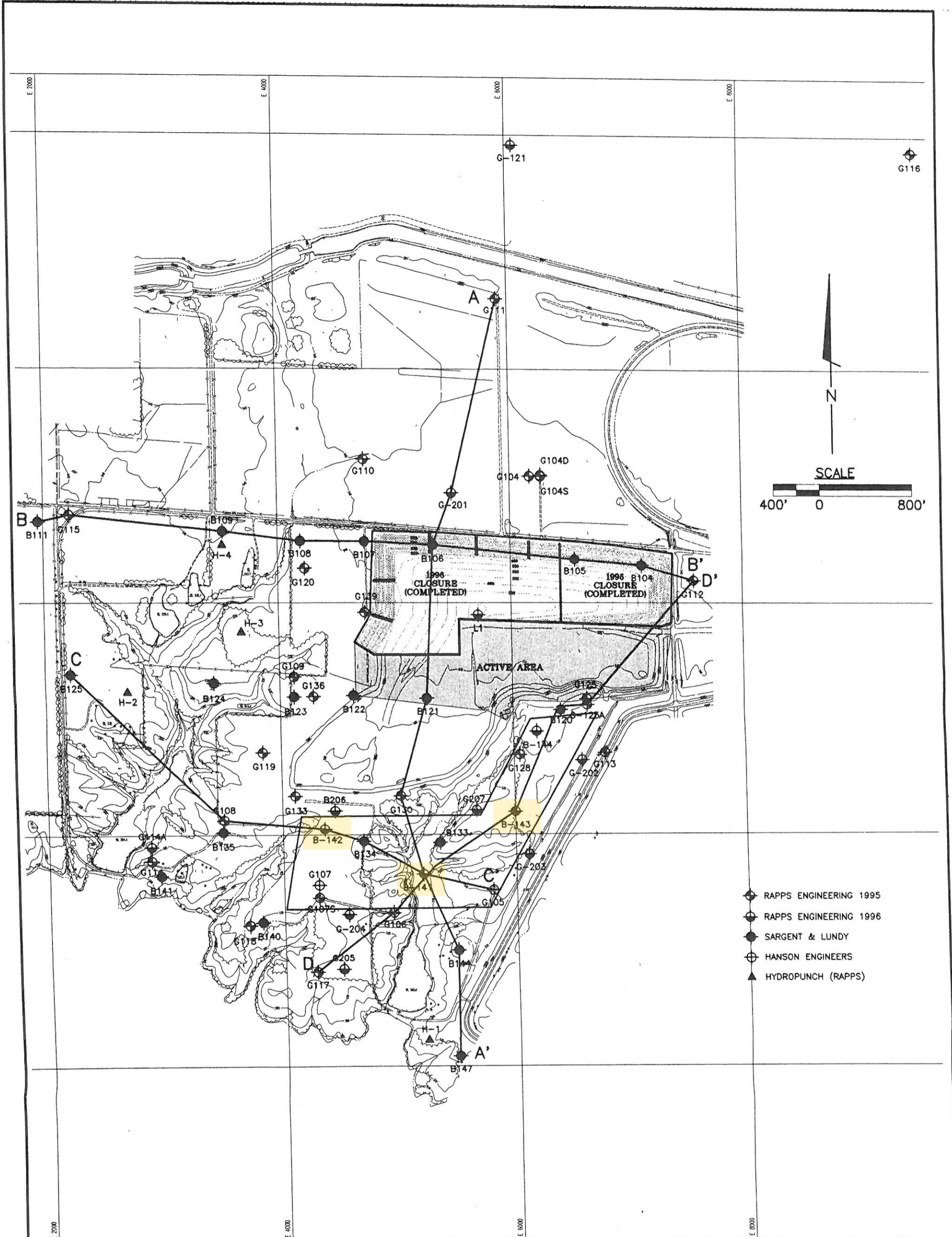
**VOLUME III**  
**APPENDIX 5.0**

**HYDROGEOLOGIC INVESTIGATION AND**  
**GROUNDWATER MONITORING PROGRAM**  
**CIPS - NEWTON POWERSTATION LANDFILL**  
**JASPER COUNTY, ILLINOIS**

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**RAPPS**  
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 1601 BROADWAY • MT. VERNON, IL 62864 • (618) 244-2611

**FIGURE 3-2**  
**CROSS SECTION**  
**KEY**  
 NEWTON POWER STATION LANDFILL  
 CENTRAL ILLINOIS PUBLIC SERVICE  
 NEWTON, ILLINOIS

**TABLE 3-1**  
**LABORATORY AND IN-SITU HYDRAULIC CONDUCTIVITY TESTS**

WELL/BORING	TESTED INTERVAL	HYDRAULIC CONDUCTIVITY (CM/SEC)	GEOLOGIC UNIT MONITORED
G105	11-26 ft	$2.39 \times 10^{-6}$ (F)	Upper Drift
G106	21-36 ft	$7.53 \times 10^{-6}$ (F)	Upper Drift
G115	8-18 ft	$1.42 \times 10^{-5}$ (F)	Upper Drift
G116	10-20 ft	$3.09 \times 10^{-5}$ (F)	Upper Drift
G119	10-20 ft	$6.10 \times 10^{-5}$ (F)	Upper Drift
G139	10-20 ft	$5.14 \times 10^{-5}$ (F)	Upper Drift
G201	57-67 ft	$1.58 \times 10^{-4}$ (F)	Uppermost Aquifer
G203	60-70 ft	$5.14 \times 10^{-3}$ (F)	Uppermost Aquifer
G204	55.5-64.5 ft	$5.99 \times 10^{-3}$ (F)	Uppermost Aquifer
G205	67-80 ft	$2.54 \times 10^{-6}$ (F)	Uppermost Aquifer
G207	57-70 ft	$7.19 \times 10^{-5}$ (F)	Uppermost Aquifer
B-141 (R)	20-25 ft	$1.69 \times 10^{-8}$ (L)	Vandalia Till Aquitard
B-141	27-28.5 ft	$6.34 \times 10^{-9}$ (L)	Vandalia Till Aquitard
B-142	27.5-30 ft	$9.25 \times 10^{-9}$ (L)	Vandalia Till Aquitard
B-142 (R)	28-32 ft	$2.11 \times 10^{-8}$ (L)	Vandalia Till Aquitard
B-143	21-22.5 ft	$9.55 \times 10^{-9}$ (L)	Vandalia Till Aquitard
G104D	79-87 ft	$1.4 \times 10^{-7}$ (F)	Lower Drift Aquitard

- (F) From in-situ field test  
(L) From laboratory analysis of site boring samples  
(R) Re-molded Sample

Table 3-2 lists the number of tests, range of hydraulic conductivities (K), and the mean K for each hydrostratigraphic unit.



PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: NEWTON POWER STATION

DATE: November 22, 1996

LANDFILL

PROJECT NO.: 66398

CLIENT: RAPPS

REPORT NO: 66398-1

Sheet 1 of 5

SAMPLE IDENTIFICATION: B-141

DEPTH/ELEV: 20' - 25'

CLASSIFICATION; USCS:

DESCRIPTION: Gray, medium plasticity, SILTY CLAY, trace sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %: SAND %: SILT %: CLAY %: \*
NATURAL MOISTURE %: 12.2 DENSITY;lb/ft3 NATURAL: 0.0
LIQUID LIMIT : MAX. DRY;lb/ft3: 126.3 REMOLDED: 120.1
PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698): 95.1

PERMEABILITY (k), cm/sec: 1.69E-8 \*\*

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: CLIENT

TYPE OF SAMPLE: REMOLDED

SPECIMEN DATA

DIAMETER;cm: 7.264 INITIAL DENSITY;pcf: 134.8
LENGTH;cm: 7.442 DRY UNIT DENSITY;pcf: 120.1
AREA;cm2: 41.45 INITIAL MOISTURE; %: 12.2
VOLUME;cm3: 308.5 FINAL MOISTURE; %:
INITIAL SATURATION; %: 23.46 FLOW ORIENTATION: -V
TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi: 30.0
SAMPLE BACK PRESSURE;psi: 25.0
DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 18.9
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 40.5 Hrs PERMEABILITY: 170.0 Hrs
FLOW THRU SPECIMEN; TOTAL: 13.41 ml PERMEABILITY TEST: 8.23 ml
TEMPERATURE CORRECTION; TEMPERATURE: 20.6 C FACTOR: 0.986

REMARKS:

\* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

\*\* Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.



PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: NEWTON POWER STATION
LANDFILL
CLIENT: RAPPS

DATE: November 22, 1996
PROJECT NO.: 66398
REPORT NO: 66398-1

Sheet 1 of 5

SAMPLE IDENTIFICATION: B-142 DEPTH/ELEV: 28' - 32'

CLASSIFICATION; USCS:

DESCRIPTION: Gray, medium plasticity, SILTY CLAY, trace sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %: SAND %: SILT %: CLAY %: \*
NATURAL MOISTURE %: 12.5 DENSITY;lb/ft3 NATURAL: 0.0
LIQUID LIMIT : MAX. DRY;lb/ft3: 126.3 REMOLDED: 118.6
PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698): 93.9

PERMEABILITY (k), cm/sec: 2.11E-8 \*\*

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: CLIENT TYPE OF SAMPLE: REMOLDED

SPECIMEN DATA

DIAMETER;cm: 7.264 INITIAL DENSITY;pcf: 133.4
LENGTH;cm: 7.595 DRY UNIT DENSITY;pcf: 118.6
AREA;cm2: 41.45 INITIAL MOISTURE; %: 12.5
VOLUME;cm3: 314.8 FINAL MOISTURE; %: 12.7
INITIAL SATURATION; %: 23.79 FLOW ORIENTATION: -V
TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi: 30.0
SAMPLE BACK PRESSURE;psi: 25.0
DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 18.5
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 19.7 Hrs PERMEABILITY: 167.5 Hrs
FLOW THRU SPECIMEN; TOTAL: 10.81 ml PERMEABILITY TEST: 10.10 ml
TEMPERATURE CORRECTION; TEMPERATURE: 21.46 C FACTOR: 0.966

REMARKS:

\* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

\*\* Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.



**PERMEABILITY & CLASSIFICATION TEST RESULTS**

PROJECT: NEWTON POWER STATION

DATE: November 10, 1996

LANDFILL

PROJECT NO.: 66398

CLIENT: RAPPS

REPORT NO: 66398-1

Sheet 1 of 3

SAMPLE IDENTIFICATION: B-141

DEPTH/ELEV: 27' - 28.5

CLASSIFICATION; USCS:

DESCRIPTION: Gray, medium plasticity, SILTY CLAY, trace sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %: SAND %: SILT %: CLAY %: \*

NATURAL MOISTURE %: 13.0 DENSITY;lb/ft3 NATURAL: 124.6

LIQUID LIMIT : MAX. DRY;lb/ft3: REMOLDED: 0.0

PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698):

PERMEABILITY (k), cm/sec: 6.34E-9 \*\*

===== PERMEABILITY TEST DETAILS =====

SAMPLES OBTAINED BY: CLIENT

TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm: 7.264 INITIAL DENSITY;pcf: 140.8

LENGTH;cm: 7.188 DRY UNIT DENSITY;pcf: 124.6

AREA;cm2: 41.45 INITIAL MOISTURE; %: 13.0

VOLUME;cm3: 297.9 FINAL MOISTURE; %: 13.8

INITIAL SATURATION; %: 26.01 FLOW ORIENTATION: -V

TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi: 30.0

SAMPLE BACK PRESSURE;psi: 25.0

DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 19.6

PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 115.2 Hrs PERMEABILITY: 167.0 Hrs

FLOW THRU SPECIMEN; TOTAL: 6.98 ml PERMEABILITY TEST: 3.24 ml

TEMPERATURE CORRECTION; TEMPERATURE: 22.06 C FACTOR: 0.953

REMARKS:

\* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

\*\* Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.



**PERMEABILITY & CLASSIFICATION TEST RESULTS**

PROJECT: NEWTON POWER STATION

DATE: November 10, 1996

LANDFILL

PROJECT NO.: 66398

CLIENT: RAPPS

REPORT NO: 66398-1

Sheet 2 of 3

SAMPLE IDENTIFICATION: B-142

DEPTH/ELEV: 27.5' - 30

CLASSIFICATION; USCS:

DESCRIPTION: Gray, medium plasticity, SILTY CLAY, trace sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %:	SAND %:	SILT %:	CLAY %:	*
NATURAL MOISTURE %: 11.9		DENSITY;lb/ft3	NATURAL:	124.1
LIQUID LIMIT :		MAX. DRY;lb/ft3:	REMOLED:	0.0
PLASTICITY INDEX :		PROCTOR;DEG OF COMPACTION (D698):		

PERMEABILITY (k), cm/sec: 9.25E-9 \*\*

===== PERMEABILITY TEST DETAILS =====

SAMPLES OBTAINED BY: CLIENT

TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm: 7.264	INITIAL DENSITY;pcf: 138.9
LENGTH;cm: 7.696	DRY UNIT DENSITY;pcf: 124.1
AREA;cm2: 41.45	INITIAL MOISTURE; %: 11.9
VOLUME;cm3: 319.0	FINAL MOISTURE; %: 12.9
INITIAL SATURATION; %: 23.69	FLOW ORIENTATION: -V
TEST APPARATUS: GEOTEST	

TEST PRESSURES

CELL/CONFINING; psi: 30.0	
SAMPLE BACK PRESSURE;psi: 25.0	
DRIVING PRESSURE; psi: 2.0	HYDRAULIC GRADIENT: 18.3
PERMEANT LIQUID: 0.005 N CaSO4	

TIME OF TEST; SATURATION: 115.2 Hrs	PERMEABILITY: 167.0 Hrs
FLOW THRU SPECIMEN; TOTAL: 9.41 ml	PERMEABILITY TEST: 4.42 ml
TEMPERATURE CORRECTION; TEMPERATURE: 22.06 C	FACTOR: 0.953

REMARKS:

\* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

\*\* Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.



PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: NEWTON POWER STATION

DATE: November 10, 1996

LANDFILL

PROJECT NO.: 66398

CLIENT: RAPP

REPORT NO: 66398-1

Sheet 3 of 3

SAMPLE IDENTIFICATION: B-143

DEPTH/ELEV: 21' - 22.5

CLASSIFICATION; USCS:

DESCRIPTION: Gray, Silty Clay, trace sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %: SAND %: SILT %: CLAY %: \*
NATURAL MOISTURE %: 11.4 DENSITY;lb/ft3 NATURAL: 125.4
LIQUID LIMIT : MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698):

PERMEABILITY (k), cm/sec: 9.55E-9 \*\*

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: CLIENT

TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm: 7.264 INITIAL DENSITY;pcf: 139.7
LENGTH;cm: 7.595 DRY UNIT DENSITY;pcf: 125.4
AREA;cm2: 41.45 INITIAL MOISTURE; %: 11.4
VOLUME;cm3: 314.8 FINAL MOISTURE; %: 14.3
INITIAL SATURATION; %: 22.89 FLOW ORIENTATION: -V
TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi: 30.0
SAMPLE BACK PRESSURE;psi: 25.0
DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 18.5
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 73.4 Hrs PERMEABILITY: 117.0 Hrs
FLOW THRU SPECIMEN; TOTAL: 6.40 ml PERMEABILITY TEST: 3.27 ml
TEMPERATURE CORRECTION; TEMPERATURE: 22.4 C FACTOR: 0.944

REMARKS:

\* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

\*\* Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

**APW15 BORING LOG**









































Facility/Project Name <b>Newton Power Station</b>		License/Permit/Monitoring Number		Boring Number <b>APW15</b>	
Boring Drilled By: Name of crew chief (first, last) and Firm <b>Adam Jochimsen Cascade Drilling</b>		Date Drilling Started <b>1/21/2021</b>		Date Drilling Completed <b>1/22/2021</b>	
Common Well Name <b>APW15</b>		Final Static Water Level Feet (NAVD88)		Surface Elevation <b>522.06 Feet (NAVD88)</b>	
				Borehole Diameter <b>6.0 inches</b>	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input checked="" type="checkbox"/>		State Plane <b>821,107.90 N, 997,938.87 E</b> <input checked="" type="checkbox"/> W		Local Grid Location	
1/4 of 1/4 of Section <b>26, T 6 N, R 8 E</b>		Lat <b>38° 55' 17.71"</b>		<input type="checkbox"/> N <input type="checkbox"/> E	
		Long <b>-88° 17' 6.79"</b>		<input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County <b>Jasper</b>		State <b>IL</b>	
				Civil Town/City/ or Village <b>Newton</b>	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties					RQD/ Comments	
									Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1 CS	60 54		1	0 - 6.3' <b>FILL, LEAN CLAY:</b> CL, brown (10YR 5/3), silt (15-25%) sand (0-5%), stiff, no dilatancy, low toughness, medium plasticity, moist.	(FILL) CL				1.75						CS= Core Sample
2 CS	60 40		5	6.3 - 20' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), silt (15-25%) sand (0-5%), gravel (0-5%), organic material (0-5%), very stiff to stiff, no dilatancy, medium toughness, medium plasticity, moist.	CL				1.75						
3 CS	60 50		10						2.25						
			11						4						
			12						1						

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

Signature 	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
---------------	-------------------------------------------------------------------	--------------------------------------------

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties					RQD/ Comments	
Number and Type	Length Att. & Recovered (in)								Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200		
4 CS	60 54		13	6.3 - 20' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), silt (15-25%) sand (0-5%), gravel (0-5%), organic material (0-5%), very stiff to stiff, no dilatancy, medium toughness, medium plasticity, moist. (continued)					2.5						
			14												
			15						1.5						
			16			CL									
			17					2.25							
			18												
			19												
			20	19.2' brown (10YR 4/3), yellowish brown (10YR 5/6) mottling (10-15%), stiff.				2.5							
5 SH	24 23		20	20 - 22' <b>LEAN CLAY:</b> CL.					18.5	33	23	59.2	SH= Shelby Tube		
			21		CL										
			22												
6 CS	96 96		22	22 - 23.5' <b>LEAN CLAY:</b> CL, brown (10YR 4/3), yellowish brown (10YR 5/6) mottling (10-15%), stiff, no dilatancy, medium toughness, medium plasticity, moist.	CL			1.25							
			23		CL			1							
			24	23.5 - 26.7' <b>SANDY LEAN CLAY:</b> s(CL), brown (10YR 5/3), gray (10YR 5/1) mottling (5-10%), stiff, slow dilatancy, low toughness, medium plasticity, moist.	s(CL)			3.75							
			25												
			26												
			27	26.7 - 39.2' <b>LEAN CLAY:</b> CL, brown (10YR 5/3), yellowish brown (10YR 5/6) mottling (10-15%), gray (10YR 5/1) mottling (5-10%), sand (5-10%), gravel (0-5%), cobbles (0-5%), very stiff to hard, no dilatancy, medium toughness, medium plasticity, dry to moist.				4.5							
			28												
			29												
			30	30' hard, dry.	CL			4.5							
6 CS	60 49		31												
			32					4.5							

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties					RQD/ Comments																			
Number and Type	Length Att. & Recovered (in)								Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200																				
7 CS	60 49		33	26.7 - 39.2' <b>LEAN CLAY:</b> CL, brown (10YR 5/3), yellowish brown (10YR 5/6) mottling (10-15%), gray (10YR 5/1) mottling (5-10%), sand (5-10%), gravel (0-5%), cobbles (0-5%), very stiff to hard, no dilatancy, medium toughness, medium plasticity, dry to moist. <i>(continued)</i>	CL				4.5																								
			34												39.2 - 52.5' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), no mottling, organic material (0-5%), sand (5-10%), gravel (0-5%), cobbles (0-5%), hard, no dilatancy, medium toughness, medium plasticity, dry, silt stringers 1mm to 3mm diameter fracture planes.	CL				4.5													
			35																						CL				4.5				
			36																														
	37	CL				4.5																											
	38										CL				4.5																		
	39																			CL				4.5									
	40																												CL				4.5
	41	CL				4.5																											
	42										CL				4.5																		
	43																			CL				4.5									
	44																												CL				4.5
	45	CL				4.5																											
	46										CL				4.5																		
	47																			CL				4.5									
	48																												CL				4.5
	49	CL				4.5																											
	50										CL				4.5																		
	51																			CL				4.5									
	52																												CL				4.5





Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	
19 CS	60 60		93	61.4 - 97.2' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), silt (15-25%), sand (0-10%), gravel (0-5%), organic material (0-5%), stiff to very stiff, no dilatancy, medium toughness, medium plasticity, moist to dry. <i>(continued)</i>	CL				2.75					
			94											
20 SH	24 24		95	97.2 - 100' <b>POORLY-GRADED SAND WITH SILT:</b> SP-SM, dark gray (10YR 4/1), subrounded to rounded, medium to fine sand, loose, wet.	SP-SM					12.1	15	3	45.8	
			96											
21 CS	36 36		97	100 - 102' <b>SILTY SAND:</b> SM.	SM									
			98											
22 MC	24 24		99	102 - 104.3' <b>SANDY SILT:</b> s(ML), gray (10YR 5/1), firm, slow dilatancy, low toughness, non-plastic, wet.	s(ML)				1					
			100											
23 CS	36 36		101	104.3 - 105' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), sand (5-10%), gravel (0-5%), organic material (0-5%), stiff to very stiff, no dilatancy, medium toughness, medium plasticity, moist.	CL					19.1	29	16	76.2	MC= Modified California Sample
			102											
			103	105 - 107' <b>LEAN CLAY:</b> CL.	CL									
			104	107 - 110' <b>LEAN CLAY:</b> CL, dark gray (10YR 4/1), sand (5-10%), gravel (0-5%), organic material (0-5%), stiff to very stiff, no dilatancy, medium toughness, medium plasticity, moist.	CL				2.25					
			105	110' End of Boring.					2.5					

**ATTACHMENT 2**

**RAMBOLL RESPONSE LETTER DATED NOVEMBER 3, 2023**

November 3, 2023

VIA E-MAIL

heather.mullenax@illinois.gov

EPA.CCR.PART845.COORDINATOR@ILLINOIS.GOV

EPA.CCR.Part845.Notify@Illinois.gov

**Re: Newton Power Plant Primary Ash Pond Alternative Source Demonstration Response to IEPA Comments**

To Whom It May Concern:

This letter addresses the following requests for information from the Illinois Environmental Protection Agency (IEPA) provided on October 26, 2023 via email from Lauren Hunt regarding the Newton Power Plant Primary Ash Pond alternative source demonstration (ASD) submitted on October 6, 2023:

1. Source characterization of the CCR at the Primary Ash Pond must include total solids sampling, analysis and reporting in accordance with SW846.
2. Hydraulic conductivities from laboratory or insitu testing must be collected, analyzed and presented with hydrogeologic characterization of all units including aquifers and confining units. Hydraulic conductivity data must include field and software analysis.
3. Characterization to include sample and analysis in accordance with 35 IAC 845.640 of alternative source must be provided with the ASD.

## Background

Alternative source demonstrations use a multiple lines of evidence approach to support the conclusions that 1) the coal combustion residuals (CCR) unit is not the source of an exceedance, and 2) there is an alternative source of the exceedance. The multiple lines of evidence approach is consistent with the approach used in many areas of environmental analysis such as ecological risk assessment, monitored natural attenuation (MNA), and vapor intrusion (USEPA, 2016; USEPA, 1999; ITRC, 2007). The goal of a multiple lines of evidence approach is to provide robust support for a causal relationship based on many smaller individual qualitative or quantitative pieces of evidence (USEPA, 2016). Critically, no individual line of evidence will be completely conclusive, and each will have varying degrees of certainty. The final determination of a conclusion is based on the totality of the evidence provided.

ASDs based on a multiple lines of evidence approach are routinely prepared by environmental consultants to comply with federal CCR rules (Title 40 of the Code of Federal Regulations [40 C.F.R.] § 257) and State CCR rules (Title 35 of the Illinois Administrative Code [35 I.A.C.] § 845). In Georgia, where the CCR permitting authority has been delegated to the State, the Georgia Environmental Protection Division has approved ASDs using multiple lines of evidence to satisfy the requirements of federal CCR rule. An example of such approval is documented in the summary section (page 3) of the 2023 Annual Groundwater Monitoring and Corrective Action Report found in the publicly accessible files linked here: [https://www.georgiapower.com/content/dam/georgia-power/pdfs/company-pdfs/plant-mcmanus/20230731\\_2023agwmcar\\_mcm\\_ap-1.pdf](https://www.georgiapower.com/content/dam/georgia-power/pdfs/company-pdfs/plant-mcmanus/20230731_2023agwmcar_mcm_ap-1.pdf).



The Primary Ash Pond ASD was completed in conformance with the Electric Power Research Institute (EPRI) guidance for development of ASDs at CCR sites (EPRI, 2017). The EPRI document presents an approach for developing ASD lines of evidence that relies, where possible, on leachate samples collected from leachate wells, lysimeters, and/or leachate collection systems to provide samples that are representative of interstitial porewater. This direct approach for evaluating the potential for the Primary Ash Pond to impact groundwater is in contrast to the indirect approach implied by the IEPA request to characterize the CCR at the Primary Ash Pond using methods in accordance with SW-846 (specifically those used for waste characterization [e.g., EP, TCLP, SPLP, LEAF<sup>1</sup>]), as discussed below.

Additionally, the lines of evidence as presented as section headings in the Primary Ash Pond ASD commonly contain multiple qualitative and quantitative pieces of information that contribute to the body of evidence that support the conclusion that the CCR surface impoundment (SI) is not the source of an exceedance.

### **Response to Request Number 1: SW-846 Characterization of CCR Material**

The CCR porewater most accurately represents the mobile constituents associated with the waste management activity within the CCR SI (EPRI, 2017). The composition of CCR porewater accumulated at the base of the CCR unit, which is derived from, and represents contact with, CCR material above and around the well screen, is the truest representation of mobile constituents throughout the CCR SI. Leach tests presented in SW-846 (e.g., TCLP, SPLP, LEAF 1313 - 1316) are inconsistent predictors or surrogates of *in situ* porewater chemical concentrations (EPRI, 2020; EPRI, 2021; and EPRI, 2022). Indeed, laboratory leach test effectiveness is determined by comparing results to porewater data (USEPA, 2014; EPRI, 2020; EPRI, 2021; and EPRI, 2022). These laboratory leach tests most accurately predict porewater concentrations when conditions in the test closely reflect conditions present in the field (USEPA, 2019). In many cases, the pH and/or redox potential of porewater is poorly represented by any laboratory leach test conditions. For these reasons, analysis of actual CCR porewater is more representative of potential contributions to groundwater observed in compliance monitoring wells than laboratory leach testing. The uncertainty in comparing the laboratory leach test results with the actual porewater concentrations means that the contribution of laboratory leach test data as a line of evidence to an ASD would be minimal.

Prior to performing hydrogeologic investigations in 2021, Ramboll completed a review of existing data to determine whether sufficient information existed to meet the requirements of 35 I.A.C. § 845. Based on the review, Ramboll developed an approach to fully characterize the CCR material as part of the 2021 investigation. Five locations for porewater wells were selected by evaluating the extent of ash through time on aerial photographs (**Figure 1**), identifying visible differences (color) in surficial materials, and capturing a representative spatial distribution. Porewater was encountered at an elevation of approximately 540 feet in 2021 (Ramboll, 2021). For the purpose of visualization, **Figure 2** shows the areas within the SI that were not accessible for potential sampling and testing as illustrated by different colored portions of the Primary Ash Pond. Of the 404 acre unit only about 12% was accessible. A total of four porewater wells were installed in 2021, because the fifth location was not able to be accessed safely after evaluation with contractors in the field.

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<sup>1</sup> Extraction Procedure, Toxic Characteristic Leaching Procedure, Synthetic Precipitation Leaching Procedure, Leaching Environmental Assessment Framework

During installation of the porewater wells, the borings were logged, and solid samples were collected from eight intervals for geotechnical and chemical analysis. Samples were analyzed for total metal concentrations via EPA Method 6010B and 6020A (SW-846) and results were summarized in the Hydrogeologic Site Characterization Report (Ramboll, 2021) and submitted in the 2021 Operating Permit (Burns and McDonnell, 2021).

As established above, testing porewater is a direct source term for evaluating potential influence on groundwater. SW-846 provides analytical methods for evaluating solid waste using leach tests that are designed to replicate potential *in situ* conditions (either current or future). The goal of these laboratory leach tests is to predict the potential concentration of chemicals under laboratory controlled conditions (e.g., landfill leachate, synthetic precipitation, variable pH) which may or may not represent conditions observed in the field. The use of leach test results performed under variable conditions collected from any number of locations within the CCR SI to estimate a total potential for chemical leaching from CCR into groundwater under a variety of different conditions is irrelevant to an ASD. ASDs are prepared to evaluate the potential for actual porewater leaking from a CCR SI to be the cause of a detected exceedance observed in a compliance well.

### **Response to Request Number 2: Provide Hydraulic Conductivity Data**

Responses to Request Number 2 are provided in the cover letter to this Attachment and in Attachment 1 to that cover letter.

### **Response to Request Number 3: Alternative Source Characterization**

In the ASD, the multiple lines of evidence approach is appropriate for identifying that a source other than the Primary Ash Pond caused, and that the Primary Ash Pond did not contribute to, the chloride exceedance in APW15. Additionally, Ramboll's investigation and analysis determined bedrock is likely the source of chloride in APW15. Ramboll reviewed available power plant and public well records which did not yield any bedrock monitoring wells in the immediate vicinity to provide site-specific groundwater analytical results. However, the references provided in Section 2.3.2 of the ASD indicate chloride is present in bedrock groundwater in many locations within the Illinois Basin which underlies approximately 70% of Illinois. That and the observation of a saline spring approximately 10 miles from the site near the Clay City Anticline (a structural feature which could provide fractures that act as conduits to bring brines near the land surface) are strong indicators that the bedrock beneath the Primary Ash Pond also contains chloride.

### **Conclusions**

The combined strength of the lines of evidence in the Primary Ash Pond ASD demonstrates that the Primary Ash Pond is not the source of the chloride exceedance at APW15 (and did not contribute to the chloride exceedance at APW15) and that the likely source is native bedrock. Ramboll does not believe that additional lines of evidence based on leach test data or testing of the alternative source would change the conclusion of the full body of evidence presented in the ASD that the Primary Ash Pond is not the source of the chloride exceedance at APW15 and did not contribute to the chloride exceedance at APW15.

## References

Burns & McDonnell, 2021. Initial Operating Permit. Newton Ash Pond. October 25.

Interstate Technology Regulatory Council (ITRC), 2007. Technical and Regulatory Guidance Vapor Intrusion Pathway: A Practical Guide. January 2007.

Electric Power Research Institute (EPRI), 2022. Evaluation and Comparison of Leach Test and Porewater Variability for Multiple Coal Combustion Product Management Units. EPRI, Palo Alto, CA: 2022. 3002024214.

Electric Power Research Institute (EPRI), 2021. Leaching, Geotechnical, and Hydrologic Characterization of Coal Combustion Products from an Active Coal Ash Management Unit: Plant 42197. EPRI, Palo Alto, CA: 2021. 3002018780.

Electric Power Research Institute (EPRI), 2020. Leaching, Geotechnical, and Hydrologic Characterization of Coal Combustion Products from a Closed Coal Ash Impoundment: Capped Unit. EPRI, Palo Alto, CA: 2020. 3002017363.

Electric Power Research Institute (EPRI), 2017. Guidelines for Development of Alternative Source Demonstrations at Coal Combustion Residual Sites. EPRI, Palo Alto, CA: 2017. 3002010920.

Ramboll Americas Engineering Services (Ramboll), 2021. Hydrogeologic Site Characterization Report. Newton Power Plant Primary Ash Pond. October

United States Environmental Protection Agency (USEPA), 2019. Leaching Environmental Assessment Framework (LEAF) How-To Guide. SW-846 Update VII. Revision 1. May.

United States Environmental Protection Agency (USEPA), 2016. Weight of Evidence in Ecological Assessment. EPA/100/R-16/001. December.

United States Environmental Protection Agency (USEPA), 2014. Leaching Test Relationships, Laboratory-to-Field Comparisons and Recommendations for Leaching Evaluation using the Leaching Environmental Assessment Framework. EPA 600/R-14/061 September.

United States Environmental Protection Agency (USEPA), 1999. Use of Monitoring Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites. OSWER Directive Number 9200.4-17P.

## Attachments

Figure 1          CCR Characterization

Figure 2          2022 Conditions



If you have any questions about this letter, please do not hesitate to contact Brian Hennings or Frances Ackerman, as referenced below.

Sincerely,

**Brian G. Hennings, PG**

Project Officer, Hydrogeology

D +1 414 837 3524

D +1 262 719 4512

[brian.hennings@ramboll.com](mailto:brian.hennings@ramboll.com)

**A. Frances Ackerman, PE**

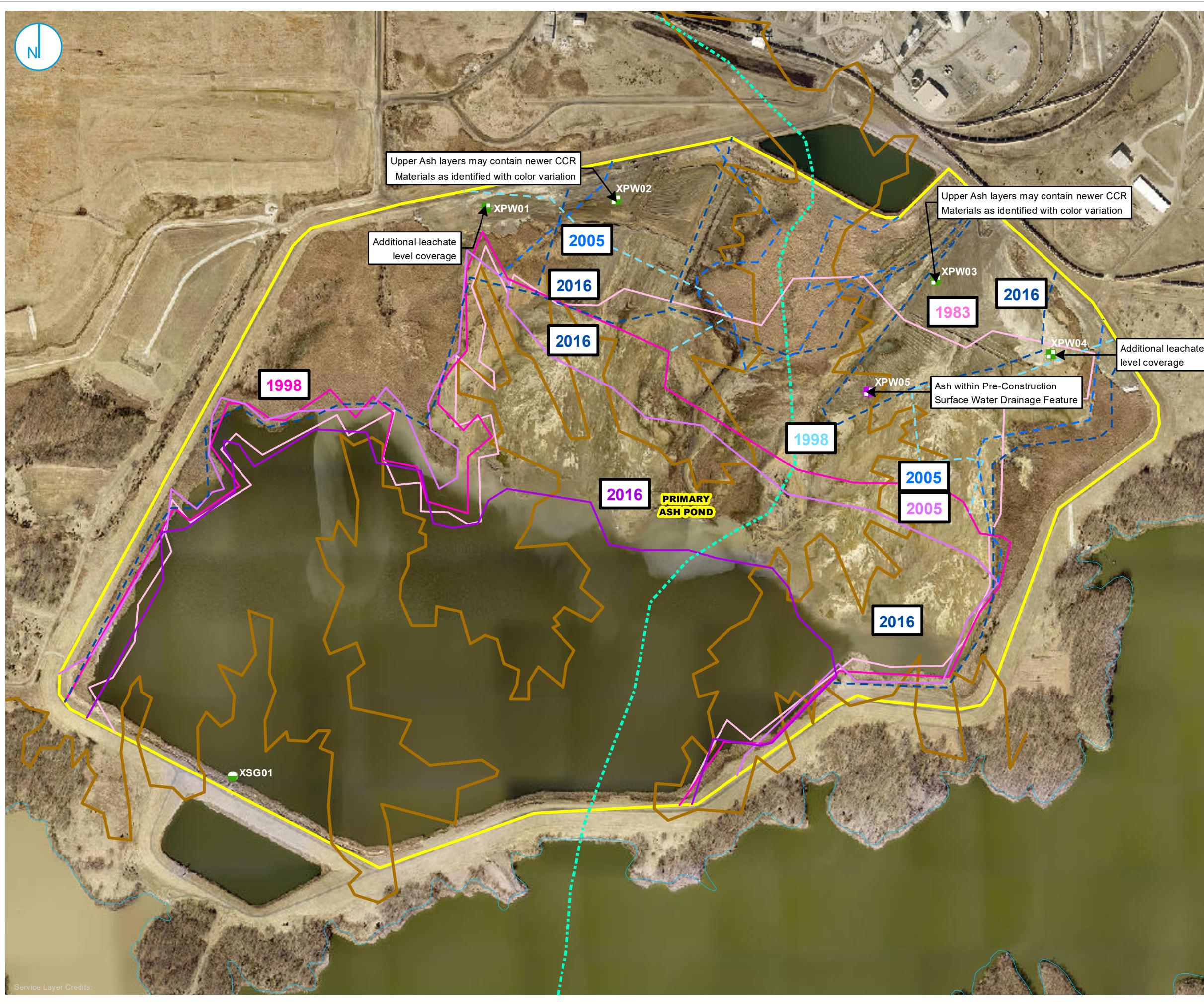
Subject Matter Expert/Technical Manager 2

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[frances.ackerman@ramboll.com](mailto:frances.ackerman@ramboll.com)

## **ATTACHMENTS**



- PORE WATER WELL
- STAFF GAGE, CCR UNIT
- PROPOSED LOCATION COULD NOT BE ACCESSED
- - - - APPROXIMATE LOCATION OF STREAM BASED ON 1953 TOPOGRAPHIC MAP (BASE OF STREAM ELEVATION DECREASES SOUTH TOWARD NEWTON LAKE)
- APPROXIMATE LOCATION OF 530 FOOT GROUND SURFACE ELEVATION CONTOUR BASED ON 1953 TOPOGRAPHIC MAP (PRE-CONSTRUCTION SURFACE WATER DRAINAGE FEATURE)
- APPROXIMATE LIMITS OF ASH BASED ON 1983 AERIAL
- APPROXIMATE LIMITS OF ASH BASED ON 1998 AERIAL
- APPROXIMATE LIMITS OF ASH BASED ON 2005 AERIAL
- APPROXIMATE LIMITS OF ASH BASED ON 2016 AERIAL
- - - - APPROXIMATE LIMITS OF VARIANCE IN CCR MATERIAL COLORATION AS OBSERVED IN 1998 AERIAL
- - - - APPROXIMATE LIMITS OF VARIANCE IN CCR MATERIAL COLORATION AS OBSERVED IN 2005 AERIAL
- - - - APPROXIMATE LIMITS OF VARIANCE IN CCR MATERIAL COLORATION AS OBSERVED IN 2016 AERIAL
- SURFACE WATER FEATURE
- CCR MONITORED UNIT, SUBJECT SITE



**CCR CHARACTERIZATION**

**NEWTON PRIMARY ASH POND (UNIT ID: 501)**

NEWTON POWER STATION  
NEWTON, ILLINOIS

**FIGURE 1**





- PORE WATER WELL
- STAFF GAGE, CCR UNIT
- PROPOSED LOCATION COULD NOT BE COMPLETED
- 540 ELEVATION CONTOUR
- ACTIVE SLUICE AREA
- LIMITED ACCESS AREA
- LOW LYING VEGETATION AREA
- RECENT SLUICE AREA
- ELEVATION BELOW 540FT
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE



**2022 CONDITIONS**

NEWTON POWER PLANT  
NEWTON, ILLINOIS

**FIGURE 2**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.





# 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

November 7, 2023

Phil Morris  
Illinois Power Generating Company  
1500 Eastport Plaza Drive  
Collinsville, Illinois 62234

Re: Newton Power Plant Primary Ash Pond – W079807001-01  
Alternative Source Demonstration Submittal

Dear Mr. Morris:

The purpose of this correspondence is to notify you that the Illinois Environmental Protection Agency (Illinois EPA) does not concur with the Newton Primary Ash Pond Alternative Source Demonstration (ASD) dated October 6, 2023. The Illinois EPA does not concur due to the following data gaps:

1. Source characterization of the CCR at the Primary Ash Pond must include total solids sampling in accordance with SW846.
2. Hydraulic conductivities from laboratory or in-situ testing must be collected, analyzed, and presented with hydrogeologic characterization of bedrock unit.
3. Characterization to include sample and analysis in accordance with 35 IAC 845.640 of alternative source must be provided with the ASD.

If you have any questions, please contact: **Heather Mullenax** Illinois EPA, Bureau of Water, PWS #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,

Michael Summers, P.G.  
Manager, Groundwater Section  
Division of Public Water Supplies  
Bureau of Water

cc: Heather Mullenax  
Francisco Herrera  
WPC Files 06M

2125 S. First Street, Champaign, IL 61820 (217) 278-5800  
1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120  
9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000  
595 S. State Street, Elgin, IL 60123 (847) 608-3131

2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200  
412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022  
4302 N. Main Street, Rockford, IL 61103 (815) 987-7760



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



Illinois Power Generating Company Inc.  
6725 N 500<sup>th</sup> St  
Newton, IL 62448

November 6, 2023

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

Re: Newton Primary Ash Pond (IEPA ID: W0798070001-01), Corrective Measures Assessment Schedule Extension Demonstration

Dear Mr. LeCrone:

In accordance with 35 I.A.C. § 845.660(a)(2), Illinois Power Generating Company Inc. (IPGC) is submitting a schedule extension demonstration for completing the Corrective Measures Assessment (CMA) for the Primary Ash Pond (IEPA ID: W0798070001-01) at the Newton Power Plant, as enclosed.

Sincerely,

A handwritten signature in blue ink, appearing to read "Phil Morris".

Phil Morris, P.E.  
Senior Director, Environmental Health and Safety

Enclosures

## INTRODUCTION AND BACKGROUND

Exceedances of the groundwater protection standards (GWPS) listed in Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845.600 have been detected at the Primary Ash Pond (PAP, Illinois Environmental Protection Agency [IEPA] Identification [ID]: W0798070001-01) at the Newton Power Plant (NPP). The GWPS exceedances are documented in the 2023 Quarter 2 groundwater monitoring report that was prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) and submitted to IEPA on August 7, 2023 [1].

In accordance with 35 I.A.C. § 845.660, Illinois Power Generating Company Inc (IPGC) initiated a Corrective Measures Assessment (CMA) on November 5, 2023, 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 PAP being submitted to IEPA on or before April 3, 2024.

## DEMONSTRATION

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

### Circumstance 1: Ongoing Fieldwork and Additional Data Collection

IPGC is in the process of performing ongoing fieldwork and data collection activities for the PAP. These activities, which require additional time to complete and incorporate into the CMA, include:

- The reliability of monitored natural attenuation (MNA) to attain GWPS is currently under evaluation. IPGC is in the process of evaluating the results of additional recent fieldwork and data collection associated with the evaluation of MNA as a corrective measure for the PAP. The fieldwork included new soil borings, collection of soil samples, and geochemical testing. The results of this fieldwork and data collection will be utilized to evaluate the reliability, including the potential for reversibility, of MNA relative to other types of corrective measures.
- The nature and extent of contamination around the PAP is currently under evaluation. IPGC is in the planning process of installing additional monitoring wells to further define the nature and extent of exceedances around the PAP. The results of additional groundwater data collection will be utilized to further evaluate the ability of corrective measures to address the refined nature and extent of groundwater impacts.

### Circumstance 2: Physical Size of the PAP, Potential Conflicts with Closure, and Adjacent Floodplains and Water Bodies

The evaluation of performance and reliability of corrective measures for the PAP will be complicated by physical challenges and constraints that may impact effective implementation of corrective measures at the site. These challenges include, but are not limited to:

- The PAP has a total surface area of nearly 450 acres and a perimeter length of approximately 17,000 feet [2].
- Closure of the PAP, in accordance with the closure plan and construction permit application submitted to IEPA on July 22, 2022 [3], will be a large-scale construction project.
  - Closure will include a consolidate-and-cap approach where coal combustion residuals (CCRs) are removed from a 170-acre area inside the PAP and consolidated into a 250-acre area. Closure will

involve moving approximately 1.9 million cubic yards of CCR and subgrade soils over a period of approximately 4 years [3].

- Areas adjacent to the PAP are located within the 100-year and 500-year floodplains of Newton Lake per Federal Emergency Management Area (FEMA) floodplain mapping for the site [4].
- The PAP is also located adjacent to Newton Lake itself, which is a popular local fishing and recreational lake [5].

These factors will require substantial additional effort to evaluate the physical location and dimensions of any proposed corrective action which considers the size of the PAP and limits adverse impacts to proposed closure construction, adjacent floodplains, and adjacent environmentally sensitive water bodies.

#### Circumstance 3: Future Solar Development

The ease of implementation and time required to begin and complete corrective action at the PAP may be affected by potential future solar development at the site. IPGC is in the planning stages of developing a solar facility over the closed-in-place PAP which could provide renewable, low-carbon energy to Illinois while repurposing the PAP into productive land use. Additional time is required to evaluate potential conflicts between the future solar development that is being considered and potential corrective measures.

#### REFERENCES

- [1] Ramboll Americas Engineering Solutions, Inc., "35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, 2023 Quarter 2, Primary Ash Pond, Newton Power Plant," August 7, 2023.
- [2] IngenAE, "Newton Power Plant, Aerial photography," Earth City, MO, September 9, 2021.
- [3] HDR, "Illinois Power Generating Company, Primary Ash Pond, Construction Permit Application," July 2022.
- [4] Federal Emergency Management Agency, "Flood Insurance Rate Map, Jasper County, Illinois (Unincorporated Areas)," National Flood Insurance Program, January 17, 1985.
- [5] Illinois Department of Natural Resources, "Newton Lake," [Online]. Available: <https://www.ifishillinois.org/profiles/waterbody.php?waternum=00225>.

**CERTIFICATION STATEMENT**

CCR Unit: Illinois Power Generating Company Inc; Newton Power Plant, Primary Ash Pond  
IEPA ID: W0798070001-01

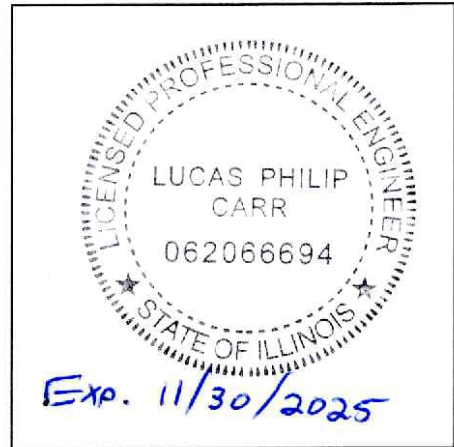
I, Lucas P. Carr, being a Registered Professional Engineer in good standing with the state of Illinois, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. 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 Power Generating Company Inc.  
6725 N 500<sup>th</sup> St  
Newton, IL 62448

November 30, 2023

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

**Re: Newton Primary Ash Pond (IEPA ID: W0798070001-01)  
Corrective Measures Assessment Schedule Extension Demonstration Addendum**

Dear Mr. LeCrone:

In accordance with 35 I.A.C. § 845.660(a)(2), Illinois Power Generating Company Inc. (IPGC) submitted a schedule extension demonstration for completing the Corrective Measures Assessment (CMA) for the Primary Ash Pond (IEPA ID: W0798070001-01) at the Newton Power Plant on November 6, 2023. On November 7, 2023, IEPA issued a non-concurrence letter to IPGC regarding an alternative source demonstration (ASD) for the Primary Ash Pond. Therefore, IPGC has prepared this CMA Schedule Extension Demonstration Addendum to include the ASD non-concurrence as an additional site-specific circumstance, as enclosed.

Sincerely,

A handwritten signature in blue ink, appearing to read "Phil Morris".

Phil Morris, P.E.  
Senior Director, Environmental Health and Safety

Enclosures

## **INTRODUCTION AND BACKGROUND**

IPGC submitted a CMA Schedule Extension Request Demonstration (Extension Demonstration) for the Primary Ash Pond (PAP) at the Newton Power Plant (NPP) on November 6, 2023 [1]. The Extension Demonstration considered the GWPS exceedances listed in the 2023 Quarter 2 groundwater monitoring report [2] which were not included within the Alternative Source Demonstration (ASD) that was prepared by Ramboll and submitted to IEPA on October 6, 2023 [3]. Additional data to support the ASD, based on communication between IEPA and IPGC, were submitted to IEPA on November 3, 2023 [4]. On November 7, 2023, IEPA issued a letter to IPGC indicating that they did not concur with the ASD [5]. Therefore, in accordance with 35 I.A.C. § 845.660(a), these exceedances would need to be addressed in the CMA.

This CMA Schedule Extension Demonstration Addendum has been prepared to supplement the previously-submitted Extension Demonstration [1] to include a new site-specific circumstance related to the non-concurrence with the ASD [5].

## **DEMONSTRATION**

As discussed below, there is one additional circumstance (Circumstance 4) for the PAP that justifies the need for a 60-day extension of the default CMA deadline.

### **Circumstance 4: IEPA Non-Concurrence with Alternative Source Demonstration**

IEPA has issued a non-concurrence with an ASD for an exceedance of chloride (well APW15) at the PAP [5]. This non-concurrence will require additional time for the exceedance to be incorporated into the CMA, for the following reason:

- The exceedance addressed in the ASD is a different parameter and is in a different physical location around the unit compared to the exceedances addressed by the original CMA.
  - Additional time is required to evaluate whether the remedial options proposed at other locations with exceedances will also adequately address the exceedance at APW15; and, if they do not, additional time is required to develop additional remedial options for this exceedance.
- As discussed in the ASD [3], elevated levels of chloride are known to naturally occur within Pennsylvanian shale and groundwater within Jasper County.
  - Therefore, additional time is required to evaluate feasible remedial measures which adequately address chloride exceedances for the PAP while considering the potential for known natural sources of non-CCR related chloride exceedances at the site.
  - Specific CMA items that require substantial additional time to evaluate at a site with elevated concentrations of naturally occurring chloride include, but are not limited to, the time until GWPS are achieved (35 I.A.C. § 845.670(e)(1)(E)) and the long-term reliability of engineering and institutional controls (35 I.A.C. § 845.670(e)(1)(G)).

**REFERENCES**

- [1] Illinois Power Generating Company, "Newton Primary Ash Pond (IEPA ID: W0798070001-01); Corrective Measures Assessment Schedule Extension Demonstration," November 6, 2023.
- [2] Ramboll Americas Engineering Solutions, Inc., "35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, 2023 Quarter 2, Primary Ash Pond, Newton Power Plant," August 7, 2023.
- [3] Ramboll Americas Engineering Solutions, "35 I.A.C. § 845.650(E): Alternative Source Demonstration, Primary Ash Pond, Newton Power Plant, Newton, Illinois, IEPA ID: W0798070001-01," October 6, 2023.
- [4] Illinois Power Generating Company, "Re: Alternative Source Demonstration ("ASD") for Newton Power Plant Primary Ash Pond," November, 3, 2023.
- [5] Illinois Environmental Protection Agency, "Letter from Michael Summers to Phil Morris: Re: Newton Power Plant Primary Ash Pond - W079807001-01, Alternative Source Demonstration Submittal," November 7, 2023.



**CERTIFICATION STATEMENT**

CCR Unit: Illinois Power Generating Company Inc; Newton Power Plant, Primary Ash Pond  
IEPA ID: W0798070001-01

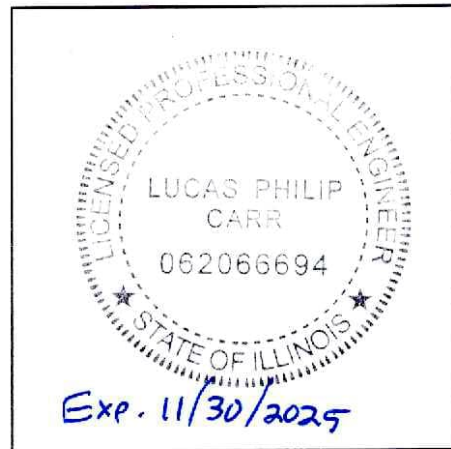
I, Lucas P. Carr, being a Registered Professional Engineer in good standing with the state of Illinois, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the above referenced CCR unit, that the 60-day extension demonstration addendum 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

December 11, 2023

Phil Morris  
Illinois Power Generating Company  
1500 Eastport Plaza Drive  
Collinsville, Illinois 62234

Re: Newton Power Plant Primary Ash Pond – W079807001-01  
Corrective Measures Assessment Schedule Extension Request

Dear Mr. Morris:

The purpose of this correspondence is to notify you that the Illinois Environmental Protection Agency (Illinois EPA) approves of the extension request submitted on November 30, 2023, for completing the Corrective Measures Assessment (CMA).

If you have any questions, please contact: **Heather Mullenax** Illinois EPA, Bureau of Water, PWS #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,

Michael Summers, P.G.  
Manager, Groundwater Section  
Division of Public Water Supplies  
Bureau of Water

cc: Heather Mullenax  
Francisco Herrera  
Records Files 06M - W0798070001

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

- **ATTACHMENT C FROM THE QUARTER 2, 2023  
GROUNDWATER MONITORING DATA AND DETECTED  
EXCEEDANCES REPORT (RAMBOLL, 2023)**
- **ATTACHMENT C FROM THE QUARTER 3, 2023  
GROUNDWATER MONITORING DATA AND DETECTED  
EXCEEDANCES REPORT (RAMBOLL, 2024a)**
- **ATTACHMENT C FROM THE QUARTER 4, 2023  
GROUNDWATER MONITORING DATA AND DETECTED  
EXCEEDANCES REPORT (RAMBOLL, 2024b)**

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW02	UD	E001	Antimony, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.003	0.003
APW02	UD	E001	Arsenic, total	mg/L	02/17/21 - 04/27/23	10	70	CI around median	0.001	0.059
APW02	UD	E001	Barium, total	mg/L	02/17/21 - 04/27/23	10	0	CB around linear reg	0.00275	0.3
APW02	UD	E001	Beryllium, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.001	0.001
APW02	UD	E001	Boron, total	mg/L	02/17/21 - 04/27/23	10	0	CI around geomean	0.105	0.26
APW02	UD	E001	Cadmium, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.001	0.001
APW02	UD	E001	Chloride, total	mg/L	02/17/21 - 04/27/23	10	0	CI around mean	100	52
APW02	UD	E001	Chromium, total	mg/L	02/17/21 - 04/27/23	10	90	Most recent sample	0.004	0.011
APW02	UD	E001	Cobalt, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.002	0.0043
APW02	UD	E001	Fluoride, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.25	0.633
APW02	UD	E001	Lead, total	mg/L	02/17/21 - 04/27/23	10	90	CI around median	0.001	0.0074
APW02	UD	E001	Lithium, total	mg/L	02/17/21 - 04/27/23	10	0	CI around geomean	0.0888	0.03
APW02	UD	E001	Mercury, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.0002	0.0002
APW02	UD	E001	Molybdenum, total	mg/L	02/17/21 - 04/27/23	9	67	CI around median	0.001	0.018
APW02	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 04/27/23	9	0	CI around mean	0.227	6.9
APW02	UD	E001	Selenium, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.001	0.001
APW02	UD	E001	Sulfate, total	mg/L	02/17/21 - 04/27/23	10	0	CI around median	2,900	35.84
APW02	UD	E001	Thallium, total	mg/L	02/17/21 - 04/27/23	10	100	All ND - Last	0.001	0.001
APW02	UD	E001	Total Dissolved Solids	mg/L	02/17/21 - 04/27/23	16	0	CB around linear reg	5,180	628
APW02	UD	E001	pH (field)	SU	02/17/21 - 04/27/23	16	0	CI around mean	6.6/6.8	6.4/7.8
APW03	UD	E001	Antimony, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.003	0.003
APW03	UD	E001	Arsenic, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.059
APW03	UD	E001	Barium, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	0.0648	0.3
APW03	UD	E001	Beryllium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW03	UD	E001	Boron, total	mg/L	02/18/21 - 04/25/23	10	0	CI around geomean	0.377	0.26
APW03	UD	E001	Cadmium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW03	UD	E001	Chloride, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	7.35	52

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW03	UD	E001	Chromium, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.004	0.011
APW03	UD	E001	Cobalt, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.002	0.0043
APW03	UD	E001	Fluoride, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.25	0.633
APW03	UD	E001	Lead, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.001	0.0074
APW03	UD	E001	Lithium, total	mg/L	02/18/21 - 04/25/23	10	40	CI around median	0.02	0.03
APW03	UD	E001	Mercury, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.0002	0.0002
APW03	UD	E001	Molybdenum, total	mg/L	02/18/21 - 04/25/23	9	11	CI around mean	0.000992	0.018
APW03	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 04/25/23	9	0	CI around mean	0.123	6.9
APW03	UD	E001	Selenium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW03	UD	E001	Sulfate, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	139	35.84
APW03	UD	E001	Thallium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW03	UD	E001	Total Dissolved Solids	mg/L	02/18/21 - 04/25/23	16	0	CI around mean	628	628
APW03	UD	E001	pH (field)	SU	02/18/21 - 04/25/23	16	0	CI around mean	6.8/7.2	6.4/7.8
APW04	UD	E001	Antimony, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.003	0.003
APW04	UD	E001	Arsenic, total	mg/L	02/18/21 - 04/25/23	10	40	CI around geomean	0.000941	0.059
APW04	UD	E001	Barium, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	0.0181	0.3
APW04	UD	E001	Beryllium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW04	UD	E001	Boron, total	mg/L	02/18/21 - 04/25/23	10	0	CI around median	0.024	0.26
APW04	UD	E001	Cadmium, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.001	0.001
APW04	UD	E001	Chloride, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	29.3	52
APW04	UD	E001	Chromium, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.004	0.011
APW04	UD	E001	Cobalt, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.002	0.0043
APW04	UD	E001	Fluoride, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.25	0.633
APW04	UD	E001	Lead, total	mg/L	02/18/21 - 04/25/23	10	60	CI around median	0.001	0.0074
APW04	UD	E001	Lithium, total	mg/L	02/18/21 - 04/25/23	10	30	CI around median	0.02	0.03
APW04	UD	E001	Mercury, total	mg/L	02/18/21 - 04/25/23	10	90	CI around median	0.0002	0.0002
APW04	UD	E001	Molybdenum, total	mg/L	02/18/21 - 04/25/23	9	89	CI around median	0.001	0.018

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW04	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 04/25/23	9	0	CI around mean	0.0207	6.9
APW04	UD	E001	Selenium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW04	UD	E001	Sulfate, total	mg/L	02/18/21 - 04/25/23	10	0	CI around mean	844	35.84
APW04	UD	E001	Thallium, total	mg/L	02/18/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW04	UD	E001	Total Dissolved Solids	mg/L	02/18/21 - 04/25/23	16	0	CI around mean	1,710	628
APW04	UD	E001	pH (field)	SU	02/18/21 - 04/25/23	16	0	CB around linear reg	6.9/8.0	6.4/7.8
APW05S	UD	E001	Antimony, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.003	0.003
APW05S	UD	E001	Arsenic, total	mg/L	02/17/21 - 04/26/23	9	33	CI around mean	0.00105	0.059
APW05S	UD	E001	Barium, total	mg/L	02/17/21 - 04/26/23	9	0	CI around median	0.048	0.3
APW05S	UD	E001	Beryllium, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.001	0.001
APW05S	UD	E001	Boron, total	mg/L	02/17/21 - 04/26/23	9	0	CI around median	0.04	0.26
APW05S	UD	E001	Cadmium, total	mg/L	02/17/21 - 04/26/23	9	89	CI around median	0.001	0.001
APW05S	UD	E001	Chloride, total	mg/L	02/17/21 - 04/26/23	9	0	CI around median	190	52
APW05S	UD	E001	Chromium, total	mg/L	02/17/21 - 04/26/23	9	89	CI around median	0.004	0.011
APW05S	UD	E001	Cobalt, total	mg/L	02/17/21 - 04/26/23	9	33	CI around geomean	0.00185	0.0043
APW05S	UD	E001	Fluoride, total	mg/L	02/17/21 - 04/26/23	9	0	CI around mean	0.349	0.633
APW05S	UD	E001	Lead, total	mg/L	02/17/21 - 04/26/23	9	89	CI around median	0.001	0.0074
APW05S	UD	E001	Lithium, total	mg/L	02/17/21 - 04/26/23	9	0	CI around geomean	0.0332	0.03
APW05S	UD	E001	Mercury, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.0002	0.0002
APW05S	UD	E001	Molybdenum, total	mg/L	02/17/21 - 04/26/23	8	0	CB around linear reg	-0.000835	0.018
APW05S	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 04/26/23	8	0	CI around geomean	0.128	6.9
APW05S	UD	E001	Selenium, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.001	0.001
APW05S	UD	E001	Sulfate, total	mg/L	02/17/21 - 04/26/23	9	0	CI around median	640	35.84
APW05S	UD	E001	Thallium, total	mg/L	02/17/21 - 04/26/23	9	100	All ND - Last	0.001	0.001
APW05S	UD	E001	Total Dissolved Solids	mg/L	02/17/21 - 04/26/23	9	0	CI around mean	3,450	628
APW05S	UD	E001	pH (field)	SU	02/17/21 - 04/26/23	9	0	CI around mean	6.7/7.0	6.4/7.8
APW07	UA	E001	Antimony, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.003	0.003

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW07	UA	E001	Arsenic, total	mg/L	12/15/15 - 04/27/23	12	0	CB around linear reg	0.0127	0.059
APW07	UA	E001	Barium, total	mg/L	12/15/15 - 04/27/23	12	0	CB around linear reg	0.465	0.3
APW07	UA	E001	Beryllium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.001
APW07	UA	E001	Boron, total	mg/L	12/15/15 - 04/27/23	22	0	CB around T-S line	0.0841	0.26
APW07	UA	E001	Cadmium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.001
APW07	UA	E001	Chloride, total	mg/L	12/15/15 - 04/27/23	24	0	CB around T-S line	57.5	52
APW07	UA	E001	Chromium, total	mg/L	12/15/15 - 04/27/23	12	75	CI around median	0.004	0.011
APW07	UA	E001	Cobalt, total	mg/L	12/15/15 - 04/27/23	11	82	CI around median	0.002	0.0043
APW07	UA	E001	Fluoride, total	mg/L	12/15/15 - 04/27/23	22	4	CI around mean	0.36	0.633
APW07	UA	E001	Lead, total	mg/L	12/15/15 - 04/27/23	12	58	CI around median	0.001	0.0074
APW07	UA	E001	Lithium, total	mg/L	12/15/15 - 04/27/23	12	100	All ND - Last	0.02	0.03
APW07	UA	E001	Mercury, total	mg/L	12/15/15 - 04/27/23	12	100	All ND - Last	0.0002	0.0002
APW07	UA	E001	Molybdenum, total	mg/L	12/15/15 - 04/27/23	11	0	CB around linear reg	-0.00442	0.018
APW07	UA	E001	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 04/27/23	12	0	CI around mean	1.31	6.9
APW07	UA	E001	Selenium, total	mg/L	12/15/15 - 04/27/23	12	100	All ND - Last	0.001	0.001
APW07	UA	E001	Sulfate, total	mg/L	12/15/15 - 04/27/23	23	17	CB around T-S line	6.15	35.84
APW07	UA	E001	Thallium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.001
APW07	UA	E001	Total Dissolved Solids	mg/L	12/15/15 - 04/27/23	22	0	CI around mean	486	628
APW07	UA	E001	pH (field)	SU	12/15/15 - 04/27/23	24	0	CI around mean	7.1/7.3	6.4/7.8
APW08	UA	E001	Antimony, total	mg/L	12/15/15 - 04/26/23	11	100	All ND - Last	0.003	0.003
APW08	UA	E001	Arsenic, total	mg/L	12/15/15 - 04/26/23	12	0	CB around linear reg	0.0188	0.059
APW08	UA	E001	Barium, total	mg/L	12/15/15 - 04/26/23	12	0	CB around linear reg	0.444	0.3
APW08	UA	E001	Beryllium, total	mg/L	12/15/15 - 04/26/23	11	100	All ND - Last	0.001	0.001
APW08	UA	E001	Boron, total	mg/L	12/15/15 - 04/26/23	22	0	CI around geomean	0.0816	0.26
APW08	UA	E001	Cadmium, total	mg/L	12/15/15 - 04/26/23	11	100	All ND - Last	0.001	0.001
APW08	UA	E001	Chloride, total	mg/L	12/15/15 - 04/26/23	24	0	CI around mean	54.7	52
APW08	UA	E001	Chromium, total	mg/L	12/15/15 - 04/26/23	12	58	CI around median	0.004	0.011

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW08	UA	E001	Cobalt, total	mg/L	12/15/15 - 04/26/23	11	73	CI around median	0.002	0.0043
APW08	UA	E001	Fluoride, total	mg/L	12/15/15 - 04/26/23	22	9	CI around median	0.373	0.633
APW08	UA	E001	Lead, total	mg/L	12/15/15 - 04/26/23	12	50	CI around median	0.001	0.0074
APW08	UA	E001	Lithium, total	mg/L	12/15/15 - 04/26/23	12	67	CI around median	0.01	0.03
APW08	UA	E001	Mercury, total	mg/L	12/15/15 - 04/26/23	12	100	All ND - Last	0.0002	0.0002
APW08	UA	E001	Molybdenum, total	mg/L	12/15/15 - 04/26/23	11	0	CI around mean	0.00453	0.018
APW08	UA	E001	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 04/26/23	12	0	CI around mean	1.03	6.9
APW08	UA	E001	Selenium, total	mg/L	12/15/15 - 04/26/23	12	92	CI around median	0.001	0.001
APW08	UA	E001	Sulfate, total	mg/L	12/15/15 - 04/26/23	23	0	CB around linear reg	44	35.84
APW08	UA	E001	Thallium, total	mg/L	12/15/15 - 04/26/23	11	100	All ND - Last	0.001	0.001
APW08	UA	E001	Total Dissolved Solids	mg/L	12/15/15 - 04/26/23	22	0	CB around linear reg	592	628
APW08	UA	E001	pH (field)	SU	12/15/15 - 04/26/23	25	0	CI around mean	7.2/7.4	6.4/7.8
APW09	UA	E001	Antimony, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.003	0.003
APW09	UA	E001	Arsenic, total	mg/L	12/15/15 - 04/27/23	12	0	CB around linear reg	0.0223	0.059
APW09	UA	E001	Barium, total	mg/L	12/15/15 - 04/27/23	12	0	CI around mean	0.277	0.3
APW09	UA	E001	Beryllium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.001
APW09	UA	E001	Boron, total	mg/L	12/15/15 - 04/27/23	22	0	CB around T-S line	0.0809	0.26
APW09	UA	E001	Cadmium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.001
APW09	UA	E001	Chloride, total	mg/L	12/15/15 - 04/27/23	24	0	CI around median	95	52
APW09	UA	E001	Chromium, total	mg/L	12/15/15 - 04/27/23	12	67	CB around T-S line	0.004	0.011
APW09	UA	E001	Cobalt, total	mg/L	12/15/15 - 04/27/23	11	91	CI around median	0.002	0.0043
APW09	UA	E001	Fluoride, total	mg/L	12/15/15 - 04/27/23	22	4	CI around mean	0.438	0.633
APW09	UA	E001	Lead, total	mg/L	12/15/15 - 04/27/23	12	50	CI around median	0.001	0.0074
APW09	UA	E001	Lithium, total	mg/L	12/15/15 - 04/27/23	12	100	All ND - Last	0.02	0.03
APW09	UA	E001	Mercury, total	mg/L	12/15/15 - 04/27/23	12	83	CI around median	0.0002	0.0002
APW09	UA	E001	Molybdenum, total	mg/L	12/15/15 - 04/27/23	11	0	CB around linear reg	-0.00854	0.018
APW09	UA	E001	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 04/27/23	12	0	CI around geomean	0.828	6.9



**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW09	UA	E001	Selenium, total	mg/L	12/15/15 - 04/27/23	12	92	CI around median	0.001	0.001
APW09	UA	E001	Sulfate, total	mg/L	12/15/15 - 04/27/23	23	9	CI around geomean	4	35.84
APW09	UA	E001	Thallium, total	mg/L	12/15/15 - 04/27/23	11	100	All ND - Last	0.001	0.001
APW09	UA	E001	Total Dissolved Solids	mg/L	12/15/15 - 04/27/23	23	0	CB around T-S line	734	628
APW09	UA	E001	pH (field)	SU	12/15/15 - 04/27/23	24	0	CI around median	7.4/7.5	6.4/7.8
APW10	UA	E001	Antimony, total	mg/L	12/16/15 - 04/27/23	13	100	All ND - Last	0.003	0.003
APW10	UA	E001	Arsenic, total	mg/L	12/16/15 - 04/27/23	14	0	CI around mean	0.0059	0.059
APW10	UA	E001	Barium, total	mg/L	12/16/15 - 04/27/23	14	0	CI around mean	0.0286	0.3
APW10	UA	E001	Beryllium, total	mg/L	12/16/15 - 04/27/23	13	100	All ND - Last	0.001	0.001
APW10	UA	E001	Boron, total	mg/L	12/16/15 - 04/27/23	24	0	CB around linear reg	0.0764	0.26
APW10	UA	E001	Cadmium, total	mg/L	12/16/15 - 04/27/23	13	100	All ND - Last	0.001	0.001
APW10	UA	E001	Chloride, total	mg/L	12/16/15 - 04/27/23	25	0	CI around mean	45.4	52
APW10	UA	E001	Chromium, total	mg/L	12/16/15 - 04/27/23	14	100	All ND - Last	0.004	0.011
APW10	UA	E001	Cobalt, total	mg/L	12/16/15 - 04/27/23	13	92	CI around median	0.002	0.0043
APW10	UA	E001	Fluoride, total	mg/L	12/16/15 - 04/27/23	24	21	CI around mean	0.298	0.633
APW10	UA	E001	Lead, total	mg/L	12/16/15 - 04/27/23	14	86	CI around median	0.001	0.0074
APW10	UA	E001	Lithium, total	mg/L	12/16/15 - 04/27/23	14	7	CB around linear reg	0.0132	0.03
APW10	UA	E001	Mercury, total	mg/L	12/16/15 - 04/27/23	14	100	All ND - Last	0.0002	0.0002
APW10	UA	E001	Molybdenum, total	mg/L	12/16/15 - 04/27/23	13	0	CB around linear reg	0.00524	0.018
APW10	UA	E001	Radium 226 + Radium 228, total	pCi/L	12/16/15 - 04/27/23	14	0	CI around mean	0.442	6.9
APW10	UA	E001	Selenium, total	mg/L	12/16/15 - 04/27/23	14	100	All ND - Last	0.001	0.001
APW10	UA	E001	Sulfate, total	mg/L	12/16/15 - 04/27/23	25	0	CI around median	410	35.84
APW10	UA	E001	Thallium, total	mg/L	12/16/15 - 04/27/23	13	100	All ND - Last	0.001	0.001
APW10	UA	E001	Total Dissolved Solids	mg/L	12/16/15 - 04/27/23	26	0	CB around linear reg	1,030	628
APW10	UA	E001	pH (field)	SU	12/16/15 - 04/27/23	27	0	CB around linear reg	7.2/7.5	6.4/7.8
APW11	UA	E001	Antimony, total	mg/L	02/18/21 - 04/26/23	10	100	All ND - Last	0.003	0.003
APW11	UA	E001	Arsenic, total	mg/L	02/18/21 - 04/26/23	10	0	CI around mean	0.0015	0.059

**ATTACHMENT C.**  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW11	UA	E001	Barium, total	mg/L	02/18/21 - 04/26/23	10	0	CB around T-S line	-0.566	0.3
APW11	UA	E001	Beryllium, total	mg/L	02/18/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW11	UA	E001	Boron, total	mg/L	02/18/21 - 04/26/23	10	0	CI around median	0.063	0.26
APW11	UA	E001	Cadmium, total	mg/L	02/18/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW11	UA	E001	Chloride, total	mg/L	02/18/21 - 04/26/23	10	0	CI around median	26	52
APW11	UA	E001	Chromium, total	mg/L	02/18/21 - 04/26/23	10	70	CI around median	0.004	0.011
APW11	UA	E001	Cobalt, total	mg/L	02/18/21 - 04/26/23	10	70	CI around median	0.002	0.0043
APW11	UA	E001	Fluoride, total	mg/L	02/18/21 - 04/26/23	10	50	CI around geomean	0.245	0.633
APW11	UA	E001	Lead, total	mg/L	02/18/21 - 04/26/23	10	60	CI around median	0.001	0.0074
APW11	UA	E001	Lithium, total	mg/L	02/18/21 - 04/26/23	10	10	CI around mean	0.0175	0.03
APW11	UA	E001	Mercury, total	mg/L	02/18/21 - 04/26/23	10	80	CI around median	0.0002	0.0002
APW11	UA	E001	Molybdenum, total	mg/L	02/18/21 - 04/26/23	9	0	CB around T-S line	-0.0661	0.018
APW11	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 04/26/23	9	0	CI around mean	0.424	6.9
APW11	UA	E001	Selenium, total	mg/L	02/18/21 - 04/26/23	10	80	CI around median	0.001	0.001
APW11	UA	E001	Sulfate, total	mg/L	02/18/21 - 04/26/23	10	0	CI around median	260	35.84
APW11	UA	E001	Thallium, total	mg/L	02/18/21 - 04/26/23	10	90	CI around median	0.001	0.001
APW11	UA	E001	Total Dissolved Solids	mg/L	02/18/21 - 04/26/23	10	0	CI around mean	809	628
APW11	UA	E001	pH (field)	SU	02/18/21 - 04/26/23	10	0	CI around median	6.6/7.2	6.4/7.8
APW12	UD	E001	Antimony, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.003	0.003
APW12	UD	E001	Arsenic, total	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	0.00155	0.059
APW12	UD	E001	Barium, total	mg/L	02/17/21 - 04/26/23	10	0	CB around linear reg	0.0133	0.3
APW12	UD	E001	Beryllium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW12	UD	E001	Boron, total	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	0.18	0.26
APW12	UD	E001	Cadmium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW12	UD	E001	Chloride, total	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	21.3	52
APW12	UD	E001	Chromium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.004	0.011
APW12	UD	E001	Cobalt, total	mg/L	02/17/21 - 04/26/23	10	20	CB around linear reg	-0.00198	0.0043

**ATTACHMENT C.**  
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PRIMARY ASH POND  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW12	UD	E001	Fluoride, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.25	0.633
APW12	UD	E001	Lead, total	mg/L	02/17/21 - 04/26/23	10	90	CI around median	0.001	0.0074
APW12	UD	E001	Lithium, total	mg/L	02/17/21 - 04/26/23	10	0	CI around geomean	0.0244	0.03
APW12	UD	E001	Mercury, total	mg/L	02/17/21 - 04/26/23	10	90	CI around median	0.0002	0.0002
APW12	UD	E001	Molybdenum, total	mg/L	02/17/21 - 04/26/23	9	44	CI around geomean	0.000964	0.018
APW12	UD	E001	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 04/26/23	9	0	CI around geomean	0.14	6.9
APW12	UD	E001	Selenium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW12	UD	E001	Sulfate, total	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	253	35.84
APW12	UD	E001	Thallium, total	mg/L	02/17/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW12	UD	E001	Total Dissolved Solids	mg/L	02/17/21 - 04/26/23	10	0	CI around mean	1,160	628
APW12	UD	E001	pH (field)	SU	02/17/21 - 04/26/23	10	0	CI around mean	6.2/6.6	6.4/7.8
APW13	UA	E001	Antimony, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.003	0.003
APW13	UA	E001	Arsenic, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	0.00314	0.059
APW13	UA	E001	Barium, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	0.05	0.3
APW13	UA	E001	Beryllium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.001
APW13	UA	E001	Boron, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	0.105	0.26
APW13	UA	E001	Cadmium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.001
APW13	UA	E001	Chloride, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	46.2	52
APW13	UA	E001	Chromium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.004	0.011
APW13	UA	E001	Cobalt, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.002	0.0043
APW13	UA	E001	Fluoride, total	mg/L	02/22/21 - 04/27/23	10	10	CI around mean	0.285	0.633
APW13	UA	E001	Lead, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.0074
APW13	UA	E001	Lithium, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	0.0262	0.03
APW13	UA	E001	Mercury, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.0002	0.0002
APW13	UA	E001	Molybdenum, total	mg/L	02/22/21 - 04/27/23	9	0	CB around linear reg	-0.00498	0.018
APW13	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 04/27/23	9	0	CI around mean	0.245	6.9
APW13	UA	E001	Selenium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.001

**ATTACHMENT C.**  
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NEWTON POWER PLANT  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW13	UA	E001	Sulfate, total	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	210	35.84
APW13	UA	E001	Thallium, total	mg/L	02/22/21 - 04/27/23	10	100	All ND - Last	0.001	0.001
APW13	UA	E001	Total Dissolved Solids	mg/L	02/22/21 - 04/27/23	10	0	CI around mean	801	628
APW13	UA	E001	pH (field)	SU	02/22/21 - 04/27/23	10	0	CI around median	7.1/7.3	6.4/7.8
APW14	UA	E001	Antimony, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.003	0.003
APW14	UA	E001	Arsenic, total	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	0.00506	0.059
APW14	UA	E001	Barium, total	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	0.0752	0.3
APW14	UA	E001	Beryllium, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.001	0.001
APW14	UA	E001	Boron, total	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	0.0949	0.26
APW14	UA	E001	Cadmium, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.001	0.001
APW14	UA	E001	Chloride, total	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	41.8	52
APW14	UA	E001	Chromium, total	mg/L	02/22/21 - 04/28/23	10	90	CI around median	0.004	0.011
APW14	UA	E001	Cobalt, total	mg/L	02/22/21 - 04/28/23	10	90	CI around median	0.002	0.0043
APW14	UA	E001	Fluoride, total	mg/L	02/22/21 - 04/28/23	10	30	CI around mean	0.266	0.633
APW14	UA	E001	Lead, total	mg/L	02/22/21 - 04/28/23	10	70	CI around median	0.001	0.0074
APW14	UA	E001	Lithium, total	mg/L	02/22/21 - 04/28/23	10	20	CB around linear reg	-0.00217	0.03
APW14	UA	E001	Mercury, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.0002	0.0002
APW14	UA	E001	Molybdenum, total	mg/L	02/22/21 - 04/28/23	9	0	CB around linear reg	-0.0066	0.018
APW14	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 04/28/23	9	0	CI around mean	0.372	6.9
APW14	UA	E001	Selenium, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.001	0.001
APW14	UA	E001	Sulfate, total	mg/L	02/22/21 - 04/28/23	10	0	CI around median	320	35.84
APW14	UA	E001	Thallium, total	mg/L	02/22/21 - 04/28/23	10	100	All ND - Last	0.001	0.001
APW14	UA	E001	Total Dissolved Solids	mg/L	02/22/21 - 04/28/23	10	0	CI around mean	892	628
APW14	UA	E001	pH (field)	SU	02/22/21 - 04/28/23	10	0	CI around median	7.3/7.5	6.4/7.8
APW15	UA	E001	Antimony, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.003	0.003
APW15	UA	E001	Arsenic, total	mg/L	02/23/21 - 04/26/23	10	0	CI around mean	0.0166	0.059
APW15	UA	E001	Barium, total	mg/L	02/23/21 - 04/26/23	10	0	CI around mean	0.559	0.3

**ATTACHMENT C.**  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW15	UA	E001	Beryllium, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW15	UA	E001	Boron, total	mg/L	02/23/21 - 04/26/23	10	0	CI around mean	0.128	0.26
APW15	UA	E001	Cadmium, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW15	UA	E001	Chloride, total	mg/L	02/23/21 - 04/26/23	10	0	CI around median	230	52
APW15	UA	E001	Chromium, total	mg/L	02/23/21 - 04/26/23	10	80	CI around median	0.004	0.011
APW15	UA	E001	Cobalt, total	mg/L	02/23/21 - 04/26/23	10	80	CI around median	0.002	0.0043
APW15	UA	E001	Fluoride, total	mg/L	02/23/21 - 04/26/23	10	0	CI around geomean	0.6	0.633
APW15	UA	E001	Lead, total	mg/L	02/23/21 - 04/26/23	10	50	CI around median	0.001	0.0074
APW15	UA	E001	Lithium, total	mg/L	02/23/21 - 04/26/23	10	80	CI around median	0.02	0.03
APW15	UA	E001	Mercury, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.0002	0.0002
APW15	UA	E001	Molybdenum, total	mg/L	02/23/21 - 04/26/23	9	0	CI around mean	0.00846	0.018
APW15	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 04/26/23	9	0	CI around mean	1.5	6.9
APW15	UA	E001	Selenium, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW15	UA	E001	Sulfate, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	1	35.84
APW15	UA	E001	Thallium, total	mg/L	02/23/21 - 04/26/23	10	100	All ND - Last	0.001	0.001
APW15	UA	E001	Total Dissolved Solids	mg/L	02/23/21 - 04/26/23	10	0	CI around mean	1,020	628
APW15	UA	E001	pH (field)	SU	02/23/21 - 04/26/23	10	0	CI around median	7.0/7.3	6.4/7.8
APW16	UA	E001	Antimony, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.003	0.003
APW16	UA	E001	Arsenic, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.00767	0.059
APW16	UA	E001	Barium, total	mg/L	02/23/21 - 04/25/23	10	0	CB around linear reg	0.434	0.3
APW16	UA	E001	Beryllium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW16	UA	E001	Boron, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.128	0.26
APW16	UA	E001	Cadmium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW16	UA	E001	Chloride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	66.1	52
APW16	UA	E001	Chromium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.004	0.011
APW16	UA	E001	Cobalt, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.002	0.0043
APW16	UA	E001	Fluoride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.605	0.633

**ATTACHMENT C.**  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW16	UA	E001	Lead, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.0074
APW16	UA	E001	Lithium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.02	0.03
APW16	UA	E001	Mercury, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.0002	0.0002
APW16	UA	E001	Molybdenum, total	mg/L	02/23/21 - 04/25/23	9	44	CB around linear reg	-0.00408	0.018
APW16	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 04/25/23	9	0	CI around geomean	1.22	6.9
APW16	UA	E001	Selenium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW16	UA	E001	Sulfate, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	1	35.84
APW16	UA	E001	Thallium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW16	UA	E001	Total Dissolved Solids	mg/L	02/23/21 - 04/25/23	10	0	CI around median	690	628
APW16	UA	E001	pH (field)	SU	02/23/21 - 04/25/23	10	0	CI around mean	7.2/7.6	6.4/7.8
APW17	UA	E001	Antimony, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.003	0.003
APW17	UA	E001	Arsenic, total	mg/L	02/23/21 - 04/25/23	10	0	CB around linear reg	0.0181	0.059
APW17	UA	E001	Barium, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.565	0.3
APW17	UA	E001	Beryllium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW17	UA	E001	Boron, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.0839	0.26
APW17	UA	E001	Cadmium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW17	UA	E001	Chloride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	43.9	52
APW17	UA	E001	Chromium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.004	0.011
APW17	UA	E001	Cobalt, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.002	0.0043
APW17	UA	E001	Fluoride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.394	0.633
APW17	UA	E001	Lead, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.0074
APW17	UA	E001	Lithium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.02	0.03
APW17	UA	E001	Mercury, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.0002	0.0002
APW17	UA	E001	Molybdenum, total	mg/L	02/23/21 - 04/25/23	9	0	CI around median	0.0048	0.018
APW17	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 04/25/23	9	0	CI around mean	0.644	6.9
APW17	UA	E001	Selenium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW17	UA	E001	Sulfate, total	mg/L	02/23/21 - 04/25/23	10	10	CI around mean	26.7	35.84

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW17	UA	E001	Thallium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.001	0.001
APW17	UA	E001	Total Dissolved Solids	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	631	628
APW17	UA	E001	pH (field)	SU	02/23/21 - 04/25/23	10	0	CI around mean	7.3/7.6	6.4/7.8
APW18	UA	E001	Antimony, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.003	0.003
APW18	UA	E001	Arsenic, total	mg/L	02/23/21 - 04/25/23	10	10	CI around mean	0.00144	0.059
APW18	UA	E001	Barium, total	mg/L	02/23/21 - 04/25/23	10	0	CI around median	0.33	0.3
APW18	UA	E001	Beryllium, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.001	0.001
APW18	UA	E001	Boron, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.103	0.26
APW18	UA	E001	Cadmium, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.001	0.001
APW18	UA	E001	Chloride, total	mg/L	02/23/21 - 04/25/23	10	0	CB around T-S line	-243	52
APW18	UA	E001	Chromium, total	mg/L	02/23/21 - 04/25/23	10	70	CI around median	0.004	0.011
APW18	UA	E001	Cobalt, total	mg/L	02/23/21 - 04/25/23	10	70	CI around median	0.002	0.0043
APW18	UA	E001	Fluoride, total	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	0.677	0.633
APW18	UA	E001	Lead, total	mg/L	02/23/21 - 04/25/23	10	50	CB around linear reg	-0.00473	0.0074
APW18	UA	E001	Lithium, total	mg/L	02/23/21 - 04/25/23	10	100	All ND - Last	0.02	0.03
APW18	UA	E001	Mercury, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.0002	0.0002
APW18	UA	E001	Molybdenum, total	mg/L	02/23/21 - 04/25/23	9	0	CB around linear reg	-0.0288	0.018
APW18	UA	E001	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 04/25/23	9	0	CI around mean	1.38	6.9
APW18	UA	E001	Selenium, total	mg/L	02/23/21 - 04/25/23	10	90	CI around median	0.001	0.001
APW18	UA	E001	Sulfate, total	mg/L	02/23/21 - 04/25/23	10	20	CI around geomean	1.82	35.84
APW18	UA	E001	Thallium, total	mg/L	02/23/21 - 04/25/23	10	80	CI around median	0.001	0.001
APW18	UA	E001	Total Dissolved Solids	mg/L	02/23/21 - 04/25/23	10	0	CI around mean	508	628
APW18	UA	E001	pH (field)	SU	02/23/21 - 04/25/23	10	0	CI around mean	7.5/7.8	6.4/7.8

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

**Notes:**

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

HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UD = Upper Drift

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 Statistical Analysis Plan using constituent concentrations observed at 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  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW02	UD	E002	Antimony, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.001	0.003
APW02	UD	E002	Arsenic, total	mg/L	02/17/21 - 08/17/23	11	73	CI around median	0.001	0.0590
APW02	UD	E002	Barium, total	mg/L	02/17/21 - 08/17/23	11	0	CI around mean	0.0094	0.300
APW02	UD	E002	Beryllium, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.001	0.001
APW02	UD	E002	Boron, total	mg/L	02/17/21 - 08/17/23	11	0	CI around geomean	0.111	0.260
APW02	UD	E002	Cadmium, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.001	0.001
APW02	UD	E002	Chloride, total	mg/L	02/17/21 - 08/17/23	11	0	CI around mean	100	52.0
APW02	UD	E002	Chromium, total	mg/L	02/17/21 - 08/17/23	11	82	CI around median	0.004	0.0110
APW02	UD	E002	Cobalt, total	mg/L	02/17/21 - 08/17/23	11	91	CI around median	0.002	0.00430
APW02	UD	E002	Fluoride, total	mg/L	02/17/21 - 08/17/23	11	91	CI around median	0.25	0.633
APW02	UD	E002	Lead, total	mg/L	02/17/21 - 08/17/23	11	91	CI around median	0.001	0.00740
APW02	UD	E002	Lithium, total	mg/L	02/17/21 - 08/17/23	11	0	CI around geomean	0.0944	0.0300
APW02	UD	E002	Mercury, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.0002	0.0002
APW02	UD	E002	Molybdenum, total	mg/L	02/17/21 - 08/17/23	10	60	CI around median	0.001	0.0180
APW02	UD	E002	pH (field)	SU	02/17/21 - 08/17/23	17	0	CI around mean	6.7/6.8	6.4/7.8
APW02	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 08/17/23	10	0	CI around mean	0.271	6.90
APW02	UD	E002	Selenium, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.001	0.001
APW02	UD	E002	Sulfate, total	mg/L	02/17/21 - 08/17/23	11	0	CI around median	2,860	35.8
APW02	UD	E002	Thallium, total	mg/L	02/17/21 - 08/17/23	11	100	All ND - Last	0.002	0.001
APW02	UD	E002	Total Dissolved Solids	mg/L	02/17/21 - 08/17/23	17	0	CI around median	5,000	628
APW03	UD	E002	Antimony, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.003
APW03	UD	E002	Arsenic, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.0590
APW03	UD	E002	Barium, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	0.065	0.300
APW03	UD	E002	Beryllium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW03	UD	E002	Boron, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	0.381	0.260
APW03	UD	E002	Cadmium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW03	UD	E002	Chloride, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	7.52	52.0

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW03	UD	E002	Chromium, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.004	0.0110
APW03	UD	E002	Cobalt, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.00430
APW03	UD	E002	Fluoride, total	mg/L	02/18/21 - 07/31/23	11	82	CI around median	0.25	0.633
APW03	UD	E002	Lead, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.001	0.00740
APW03	UD	E002	Lithium, total	mg/L	02/18/21 - 07/31/23	11	36	CI around mean	0.0129	0.0300
APW03	UD	E002	Mercury, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.0002	0.0002
APW03	UD	E002	Molybdenum, total	mg/L	02/18/21 - 07/31/23	10	20	CI around mean	0.00109	0.0180
APW03	UD	E002	pH (field)	SU	02/18/21 - 07/31/23	17	0	CI around mean	6.8/7.2	6.4/7.8
APW03	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 07/31/23	10	0	CI around mean	0.185	6.90
APW03	UD	E002	Selenium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW03	UD	E002	Sulfate, total	mg/L	02/18/21 - 07/31/23	11	0	CB around linear reg	91.4	35.8
APW03	UD	E002	Thallium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.002	0.001
APW03	UD	E002	Total Dissolved Solids	mg/L	02/18/21 - 07/31/23	17	0	CI around mean	627	628
APW04	UD	E002	Antimony, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.003
APW04	UD	E002	Arsenic, total	mg/L	02/18/21 - 07/31/23	11	46	CI around median	0.001	0.0590
APW04	UD	E002	Barium, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	0.0189	0.300
APW04	UD	E002	Beryllium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW04	UD	E002	Boron, total	mg/L	02/18/21 - 07/31/23	11	0	CI around median	0.024	0.260
APW04	UD	E002	Cadmium, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.001	0.001
APW04	UD	E002	Chloride, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	29.8	52.0
APW04	UD	E002	Chromium, total	mg/L	02/18/21 - 07/31/23	11	82	CI around median	0.004	0.0110
APW04	UD	E002	Cobalt, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.00430
APW04	UD	E002	Fluoride, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.25	0.633
APW04	UD	E002	Lead, total	mg/L	02/18/21 - 07/31/23	11	64	CI around median	0.001	0.00740
APW04	UD	E002	Lithium, total	mg/L	02/18/21 - 07/31/23	11	27	CI around median	0.02	0.0300
APW04	UD	E002	Mercury, total	mg/L	02/18/21 - 07/31/23	11	91	CI around median	0.0002	0.0002
APW04	UD	E002	Molybdenum, total	mg/L	02/18/21 - 07/31/23	10	90	CI around median	0.001	0.0180

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW04	UD	E002	pH (field)	SU	02/18/21 - 07/31/23	17	0	CI around mean	6.6/7.2	6.4/7.8
APW04	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 07/31/23	10	0	CI around mean	0.0973	6.90
APW04	UD	E002	Selenium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW04	UD	E002	Sulfate, total	mg/L	02/18/21 - 07/31/23	11	0	CI around mean	837	35.8
APW04	UD	E002	Thallium, total	mg/L	02/18/21 - 07/31/23	11	100	All ND - Last	0.002	0.001
APW04	UD	E002	Total Dissolved Solids	mg/L	02/18/21 - 07/31/23	17	0	CI around mean	1,720	628
APW05S	UD	E002	Antimony, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.001	0.003
APW05S	UD	E002	Arsenic, total	mg/L	02/17/21 - 07/25/23	10	40	CI around mean	0.00103	0.0590
APW05S	UD	E002	Barium, total	mg/L	02/17/21 - 07/25/23	10	0	CI around geomean	0.0386	0.300
APW05S	UD	E002	Beryllium, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.001	0.001
APW05S	UD	E002	Boron, total	mg/L	02/17/21 - 07/25/23	10	0	CI around median	0.04	0.260
APW05S	UD	E002	Cadmium, total	mg/L	02/17/21 - 07/25/23	10	90	CI around median	0.001	0.001
APW05S	UD	E002	Chloride, total	mg/L	02/17/21 - 07/25/23	10	0	CI around median	180	52.0
APW05S	UD	E002	Chromium, total	mg/L	02/17/21 - 07/25/23	10	90	CI around median	0.004	0.0110
APW05S	UD	E002	Cobalt, total	mg/L	02/17/21 - 07/25/23	10	30	CI around median	0.002	0.00430
APW05S	UD	E002	Fluoride, total	mg/L	02/17/21 - 07/25/23	10	0	CI around mean	0.356	0.633
APW05S	UD	E002	Lead, total	mg/L	02/17/21 - 07/25/23	10	90	CI around median	0.001	0.00740
APW05S	UD	E002	Lithium, total	mg/L	02/17/21 - 07/25/23	10	0	CI around median	0.035	0.0300
APW05S	UD	E002	Mercury, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.0002	0.0002
APW05S	UD	E002	Molybdenum, total	mg/L	02/17/21 - 07/25/23	9	11	CB around linear reg	-0.000408	0.0180
APW05S	UD	E002	pH (field)	SU	02/17/21 - 07/25/23	10	0	CI around mean	6.7/7.0	6.4/7.8
APW05S	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 07/25/23	9	0	CI around geomean	0.153	6.90
APW05S	UD	E002	Selenium, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.001	0.001
APW05S	UD	E002	Sulfate, total	mg/L	02/17/21 - 07/25/23	10	0	CI around median	640	35.8
APW05S	UD	E002	Thallium, total	mg/L	02/17/21 - 07/25/23	10	100	All ND - Last	0.002	0.001
APW05S	UD	E002	Total Dissolved Solids	mg/L	02/17/21 - 07/25/23	10	0	CI around mean	3,390	628
APW07	UA	E002	Antimony, total	mg/L	12/15/15 - 07/25/23	12	100	All ND - Last	0.001	0.003

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW07	UA	E002	Arsenic, total	mg/L	12/15/15 - 07/25/23	13	0	CB around linear reg	0.0131	0.0590
APW07	UA	E002	Barium, total	mg/L	12/15/15 - 07/25/23	13	0	CB around linear reg	0.475	0.300
APW07	UA	E002	Beryllium, total	mg/L	12/15/15 - 07/25/23	12	100	All ND - Last	0.001	0.001
APW07	UA	E002	Boron, total	mg/L	12/15/15 - 07/25/23	23	0	CB around T-S line	0.0863	0.260
APW07	UA	E002	Cadmium, total	mg/L	12/15/15 - 07/25/23	12	100	All ND - Last	0.001	0.001
APW07	UA	E002	Chloride, total	mg/L	12/15/15 - 07/25/23	26	0	CB around T-S line	55.2	52.0
APW07	UA	E002	Chromium, total	mg/L	12/15/15 - 07/25/23	13	69	CI around median	0.004	0.0110
APW07	UA	E002	Cobalt, total	mg/L	12/15/15 - 07/25/23	12	83	CI around median	0.002	0.00430
APW07	UA	E002	Fluoride, total	mg/L	12/15/15 - 07/25/23	23	4	CI around mean	0.363	0.633
APW07	UA	E002	Lead, total	mg/L	12/15/15 - 07/25/23	13	62	CI around median	0.001	0.00740
APW07	UA	E002	Lithium, total	mg/L	12/15/15 - 07/25/23	13	92	CI around median	0.01	0.0300
APW07	UA	E002	Mercury, total	mg/L	12/15/15 - 07/25/23	13	100	All ND - Last	0.0002	0.0002
APW07	UA	E002	Molybdenum, total	mg/L	12/15/15 - 07/25/23	12	0	CB around linear reg	-0.00329	0.0180
APW07	UA	E002	pH (field)	SU	12/15/15 - 07/25/23	25	0	CI around mean	7.2/7.3	6.4/7.8
APW07	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 07/25/23	13	0	CB around linear reg	1.5	6.90
APW07	UA	E002	Selenium, total	mg/L	12/15/15 - 07/25/23	13	100	All ND - Last	0.001	0.001
APW07	UA	E002	Sulfate, total	mg/L	12/15/15 - 07/25/23	24	17	CB around T-S line	8.94	35.8
APW07	UA	E002	Thallium, total	mg/L	12/15/15 - 07/25/23	12	100	All ND - Last	0.002	0.001
APW07	UA	E002	Total Dissolved Solids	mg/L	12/15/15 - 07/25/23	23	0	CB around T-S line	523	628
APW08	UA	E002	Antimony, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.003
APW08	UA	E002	Arsenic, total	mg/L	12/15/15 - 07/31/23	13	0	CB around linear reg	0.0208	0.0590
APW08	UA	E002	Barium, total	mg/L	12/15/15 - 07/31/23	13	0	CB around linear reg	0.463	0.300
APW08	UA	E002	Beryllium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.001
APW08	UA	E002	Boron, total	mg/L	12/15/15 - 07/31/23	23	0	CB around T-S line	0.0867	0.260
APW08	UA	E002	Cadmium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.001
APW08	UA	E002	Chloride, total	mg/L	12/15/15 - 07/31/23	25	0	CI around mean	54.7	52.0
APW08	UA	E002	Chromium, total	mg/L	12/15/15 - 07/31/23	13	54	CI around median	0.004	0.0110

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW08	UA	E002	Cobalt, total	mg/L	12/15/15 - 07/31/23	12	75	CI around median	0.002	0.00430
APW08	UA	E002	Fluoride, total	mg/L	12/15/15 - 07/31/23	23	9	CI around median	0.373	0.633
APW08	UA	E002	Lead, total	mg/L	12/15/15 - 07/31/23	13	54	CI around median	0.001	0.00740
APW08	UA	E002	Lithium, total	mg/L	12/15/15 - 07/31/23	13	69	CI around median	0.01	0.0300
APW08	UA	E002	Mercury, total	mg/L	12/15/15 - 07/31/23	13	100	All ND - Last	0.0002	0.0002
APW08	UA	E002	Molybdenum, total	mg/L	12/15/15 - 07/31/23	12	0	CI around mean	0.0046	0.0180
APW08	UA	E002	pH (field)	SU	12/15/15 - 07/31/23	26	0	CI around mean	7.2/7.4	6.4/7.8
APW08	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 07/31/23	13	0	CI around mean	0.989	6.90
APW08	UA	E002	Selenium, total	mg/L	12/15/15 - 07/31/23	13	92	CI around median	0.001	0.001
APW08	UA	E002	Sulfate, total	mg/L	12/15/15 - 07/31/23	25	0	CB around linear reg	45.4	35.8
APW08	UA	E002	Thallium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.002	0.001
APW08	UA	E002	Total Dissolved Solids	mg/L	12/15/15 - 07/31/23	23	0	CB around linear reg	590	628
APW09	UA	E002	Antimony, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.003
APW09	UA	E002	Arsenic, total	mg/L	12/15/15 - 07/31/23	13	0	CB around linear reg	0.025	0.0590
APW09	UA	E002	Barium, total	mg/L	12/15/15 - 07/31/23	13	0	CB around linear reg	0.336	0.300
APW09	UA	E002	Beryllium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.001
APW09	UA	E002	Boron, total	mg/L	12/15/15 - 07/31/23	23	0	CB around T-S line	0.0876	0.260
APW09	UA	E002	Cadmium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.001	0.001
APW09	UA	E002	Chloride, total	mg/L	12/15/15 - 07/31/23	25	0	CB around T-S line	121	52.0
APW09	UA	E002	Chromium, total	mg/L	12/15/15 - 07/31/23	13	69	CI around median	0.004	0.0110
APW09	UA	E002	Cobalt, total	mg/L	12/15/15 - 07/31/23	12	92	CI around median	0.002	0.00430
APW09	UA	E002	Fluoride, total	mg/L	12/15/15 - 07/31/23	24	4	CI around mean	0.45	0.633
APW09	UA	E002	Lead, total	mg/L	12/15/15 - 07/31/23	13	54	CI around median	0.001	0.00740
APW09	UA	E002	Lithium, total	mg/L	12/15/15 - 07/31/23	13	92	CI around median	0.01	0.0300
APW09	UA	E002	Mercury, total	mg/L	12/15/15 - 07/31/23	13	85	CI around median	0.0002	0.0002
APW09	UA	E002	Molybdenum, total	mg/L	12/15/15 - 07/31/23	12	0	CB around linear reg	-0.00632	0.0180
APW09	UA	E002	pH (field)	SU	12/15/15 - 07/31/23	25	0	CI around median	7.4/7.5	6.4/7.8

**ATTACHMENT C.**  
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NEWTON POWER PLANT  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW09	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 07/31/23	13	0	CI around geomean	0.878	6.90
APW09	UA	E002	Selenium, total	mg/L	12/15/15 - 07/31/23	13	92	CI around median	0.001	0.001
APW09	UA	E002	Sulfate, total	mg/L	12/15/15 - 07/31/23	25	8	CI around geomean	4.68	35.8
APW09	UA	E002	Thallium, total	mg/L	12/15/15 - 07/31/23	12	100	All ND - Last	0.002	0.001
APW09	UA	E002	Total Dissolved Solids	mg/L	12/15/15 - 07/31/23	24	0	CB around T-S line	755	628
APW10	UA	E002	Antimony, total	mg/L	12/16/15 - 07/31/23	14	100	All ND - Last	0.001	0.003
APW10	UA	E002	Arsenic, total	mg/L	12/16/15 - 07/31/23	15	0	CI around mean	0.00612	0.0590
APW10	UA	E002	Barium, total	mg/L	12/16/15 - 07/31/23	15	0	CI around mean	0.0289	0.300
APW10	UA	E002	Beryllium, total	mg/L	12/16/15 - 07/31/23	14	100	All ND - Last	0.001	0.001
APW10	UA	E002	Boron, total	mg/L	12/16/15 - 07/31/23	25	0	CB around linear reg	0.0782	0.260
APW10	UA	E002	Cadmium, total	mg/L	12/16/15 - 07/31/23	14	100	All ND - Last	0.001	0.001
APW10	UA	E002	Chloride, total	mg/L	12/16/15 - 07/31/23	26	0	CI around mean	45.4	52.0
APW10	UA	E002	Chromium, total	mg/L	12/16/15 - 07/31/23	15	100	All ND - Last	0.0015	0.0110
APW10	UA	E002	Cobalt, total	mg/L	12/16/15 - 07/31/23	14	93	CI around median	0.002	0.00430
APW10	UA	E002	Fluoride, total	mg/L	12/16/15 - 07/31/23	25	20	CI around mean	0.299	0.633
APW10	UA	E002	Lead, total	mg/L	12/16/15 - 07/31/23	15	87	CI around median	0.001	0.00740
APW10	UA	E002	Lithium, total	mg/L	12/16/15 - 07/31/23	15	7	CB around linear reg	0.014	0.0300
APW10	UA	E002	Mercury, total	mg/L	12/16/15 - 07/31/23	15	100	All ND - Last	0.0002	0.0002
APW10	UA	E002	Molybdenum, total	mg/L	12/16/15 - 07/31/23	14	0	CB around linear reg	0.00554	0.0180
APW10	UA	E002	pH (field)	SU	12/16/15 - 07/31/23	28	0	CB around linear reg	7.2/7.5	6.4/7.8
APW10	UA	E002	Radium 226 + Radium 228, total	pCi/L	12/16/15 - 07/31/23	15	0	CI around mean	0.453	6.90
APW10	UA	E002	Selenium, total	mg/L	12/16/15 - 07/31/23	15	100	All ND - Last	0.001	0.001
APW10	UA	E002	Sulfate, total	mg/L	12/16/15 - 07/31/23	27	0	CI around median	410	35.8
APW10	UA	E002	Thallium, total	mg/L	12/16/15 - 07/31/23	14	100	All ND - Last	0.002	0.001
APW10	UA	E002	Total Dissolved Solids	mg/L	12/16/15 - 07/31/23	27	0	CB around linear reg	1,030	628
APW11	UA	E002	Antimony, total	mg/L	02/18/21 - 07/24/23	11	100	All ND - Last	0.001	0.003
APW11	UA	E002	Arsenic, total	mg/L	02/18/21 - 07/24/23	11	0	CI around mean	0.00182	0.0590

**ATTACHMENT C.**  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW11	UA	E002	Barium, total	mg/L	02/18/21 - 07/24/23	11	0	CB around T-S line	-0.375	0.300
APW11	UA	E002	Beryllium, total	mg/L	02/18/21 - 07/24/23	11	100	All ND - Last	0.001	0.001
APW11	UA	E002	Boron, total	mg/L	02/18/21 - 07/24/23	11	0	CI around median	0.063	0.260
APW11	UA	E002	Cadmium, total	mg/L	02/18/21 - 07/24/23	11	100	All ND - Last	0.001	0.001
APW11	UA	E002	Chloride, total	mg/L	02/18/21 - 07/24/23	11	0	CI around median	25	52.0
APW11	UA	E002	Chromium, total	mg/L	02/18/21 - 07/24/23	11	64	CI around median	0.004	0.0110
APW11	UA	E002	Cobalt, total	mg/L	02/18/21 - 07/24/23	11	64	CI around median	0.002	0.00430
APW11	UA	E002	Fluoride, total	mg/L	02/18/21 - 07/24/23	11	46	CI around mean	0.248	0.633
APW11	UA	E002	Lead, total	mg/L	02/18/21 - 07/24/23	11	54	CI around median	0.001	0.00740
APW11	UA	E002	Lithium, total	mg/L	02/18/21 - 07/24/23	11	9	CI around mean	0.0178	0.0300
APW11	UA	E002	Mercury, total	mg/L	02/18/21 - 07/24/23	11	82	CI around median	0.0002	0.0002
APW11	UA	E002	Molybdenum, total	mg/L	02/18/21 - 07/24/23	10	0	CB around T-S line	-0.0654	0.0180
APW11	UA	E002	pH (field)	SU	02/18/21 - 07/24/23	11	0	CI around median	6.6/7.2	6.4/7.8
APW11	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 07/24/23	10	0	CI around geomean	0.529	6.90
APW11	UA	E002	Selenium, total	mg/L	02/18/21 - 07/24/23	11	82	CI around median	0.001	0.001
APW11	UA	E002	Sulfate, total	mg/L	02/18/21 - 07/24/23	11	0	CI around median	260	35.8
APW11	UA	E002	Thallium, total	mg/L	02/18/21 - 07/24/23	11	91	CI around median	0.001	0.001
APW11	UA	E002	Total Dissolved Solids	mg/L	02/18/21 - 07/24/23	11	0	CI around mean	813	628
APW12	UD	E002	Antimony, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.001	0.003
APW12	UD	E002	Arsenic, total	mg/L	02/17/21 - 07/24/23	11	9	CI around mean	0.0013	0.0590
APW12	UD	E002	Barium, total	mg/L	02/17/21 - 07/24/23	11	0	CB around linear reg	0.0162	0.300
APW12	UD	E002	Beryllium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.001	0.001
APW12	UD	E002	Boron, total	mg/L	02/17/21 - 07/24/23	11	0	CI around mean	0.192	0.260
APW12	UD	E002	Cadmium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.001	0.001
APW12	UD	E002	Chloride, total	mg/L	02/17/21 - 07/24/23	11	0	CI around mean	21.7	52.0
APW12	UD	E002	Chromium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.0015	0.0110
APW12	UD	E002	Cobalt, total	mg/L	02/17/21 - 07/24/23	11	18	CB around linear reg	-0.0016	0.00430

**ATTACHMENT C.**  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW12	UD	E002	Fluoride, total	mg/L	02/17/21 - 07/24/23	11	91	CI around median	0.25	0.633
APW12	UD	E002	Lead, total	mg/L	02/17/21 - 07/24/23	11	91	CI around median	0.001	0.00740
APW12	UD	E002	Lithium, total	mg/L	02/17/21 - 07/24/23	11	0	CI around geomean	0.0248	0.0300
APW12	UD	E002	Mercury, total	mg/L	02/17/21 - 07/24/23	11	91	CI around median	0.0002	0.0002
APW12	UD	E002	Molybdenum, total	mg/L	02/17/21 - 07/24/23	10	50	CI around geomean	0.000968	0.0180
APW12	UD	E002	pH (field)	SU	02/17/21 - 07/24/23	11	0	CI around mean	6.3/6.5	6.4/7.8
APW12	UD	E002	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 07/24/23	10	0	CI around geomean	0.165	6.90
APW12	UD	E002	Selenium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.001	0.001
APW12	UD	E002	Sulfate, total	mg/L	02/17/21 - 07/24/23	11	0	CI around mean	271	35.8
APW12	UD	E002	Thallium, total	mg/L	02/17/21 - 07/24/23	11	100	All ND - Last	0.002	0.001
APW12	UD	E002	Total Dissolved Solids	mg/L	02/17/21 - 07/24/23	11	0	CI around mean	1,170	628
APW13	UA	E002	Antimony, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.003
APW13	UA	E002	Arsenic, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	0.00331	0.0590
APW13	UA	E002	Barium, total	mg/L	02/22/21 - 07/31/23	11	0	CI around median	0.05	0.300
APW13	UA	E002	Beryllium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW13	UA	E002	Boron, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	0.107	0.260
APW13	UA	E002	Cadmium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW13	UA	E002	Chloride, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	46.4	52.0
APW13	UA	E002	Chromium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.0015	0.0110
APW13	UA	E002	Cobalt, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.00430
APW13	UA	E002	Fluoride, total	mg/L	02/22/21 - 07/31/23	11	9	CI around mean	0.299	0.633
APW13	UA	E002	Lead, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.00740
APW13	UA	E002	Lithium, total	mg/L	02/22/21 - 07/31/23	11	0	CB around linear reg	0.00549	0.0300
APW13	UA	E002	Mercury, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.0002	0.0002
APW13	UA	E002	Molybdenum, total	mg/L	02/22/21 - 07/31/23	10	0	CB around linear reg	-0.000226	0.0180
APW13	UA	E002	pH (field)	SU	02/22/21 - 07/31/23	11	0	CI around median	6.9/7.3	6.4/7.8
APW13	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 07/31/23	10	0	CI around mean	0.304	6.90



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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW13	UA	E002	Selenium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW13	UA	E002	Sulfate, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	212	35.8
APW13	UA	E002	Thallium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.002	0.001
APW13	UA	E002	Total Dissolved Solids	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	809	628
APW14	UA	E002	Antimony, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.003
APW14	UA	E002	Arsenic, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	0.00533	0.0590
APW14	UA	E002	Barium, total	mg/L	02/22/21 - 07/31/23	11	0	CB around linear reg	0.0314	0.300
APW14	UA	E002	Beryllium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW14	UA	E002	Boron, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	0.0958	0.260
APW14	UA	E002	Cadmium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW14	UA	E002	Chloride, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	41.8	52.0
APW14	UA	E002	Chromium, total	mg/L	02/22/21 - 07/31/23	11	91	CI around median	0.004	0.0110
APW14	UA	E002	Cobalt, total	mg/L	02/22/21 - 07/31/23	11	91	CI around median	0.002	0.00430
APW14	UA	E002	Fluoride, total	mg/L	02/22/21 - 07/31/23	11	27	CI around mean	0.271	0.633
APW14	UA	E002	Lead, total	mg/L	02/22/21 - 07/31/23	11	73	CI around median	0.001	0.00740
APW14	UA	E002	Lithium, total	mg/L	02/22/21 - 07/31/23	11	18	CB around linear reg	0.00124	0.0300
APW14	UA	E002	Mercury, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.0002	0.0002
APW14	UA	E002	Molybdenum, total	mg/L	02/22/21 - 07/31/23	10	0	CB around linear reg	-0.00289	0.0180
APW14	UA	E002	pH (field)	SU	02/22/21 - 07/31/23	11	0	CI around median	7.0/7.5	6.4/7.8
APW14	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 07/31/23	10	0	CI around mean	0.41	6.90
APW14	UA	E002	Selenium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW14	UA	E002	Sulfate, total	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	317	35.8
APW14	UA	E002	Thallium, total	mg/L	02/22/21 - 07/31/23	11	100	All ND - Last	0.002	0.001
APW14	UA	E002	Total Dissolved Solids	mg/L	02/22/21 - 07/31/23	11	0	CI around mean	900	628
APW15	UA	E002	Antimony, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.001	0.003
APW15	UA	E002	Arsenic, total	mg/L	02/23/21 - 08/01/23	11	0	CI around mean	0.0169	0.0590
APW15	UA	E002	Barium, total	mg/L	02/23/21 - 08/01/23	11	0	CI around mean	0.564	0.300

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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW15	UA	E002	Beryllium, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.001	0.001
APW15	UA	E002	Boron, total	mg/L	02/23/21 - 08/01/23	11	0	CI around mean	0.126	0.260
APW15	UA	E002	Cadmium, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.001	0.001
APW15	UA	E002	Chloride, total	mg/L	02/23/21 - 08/01/23	11	0	CI around median	230	52.0
APW15	UA	E002	Chromium, total	mg/L	02/23/21 - 08/01/23	11	73	CI around median	0.004	0.0110
APW15	UA	E002	Cobalt, total	mg/L	02/23/21 - 08/01/23	11	73	CI around median	0.002	0.00430
APW15	UA	E002	Fluoride, total	mg/L	02/23/21 - 08/01/23	11	0	CI around geomean	0.568	0.633
APW15	UA	E002	Lead, total	mg/L	02/23/21 - 08/01/23	11	46	CI around median	0.001	0.00740
APW15	UA	E002	Lithium, total	mg/L	02/23/21 - 08/01/23	11	73	CI around median	0.02	0.0300
APW15	UA	E002	Mercury, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.0002	0.0002
APW15	UA	E002	Molybdenum, total	mg/L	02/23/21 - 08/01/23	10	0	CB around linear reg	-0.000246	0.0180
APW15	UA	E002	pH (field)	SU	02/23/21 - 08/01/23	11	0	CI around median	6.9/7.3	6.4/7.8
APW15	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 08/01/23	10	0	CI around mean	1.55	6.90
APW15	UA	E002	Selenium, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.001	0.001
APW15	UA	E002	Sulfate, total	mg/L	02/23/21 - 08/01/23	11	91	CI around median	1	35.8
APW15	UA	E002	Thallium, total	mg/L	02/23/21 - 08/01/23	11	100	All ND - Last	0.002	0.001
APW15	UA	E002	Total Dissolved Solids	mg/L	02/23/21 - 08/01/23	11	0	CI around mean	1,030	628
APW16	UA	E002	Antimony, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.003
APW16	UA	E002	Arsenic, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	0.00821	0.0590
APW16	UA	E002	Barium, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	0.554	0.300
APW16	UA	E002	Beryllium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW16	UA	E002	Boron, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	0.13	0.260
APW16	UA	E002	Cadmium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW16	UA	E002	Chloride, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	65.6	52.0
APW16	UA	E002	Chromium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.0015	0.0110
APW16	UA	E002	Cobalt, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.00430
APW16	UA	E002	Fluoride, total	mg/L	02/23/21 - 07/31/23	11	0	CI around mean	0.617	0.633

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW16	UA	E002	Lead, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.00740
APW16	UA	E002	Lithium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.003	0.0300
APW16	UA	E002	Mercury, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.0002	0.0002
APW16	UA	E002	Molybdenum, total	mg/L	02/23/21 - 07/31/23	10	50	CB around linear reg	-0.00225	0.0180
APW16	UA	E002	pH (field)	SU	02/23/21 - 07/31/23	11	0	CI around mean	7.2/7.5	6.4/7.8
APW16	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 07/31/23	10	0	CI around geomean	1.28	6.90
APW16	UA	E002	Selenium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.001	0.001
APW16	UA	E002	Sulfate, total	mg/L	02/23/21 - 07/31/23	11	82	CI around median	1	35.8
APW16	UA	E002	Thallium, total	mg/L	02/23/21 - 07/31/23	11	100	All ND - Last	0.002	0.001
APW16	UA	E002	Total Dissolved Solids	mg/L	02/23/21 - 07/31/23	11	0	CI around median	665	628
APW17	UA	E002	Antimony, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.003
APW17	UA	E002	Arsenic, total	mg/L	02/23/21 - 07/25/23	11	0	CB around linear reg	0.0221	0.0590
APW17	UA	E002	Barium, total	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	0.57	0.300
APW17	UA	E002	Beryllium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.001
APW17	UA	E002	Boron, total	mg/L	02/23/21 - 07/25/23	11	0	CI around median	0.083	0.260
APW17	UA	E002	Cadmium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.001
APW17	UA	E002	Chloride, total	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	44.9	52.0
APW17	UA	E002	Chromium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.0015	0.0110
APW17	UA	E002	Cobalt, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.00430
APW17	UA	E002	Fluoride, total	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	0.414	0.633
APW17	UA	E002	Lead, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.00740
APW17	UA	E002	Lithium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.003	0.0300
APW17	UA	E002	Mercury, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.0002	0.0002
APW17	UA	E002	Molybdenum, total	mg/L	02/23/21 - 07/25/23	10	0	CI around median	0.0048	0.0180
APW17	UA	E002	pH (field)	SU	02/23/21 - 07/25/23	11	0	CI around mean	7.2/7.6	6.4/7.8
APW17	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 07/25/23	10	0	CI around mean	0.787	6.90
APW17	UA	E002	Selenium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.001	0.001

**ATTACHMENT C.**  
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NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW17	UA	E002	Sulfate, total	mg/L	02/23/21 - 07/25/23	11	9	CB around T-S line	-74	35.8
APW17	UA	E002	Thallium, total	mg/L	02/23/21 - 07/25/23	11	100	All ND - Last	0.002	0.001
APW17	UA	E002	Total Dissolved Solids	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	634	628
APW18	UA	E002	Antimony, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.003	0.003
APW18	UA	E002	Arsenic, total	mg/L	02/23/21 - 07/25/23	11	9	CI around mean	0.00154	0.0590
APW18	UA	E002	Barium, total	mg/L	02/23/21 - 07/25/23	11	0	CI around median	0.33	0.300
APW18	UA	E002	Beryllium, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.001	0.001
APW18	UA	E002	Boron, total	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	0.106	0.260
APW18	UA	E002	Cadmium, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.001	0.001
APW18	UA	E002	Chloride, total	mg/L	02/23/21 - 07/25/23	11	0	CB around T-S line	-217	52.0
APW18	UA	E002	Chromium, total	mg/L	02/23/21 - 07/25/23	11	73	CB around T-S line	-0.0376	0.0110
APW18	UA	E002	Cobalt, total	mg/L	02/23/21 - 07/25/23	11	73	CI around median	0.002	0.00430
APW18	UA	E002	Fluoride, total	mg/L	02/23/21 - 07/25/23	11	0	CI around geomean	0.663	0.633
APW18	UA	E002	Lead, total	mg/L	02/23/21 - 07/25/23	11	54	CB around T-S line	-0.0485	0.00740
APW18	UA	E002	Lithium, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.02	0.0300
APW18	UA	E002	Mercury, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.0002	0.0002
APW18	UA	E002	Molybdenum, total	mg/L	02/23/21 - 07/25/23	10	0	CB around linear reg	-0.0188	0.0180
APW18	UA	E002	pH (field)	SU	02/23/21 - 07/25/23	11	0	CI around mean	7.4/7.8	6.4/7.8
APW18	UA	E002	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 07/25/23	10	0	CI around mean	1.47	6.90
APW18	UA	E002	Selenium, total	mg/L	02/23/21 - 07/25/23	11	91	CI around median	0.001	0.001
APW18	UA	E002	Sulfate, total	mg/L	02/23/21 - 07/25/23	11	18	CI around geomean	2.29	35.8
APW18	UA	E002	Thallium, total	mg/L	02/23/21 - 07/25/23	11	82	CI around median	0.001	0.001
APW18	UA	E002	Total Dissolved Solids	mg/L	02/23/21 - 07/25/23	11	0	CI around mean	511	628

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

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NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

**Notes:**

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

HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UD = Upper Drift

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

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 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW02	UD	E003	Antimony, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.001	0.003
APW02	UD	E003	Arsenic, total	mg/L	02/17/21 - 10/10/23	12	75	CI around median	0.001	0.0590
APW02	UD	E003	Barium, total	mg/L	02/17/21 - 10/10/23	12	0	CI around mean	0.00985	0.300
APW02	UD	E003	Beryllium, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW02	UD	E003	Boron, total	mg/L	02/17/21 - 10/10/23	12	0	CI around geomean	0.111	0.260
APW02	UD	E003	Cadmium, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW02	UD	E003	Chloride, total	mg/L	02/17/21 - 10/10/23	12	0	CI around mean	100	52.0
APW02	UD	E003	Chromium, total	mg/L	02/17/21 - 10/10/23	12	83	CI around median	0.0022	0.0110
APW02	UD	E003	Cobalt, total	mg/L	02/17/21 - 10/10/23	12	92	CI around median	0.0016	0.00430
APW02	UD	E003	Fluoride, total	mg/L	02/17/21 - 10/10/23	12	83	CI around median	0.23	0.633
APW02	UD	E003	Lead, total	mg/L	02/17/21 - 10/10/23	12	92	CI around median	0.001	0.00740
APW02	UD	E003	Lithium, total	mg/L	02/17/21 - 10/10/23	12	0	CI around geomean	0.0954	0.0300
APW02	UD	E003	Mercury, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.0002	0.0002
APW02	UD	E003	Molybdenum, total	mg/L	02/17/21 - 10/10/23	11	54	CI around median	0.001	0.0180
APW02	UD	E003	pH (field)	SU	02/17/21 - 10/10/23	18	0	CI around mean	6.7/6.8	6.4/7.8
APW02	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 10/10/23	11	0	CI around mean	0.323	6.90
APW02	UD	E003	Selenium, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW02	UD	E003	Sulfate, total	mg/L	02/17/21 - 10/10/23	12	0	CI around median	2,860	35.8
APW02	UD	E003	Thallium, total	mg/L	02/17/21 - 10/10/23	12	100	All ND - Last	0.002	0.001
APW02	UD	E003	Total Dissolved Solids	mg/L	02/17/21 - 10/10/23	18	0	CI around median	5,000	628
APW03	UD	E003	Antimony, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.003
APW03	UD	E003	Arsenic, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.0590
APW03	UD	E003	Barium, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	0.0651	0.300
APW03	UD	E003	Beryllium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW03	UD	E003	Boron, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	0.387	0.260
APW03	UD	E003	Cadmium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW03	UD	E003	Chloride, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	7.43	52.0

**ATTACHMENT C.**  
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NEWTON POWER PLANT  
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NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW03	UD	E003	Chromium, total	mg/L	02/18/21 - 10/10/23	12	83	CI around median	0.003	0.0110
APW03	UD	E003	Cobalt, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.00430
APW03	UD	E003	Fluoride, total	mg/L	02/18/21 - 10/10/23	12	75	CI around median	0.25	0.633
APW03	UD	E003	Lead, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.001	0.00740
APW03	UD	E003	Lithium, total	mg/L	02/18/21 - 10/10/23	12	33	CI around mean	0.0116	0.0300
APW03	UD	E003	Mercury, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.0002	0.0002
APW03	UD	E003	Molybdenum, total	mg/L	02/18/21 - 10/10/23	11	27	CI around mean	0.0011	0.0180
APW03	UD	E003	pH (field)	SU	02/18/21 - 10/10/23	18	0	CI around mean	6.8/7.2	6.4/7.8
APW03	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 10/10/23	11	0	CI around mean	0.227	6.90
APW03	UD	E003	Selenium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW03	UD	E003	Sulfate, total	mg/L	02/18/21 - 10/10/23	12	0	CB around linear reg	91.3	35.8
APW03	UD	E003	Thallium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.002	0.001
APW03	UD	E003	Total Dissolved Solids	mg/L	02/18/21 - 10/10/23	18	0	CI around mean	627	628
APW04	UD	E003	Antimony, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.003
APW04	UD	E003	Arsenic, total	mg/L	02/18/21 - 10/10/23	12	50	CI around median	0.001	0.0590
APW04	UD	E003	Barium, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	0.019	0.300
APW04	UD	E003	Beryllium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW04	UD	E003	Boron, total	mg/L	02/18/21 - 10/10/23	12	0	CI around median	0.024	0.260
APW04	UD	E003	Cadmium, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.001	0.001
APW04	UD	E003	Chloride, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	30.2	52.0
APW04	UD	E003	Chromium, total	mg/L	02/18/21 - 10/10/23	12	75	CI around median	0.004	0.0110
APW04	UD	E003	Cobalt, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.00430
APW04	UD	E003	Fluoride, total	mg/L	02/18/21 - 10/10/23	12	83	CI around median	0.2	0.633
APW04	UD	E003	Lead, total	mg/L	02/18/21 - 10/10/23	12	67	CI around median	0.001	0.00740
APW04	UD	E003	Lithium, total	mg/L	02/18/21 - 10/10/23	12	25	CI around median	0.02	0.0300
APW04	UD	E003	Mercury, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.0002	0.0002
APW04	UD	E003	Molybdenum, total	mg/L	02/18/21 - 10/10/23	11	91	CI around median	0.001	0.0180

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW04	UD	E003	pH (field)	SU	02/18/21 - 10/10/23	18	0	CI around geomean	6.6/7.2	6.4/7.8
APW04	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 10/10/23	11	0	CI around mean	0.165	6.90
APW04	UD	E003	Selenium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW04	UD	E003	Sulfate, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	832	35.8
APW04	UD	E003	Thallium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.002	0.001
APW04	UD	E003	Total Dissolved Solids	mg/L	02/18/21 - 10/10/23	18	0	CI around mean	1,720	628
APW05S	UD	E003	Antimony, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.001	0.003
APW05S	UD	E003	Arsenic, total	mg/L	02/17/21 - 10/10/23	11	36	CI around mean	0.00107	0.0590
APW05S	UD	E003	Barium, total	mg/L	02/17/21 - 10/10/23	11	0	CI around geomean	0.0396	0.300
APW05S	UD	E003	Beryllium, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.001	0.001
APW05S	UD	E003	Boron, total	mg/L	02/17/21 - 10/10/23	11	0	CI around median	0.039	0.260
APW05S	UD	E003	Cadmium, total	mg/L	02/17/21 - 10/10/23	11	91	CI around median	0.001	0.001
APW05S	UD	E003	Chloride, total	mg/L	02/17/21 - 10/10/23	11	0	CI around geomean	143	52.0
APW05S	UD	E003	Chromium, total	mg/L	02/17/21 - 10/10/23	11	82	CI around median	0.0026	0.0110
APW05S	UD	E003	Cobalt, total	mg/L	02/17/21 - 10/10/23	11	36	CI around geomean	0.000958	0.00430
APW05S	UD	E003	Fluoride, total	mg/L	02/17/21 - 10/10/23	11	0	CI around mean	0.361	0.633
APW05S	UD	E003	Lead, total	mg/L	02/17/21 - 10/10/23	11	91	CI around median	0.001	0.00740
APW05S	UD	E003	Lithium, total	mg/L	02/17/21 - 10/10/23	11	0	CI around median	0.033	0.0300
APW05S	UD	E003	Mercury, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.0002	0.0002
APW05S	UD	E003	Molybdenum, total	mg/L	02/17/21 - 10/10/23	10	10	CI around mean	0.000892	0.0180
APW05S	UD	E003	pH (field)	SU	02/17/21 - 10/10/23	11	0	CI around mean	6.7/6.9	6.4/7.8
APW05S	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 10/10/23	10	0	CI around geomean	0.177	6.90
APW05S	UD	E003	Selenium, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.001	0.001
APW05S	UD	E003	Sulfate, total	mg/L	02/17/21 - 10/10/23	11	0	CI around median	640	35.8
APW05S	UD	E003	Thallium, total	mg/L	02/17/21 - 10/10/23	11	100	All ND - Last	0.002	0.001
APW05S	UD	E003	Total Dissolved Solids	mg/L	02/17/21 - 10/10/23	11	0	CI around mean	3,360	628
APW07	UA	E003	Antimony, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.003



**ATTACHMENT C.**  
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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW07	UA	E003	Arsenic, total	mg/L	12/15/15 - 10/10/23	14	0	CB around linear reg	0.0141	0.0590
APW07	UA	E003	Barium, total	mg/L	12/15/15 - 10/10/23	14	0	CB around T-S line	0.515	0.300
APW07	UA	E003	Beryllium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.001
APW07	UA	E003	Boron, total	mg/L	12/15/15 - 10/10/23	24	0	CI around geomean	0.0745	0.260
APW07	UA	E003	Cadmium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.001
APW07	UA	E003	Chloride, total	mg/L	12/15/15 - 10/10/23	27	0	CB around T-S line	55.2	52.0
APW07	UA	E003	Chromium, total	mg/L	12/15/15 - 10/10/23	14	64	CI around median	0.004	0.0110
APW07	UA	E003	Cobalt, total	mg/L	12/15/15 - 10/10/23	13	85	CI around median	0.002	0.00430
APW07	UA	E003	Fluoride, total	mg/L	12/15/15 - 10/10/23	24	4	CI around mean	0.366	0.633
APW07	UA	E003	Lead, total	mg/L	12/15/15 - 10/10/23	14	64	CI around median	0.001	0.00740
APW07	UA	E003	Lithium, total	mg/L	12/15/15 - 10/10/23	14	93	CI around median	0.01	0.0300
APW07	UA	E003	Mercury, total	mg/L	12/15/15 - 10/10/23	14	100	All ND - Last	0.0002	0.0002
APW07	UA	E003	Molybdenum, total	mg/L	12/15/15 - 10/10/23	13	0	CB around linear reg	-0.00235	0.0180
APW07	UA	E003	pH (field)	SU	12/15/15 - 10/10/23	26	0	CI around mean	7.2/7.3	6.4/7.8
APW07	UA	E003	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 10/10/23	14	0	CB around linear reg	1.69	6.90
APW07	UA	E003	Selenium, total	mg/L	12/15/15 - 10/10/23	14	100	All ND - Last	0.001	0.001
APW07	UA	E003	Sulfate, total	mg/L	12/15/15 - 10/10/23	25	16	CB around T-S line	9.72	35.8
APW07	UA	E003	Thallium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.002	0.001
APW07	UA	E003	Total Dissolved Solids	mg/L	12/15/15 - 10/10/23	24	0	CB around T-S line	529	628
APW08	UA	E003	Antimony, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.003
APW08	UA	E003	Arsenic, total	mg/L	12/15/15 - 10/10/23	14	0	CB around linear reg	0.0225	0.0590
APW08	UA	E003	Barium, total	mg/L	12/15/15 - 10/10/23	14	0	CB around linear reg	0.485	0.300
APW08	UA	E003	Beryllium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.001
APW08	UA	E003	Boron, total	mg/L	12/15/15 - 10/10/23	24	0	CI around geomean	0.0818	0.260
APW08	UA	E003	Cadmium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.001
APW08	UA	E003	Chloride, total	mg/L	12/15/15 - 10/10/23	26	0	CI around mean	54.9	52.0
APW08	UA	E003	Chromium, total	mg/L	12/15/15 - 10/10/23	14	57	CI around median	0.004	0.0110

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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW08	UA	E003	Cobalt, total	mg/L	12/15/15 - 10/10/23	13	77	CI around median	0.002	0.00430
APW08	UA	E003	Fluoride, total	mg/L	12/15/15 - 10/10/23	24	8	CI around median	0.393	0.633
APW08	UA	E003	Lead, total	mg/L	12/15/15 - 10/10/23	14	57	CI around median	0.001	0.00740
APW08	UA	E003	Lithium, total	mg/L	12/15/15 - 10/10/23	14	71	CI around median	0.01	0.0300
APW08	UA	E003	Mercury, total	mg/L	12/15/15 - 10/10/23	14	100	All ND - Last	0.0002	0.0002
APW08	UA	E003	Molybdenum, total	mg/L	12/15/15 - 10/10/23	13	0	CI around mean	0.00471	0.0180
APW08	UA	E003	pH (field)	SU	12/15/15 - 10/10/23	27	0	CI around mean	7.2/7.4	6.4/7.8
APW08	UA	E003	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 10/10/23	14	0	CI around mean	1.06	6.90
APW08	UA	E003	Selenium, total	mg/L	12/15/15 - 10/10/23	14	93	CI around median	0.001	0.001
APW08	UA	E003	Sulfate, total	mg/L	12/15/15 - 10/10/23	26	0	CB around linear reg	46.7	35.8
APW08	UA	E003	Thallium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.002	0.001
APW08	UA	E003	Total Dissolved Solids	mg/L	12/15/15 - 10/10/23	24	0	CB around linear reg	592	628
APW09	UA	E003	Antimony, total	mg/L	12/15/15 - 10/10/23	13	92	CI around median	0.003	0.003
APW09	UA	E003	Arsenic, total	mg/L	12/15/15 - 10/10/23	14	0	CB around linear reg	0.0187	0.0590
APW09	UA	E003	Barium, total	mg/L	12/15/15 - 10/10/23	14	0	CI around mean	0.301	0.300
APW09	UA	E003	Beryllium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.001
APW09	UA	E003	Boron, total	mg/L	12/15/15 - 10/10/23	24	0	CB around T-S line	0.0835	0.260
APW09	UA	E003	Cadmium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.001	0.001
APW09	UA	E003	Chloride, total	mg/L	12/15/15 - 10/10/23	26	0	CI around median	95	52.0
APW09	UA	E003	Chromium, total	mg/L	12/15/15 - 10/10/23	14	64	CI around median	0.004	0.0110
APW09	UA	E003	Cobalt, total	mg/L	12/15/15 - 10/10/23	13	92	CI around median	0.002	0.00430
APW09	UA	E003	Fluoride, total	mg/L	12/15/15 - 10/10/23	25	4	CI around mean	0.457	0.633
APW09	UA	E003	Lead, total	mg/L	12/15/15 - 10/10/23	14	57	CI around median	0.001	0.00740
APW09	UA	E003	Lithium, total	mg/L	12/15/15 - 10/10/23	14	86	CI around median	0.01	0.0300
APW09	UA	E003	Mercury, total	mg/L	12/15/15 - 10/10/23	14	86	CI around median	0.0002	0.0002
APW09	UA	E003	Molybdenum, total	mg/L	12/15/15 - 10/10/23	13	0	CB around linear reg	-0.00379	0.0180
APW09	UA	E003	pH (field)	SU	12/15/15 - 10/10/23	26	0	CI around median	7.4/7.5	6.4/7.8

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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW09	UA	E003	Radium 226 + Radium 228, total	pCi/L	12/15/15 - 10/10/23	14	0	CI around geomean	0.83	6.90
APW09	UA	E003	Selenium, total	mg/L	12/15/15 - 10/10/23	14	93	CI around median	0.001	0.001
APW09	UA	E003	Sulfate, total	mg/L	12/15/15 - 10/10/23	26	8	CI around geomean	5.02	35.8
APW09	UA	E003	Thallium, total	mg/L	12/15/15 - 10/10/23	13	100	All ND - Last	0.002	0.001
APW09	UA	E003	Total Dissolved Solids	mg/L	12/15/15 - 10/10/23	25	0	CB around T-S line	775	628
APW10	UA	E003	Antimony, total	mg/L	12/16/15 - 10/10/23	15	100	All ND - Last	0.001	0.003
APW10	UA	E003	Arsenic, total	mg/L	12/16/15 - 10/10/23	16	0	CI around mean	0.00635	0.0590
APW10	UA	E003	Barium, total	mg/L	12/16/15 - 10/10/23	16	0	CI around mean	0.0296	0.300
APW10	UA	E003	Beryllium, total	mg/L	12/16/15 - 10/10/23	15	100	All ND - Last	0.001	0.001
APW10	UA	E003	Boron, total	mg/L	12/16/15 - 10/10/23	26	0	CI around mean	0.0716	0.260
APW10	UA	E003	Cadmium, total	mg/L	12/16/15 - 10/10/23	15	100	All ND - Last	0.001	0.001
APW10	UA	E003	Chloride, total	mg/L	12/16/15 - 10/10/23	27	0	CI around mean	45.3	52.0
APW10	UA	E003	Chromium, total	mg/L	12/16/15 - 10/10/23	16	100	All ND - Last	0.0015	0.0110
APW10	UA	E003	Cobalt, total	mg/L	12/16/15 - 10/10/23	15	93	CI around median	0.002	0.00430
APW10	UA	E003	Fluoride, total	mg/L	12/16/15 - 10/10/23	26	19	CI around mean	0.3	0.633
APW10	UA	E003	Lead, total	mg/L	12/16/15 - 10/10/23	16	88	CI around median	0.001	0.00740
APW10	UA	E003	Lithium, total	mg/L	12/16/15 - 10/10/23	16	6	CB around linear reg	0.0143	0.0300
APW10	UA	E003	Mercury, total	mg/L	12/16/15 - 10/10/23	16	100	All ND - Last	0.0002	0.0002
APW10	UA	E003	Molybdenum, total	mg/L	12/16/15 - 10/10/23	15	0	CB around linear reg	0.00579	0.0180
APW10	UA	E003	pH (field)	SU	12/16/15 - 10/10/23	29	0	CB around linear reg	7.2/7.5	6.4/7.8
APW10	UA	E003	Radium 226 + Radium 228, total	pCi/L	12/16/15 - 10/10/23	16	0	CI around mean	0.477	6.90
APW10	UA	E003	Selenium, total	mg/L	12/16/15 - 10/10/23	16	100	All ND - Last	0.001	0.001
APW10	UA	E003	Sulfate, total	mg/L	12/16/15 - 10/10/23	28	0	CI around median	410	35.8
APW10	UA	E003	Thallium, total	mg/L	12/16/15 - 10/10/23	15	100	All ND - Last	0.002	0.001
APW10	UA	E003	Total Dissolved Solids	mg/L	12/16/15 - 10/10/23	28	0	CB around linear reg	1,030	628
APW11	UA	E003	Antimony, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.003
APW11	UA	E003	Arsenic, total	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	0.00208	0.0590

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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW11	UA	E003	Barium, total	mg/L	02/18/21 - 10/10/23	12	0	CB around T-S line	-0.246	0.300
APW11	UA	E003	Beryllium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW11	UA	E003	Boron, total	mg/L	02/18/21 - 10/10/23	12	0	CB around T-S line	-0.0992	0.260
APW11	UA	E003	Cadmium, total	mg/L	02/18/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW11	UA	E003	Chloride, total	mg/L	02/18/21 - 10/10/23	12	0	CI around median	25	52.0
APW11	UA	E003	Chromium, total	mg/L	02/18/21 - 10/10/23	12	67	CI around median	0.0039	0.0110
APW11	UA	E003	Cobalt, total	mg/L	02/18/21 - 10/10/23	12	67	CI around median	0.0013	0.00430
APW11	UA	E003	Fluoride, total	mg/L	02/18/21 - 10/10/23	12	42	CI around mean	0.258	0.633
APW11	UA	E003	Lead, total	mg/L	02/18/21 - 10/10/23	12	58	CI around median	0.001	0.00740
APW11	UA	E003	Lithium, total	mg/L	02/18/21 - 10/10/23	12	8	CI around mean	0.018	0.0300
APW11	UA	E003	Mercury, total	mg/L	02/18/21 - 10/10/23	12	83	CI around median	0.0002	0.0002
APW11	UA	E003	Molybdenum, total	mg/L	02/18/21 - 10/10/23	11	0	CI around median	0.0043	0.0180
APW11	UA	E003	pH (field)	SU	02/18/21 - 10/10/23	12	0	CI around median	6.6/7.4	6.4/7.8
APW11	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/18/21 - 10/10/23	11	0	CI around geomean	0.56	6.90
APW11	UA	E003	Selenium, total	mg/L	02/18/21 - 10/10/23	12	83	CI around median	0.001	0.001
APW11	UA	E003	Sulfate, total	mg/L	02/18/21 - 10/10/23	12	0	CI around median	260	35.8
APW11	UA	E003	Thallium, total	mg/L	02/18/21 - 10/10/23	12	92	CI around median	0.001	0.001
APW11	UA	E003	Total Dissolved Solids	mg/L	02/18/21 - 10/10/23	12	0	CI around mean	815	628
APW12	UD	E003	Antimony, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.001	0.003
APW12	UD	E003	Arsenic, total	mg/L	02/17/21 - 10/11/23	12	17	CI around mean	0.0012	0.0590
APW12	UD	E003	Barium, total	mg/L	02/17/21 - 10/11/23	12	0	CB around linear reg	0.0187	0.300
APW12	UD	E003	Beryllium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.001	0.001
APW12	UD	E003	Boron, total	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	0.196	0.260
APW12	UD	E003	Cadmium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.001	0.001
APW12	UD	E003	Chloride, total	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	22	52.0
APW12	UD	E003	Chromium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.0015	0.0110
APW12	UD	E003	Cobalt, total	mg/L	02/17/21 - 10/11/23	12	17	CB around linear reg	-0.00141	0.00430

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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW12	UD	E003	Fluoride, total	mg/L	02/17/21 - 10/11/23	12	83	CI around median	0.22	0.633
APW12	UD	E003	Lead, total	mg/L	02/17/21 - 10/11/23	12	92	CI around median	0.001	0.00740
APW12	UD	E003	Lithium, total	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	0.0252	0.0300
APW12	UD	E003	Mercury, total	mg/L	02/17/21 - 10/11/23	12	92	CI around median	0.0002	0.0002
APW12	UD	E003	Molybdenum, total	mg/L	02/17/21 - 10/11/23	11	54	CI around median	0.001	0.0180
APW12	UD	E003	pH (field)	SU	02/17/21 - 10/11/23	12	0	CI around mean	6.2/6.5	6.4/7.8
APW12	UD	E003	Radium 226 + Radium 228, total	pCi/L	02/17/21 - 10/11/23	11	0	CI around mean	0.162	6.90
APW12	UD	E003	Selenium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.001	0.001
APW12	UD	E003	Sulfate, total	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	290	35.8
APW12	UD	E003	Thallium, total	mg/L	02/17/21 - 10/11/23	12	100	All ND - Last	0.002	0.001
APW12	UD	E003	Total Dissolved Solids	mg/L	02/17/21 - 10/11/23	12	0	CI around mean	1,190	628
APW13	UA	E003	Antimony, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.003
APW13	UA	E003	Arsenic, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	0.00341	0.0590
APW13	UA	E003	Barium, total	mg/L	02/22/21 - 10/10/23	12	0	CI around geomean	0.0501	0.300
APW13	UA	E003	Beryllium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW13	UA	E003	Boron, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	0.106	0.260
APW13	UA	E003	Cadmium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW13	UA	E003	Chloride, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	47.1	52.0
APW13	UA	E003	Chromium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.0015	0.0110
APW13	UA	E003	Cobalt, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.00430
APW13	UA	E003	Fluoride, total	mg/L	02/22/21 - 10/10/23	12	8	CI around mean	0.312	0.633
APW13	UA	E003	Lead, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.00740
APW13	UA	E003	Lithium, total	mg/L	02/22/21 - 10/10/23	12	0	CB around linear reg	0.0079	0.0300
APW13	UA	E003	Mercury, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.0002	0.0002
APW13	UA	E003	Molybdenum, total	mg/L	02/22/21 - 10/10/23	11	0	CB around linear reg	0.00174	0.0180
APW13	UA	E003	pH (field)	SU	02/22/21 - 10/10/23	12	0	CI around median	6.9/7.3	6.4/7.8
APW13	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 10/10/23	11	0	CI around mean	0.344	6.90

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Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW13	UA	E003	Selenium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW13	UA	E003	Sulfate, total	mg/L	02/22/21 - 10/10/23	12	0	CB around linear reg	227	35.8
APW13	UA	E003	Thallium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.002	0.001
APW13	UA	E003	Total Dissolved Solids	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	815	628
APW14	UA	E003	Antimony, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.003
APW14	UA	E003	Arsenic, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	0.00561	0.0590
APW14	UA	E003	Barium, total	mg/L	02/22/21 - 10/10/23	12	0	CB around linear reg	0.0378	0.300
APW14	UA	E003	Beryllium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW14	UA	E003	Boron, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	0.0946	0.260
APW14	UA	E003	Cadmium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW14	UA	E003	Chloride, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	41.6	52.0
APW14	UA	E003	Chromium, total	mg/L	02/22/21 - 10/10/23	12	83	CB around T-S line	0.000409	0.0110
APW14	UA	E003	Cobalt, total	mg/L	02/22/21 - 10/10/23	12	92	CB around T-S line	0.000846	0.00430
APW14	UA	E003	Fluoride, total	mg/L	02/22/21 - 10/10/23	12	25	CI around mean	0.277	0.633
APW14	UA	E003	Lead, total	mg/L	02/22/21 - 10/10/23	12	75	CI around median	0.001	0.00740
APW14	UA	E003	Lithium, total	mg/L	02/22/21 - 10/10/23	12	17	CB around linear reg	0.00367	0.0300
APW14	UA	E003	Mercury, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.0002	0.0002
APW14	UA	E003	Molybdenum, total	mg/L	02/22/21 - 10/10/23	11	0	CB around linear reg	-0.000924	0.0180
APW14	UA	E003	pH (field)	SU	02/22/21 - 10/10/23	12	0	CI around median	7.0/7.5	6.4/7.8
APW14	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/22/21 - 10/10/23	11	0	CI around mean	0.431	6.90
APW14	UA	E003	Selenium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW14	UA	E003	Sulfate, total	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	319	35.8
APW14	UA	E003	Thallium, total	mg/L	02/22/21 - 10/10/23	12	100	All ND - Last	0.002	0.001
APW14	UA	E003	Total Dissolved Solids	mg/L	02/22/21 - 10/10/23	12	0	CI around mean	908	628
APW15	UA	E003	Antimony, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.003
APW15	UA	E003	Arsenic, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.017	0.0590
APW15	UA	E003	Barium, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.565	0.300

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW15	UA	E003	Beryllium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW15	UA	E003	Boron, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.125	0.260
APW15	UA	E003	Cadmium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW15	UA	E003	Chloride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around median	227	52.0
APW15	UA	E003	Chromium, total	mg/L	02/23/21 - 10/10/23	12	67	CI around median	0.004	0.0110
APW15	UA	E003	Cobalt, total	mg/L	02/23/21 - 10/10/23	12	67	CI around median	0.0016	0.00430
APW15	UA	E003	Fluoride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around geomean	0.55	0.633
APW15	UA	E003	Lead, total	mg/L	02/23/21 - 10/10/23	12	42	CI around median	0.001	0.00740
APW15	UA	E003	Lithium, total	mg/L	02/23/21 - 10/10/23	12	67	CI around median	0.0073	0.0300
APW15	UA	E003	Mercury, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0002	0.0002
APW15	UA	E003	Molybdenum, total	mg/L	02/23/21 - 10/10/23	11	0	CB around linear reg	0.00127	0.0180
APW15	UA	E003	pH (field)	SU	02/23/21 - 10/10/23	12	0	CI around median	6.9/7.3	6.4/7.8
APW15	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 10/10/23	11	0	CI around mean	1.59	6.90
APW15	UA	E003	Selenium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW15	UA	E003	Sulfate, total	mg/L	02/23/21 - 10/10/23	12	83	CI around median	1	35.8
APW15	UA	E003	Thallium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.002	0.001
APW15	UA	E003	Total Dissolved Solids	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	1,040	628
APW16	UA	E003	Antimony, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.003
APW16	UA	E003	Arsenic, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.00912	0.0590
APW16	UA	E003	Barium, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.559	0.300
APW16	UA	E003	Beryllium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW16	UA	E003	Boron, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.129	0.260
APW16	UA	E003	Cadmium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW16	UA	E003	Chloride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	66	52.0
APW16	UA	E003	Chromium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0015	0.0110
APW16	UA	E003	Cobalt, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.00430
APW16	UA	E003	Fluoride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.629	0.633

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW16	UA	E003	Lead, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.00740
APW16	UA	E003	Lithium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.003	0.0300
APW16	UA	E003	Mercury, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0002	0.0002
APW16	UA	E003	Molybdenum, total	mg/L	02/23/21 - 10/10/23	11	54	CI around median	0.001	0.0180
APW16	UA	E003	pH (field)	SU	02/23/21 - 10/10/23	12	0	CI around mean	7.2/7.5	6.4/7.8
APW16	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 10/10/23	11	0	CI around geomean	1.37	6.90
APW16	UA	E003	Selenium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW16	UA	E003	Sulfate, total	mg/L	02/23/21 - 10/10/23	12	83	CI around median	1	35.8
APW16	UA	E003	Thallium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.002	0.001
APW16	UA	E003	Total Dissolved Solids	mg/L	02/23/21 - 10/10/23	12	0	CI around median	665	628
APW17	UA	E003	Antimony, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.003
APW17	UA	E003	Arsenic, total	mg/L	02/23/21 - 10/10/23	12	0	CB around linear reg	0.0256	0.0590
APW17	UA	E003	Barium, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.566	0.300
APW17	UA	E003	Beryllium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW17	UA	E003	Boron, total	mg/L	02/23/21 - 10/10/23	12	0	CI around median	0.083	0.260
APW17	UA	E003	Cadmium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.001
APW17	UA	E003	Chloride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	46.3	52.0
APW17	UA	E003	Chromium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0015	0.0110
APW17	UA	E003	Cobalt, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.00430
APW17	UA	E003	Fluoride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.427	0.633
APW17	UA	E003	Lead, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.00740
APW17	UA	E003	Lithium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.003	0.0300
APW17	UA	E003	Mercury, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.0002	0.0002
APW17	UA	E003	Molybdenum, total	mg/L	02/23/21 - 10/10/23	11	0	CI around median	0.0048	0.0180
APW17	UA	E003	pH (field)	SU	02/23/21 - 10/10/23	12	0	CI around mean	7.2/7.5	6.4/7.8
APW17	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 10/10/23	11	0	CI around mean	0.915	6.90
APW17	UA	E003	Selenium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.001	0.001



**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 4, 2023**  
845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
APW17	UA	E003	Sulfate, total	mg/L	02/23/21 - 10/10/23	12	8	CB around T-S line	48.1	35.8
APW17	UA	E003	Thallium, total	mg/L	02/23/21 - 10/10/23	12	100	All ND - Last	0.002	0.001
APW17	UA	E003	Total Dissolved Solids	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	638	628
APW18	UA	E003	Antimony, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.001	0.003
APW18	UA	E003	Arsenic, total	mg/L	02/23/21 - 10/10/23	12	8	CI around mean	0.00165	0.0590
APW18	UA	E003	Barium, total	mg/L	02/23/21 - 10/10/23	12	0	CI around median	0.33	0.300
APW18	UA	E003	Beryllium, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.001	0.001
APW18	UA	E003	Boron, total	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	0.104	0.260
APW18	UA	E003	Cadmium, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.001	0.001
APW18	UA	E003	Chloride, total	mg/L	02/23/21 - 10/10/23	12	0	CB around T-S line	-150	52.0
APW18	UA	E003	Chromium, total	mg/L	02/23/21 - 10/10/23	12	75	CB around T-S line	-0.023	0.0110
APW18	UA	E003	Cobalt, total	mg/L	02/23/21 - 10/10/23	12	75	CB around T-S line	-0.00108	0.00430
APW18	UA	E003	Fluoride, total	mg/L	02/23/21 - 10/10/23	12	0	CI around median	0.518	0.633
APW18	UA	E003	Lead, total	mg/L	02/23/21 - 10/10/23	12	50	CI around geomean	0.00107	0.00740
APW18	UA	E003	Lithium, total	mg/L	02/23/21 - 10/10/23	12	83	CI around median	0.0052	0.0300
APW18	UA	E003	Mercury, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.0002	0.0002
APW18	UA	E003	Molybdenum, total	mg/L	02/23/21 - 10/10/23	11	0	CB around linear reg	-0.0139	0.0180
APW18	UA	E003	pH (field)	SU	02/23/21 - 10/10/23	12	0	CI around mean	7.5/7.8	6.4/7.8
APW18	UA	E003	Radium 226 + Radium 228, total	pCi/L	02/23/21 - 10/10/23	11	0	CI around mean	1.43	6.90
APW18	UA	E003	Selenium, total	mg/L	02/23/21 - 10/10/23	12	92	CI around median	0.001	0.001
APW18	UA	E003	Sulfate, total	mg/L	02/23/21 - 10/10/23	12	17	CI around geomean	2.35	35.8
APW18	UA	E003	Thallium, total	mg/L	02/23/21 - 10/10/23	12	83	CI around median	0.001	0.001
APW18	UA	E003	Total Dissolved Solids	mg/L	02/23/21 - 10/10/23	12	0	CI around mean	520	628

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 4, 2023**

845 QUARTERLY REPORT  
NEWTON POWER PLANT  
PRIMARY ASH POND  
NEWTON, IL

**Notes:**

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

HSU = hydrostratigraphic unit:

UA = Uppermost Aquifer

UD = Upper Drift

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

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