2022 SEMI-ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

February 28, 2023

Prepared for:

Georgia Power

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CERTIFICATION STATEMENT

This *2022 Semi-Annual Groundwater Monitoring and Corrective Action Report, Plant Arkwright, Ash Pond 2 Dry Ash Stockpile* has been prepared in compliance with the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10 and 391-3-4.14 under the supervision of a licensed professional engineer and a licensed professional geologist with Stantec Consulting Services Inc. I hereby certify that I am a qualified groundwater scientist, in accordance with the Georgia Rules of Solid Waste Management, and 40 CFR Part 258.50(g).

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Table of Contents

LIST OF TABLES

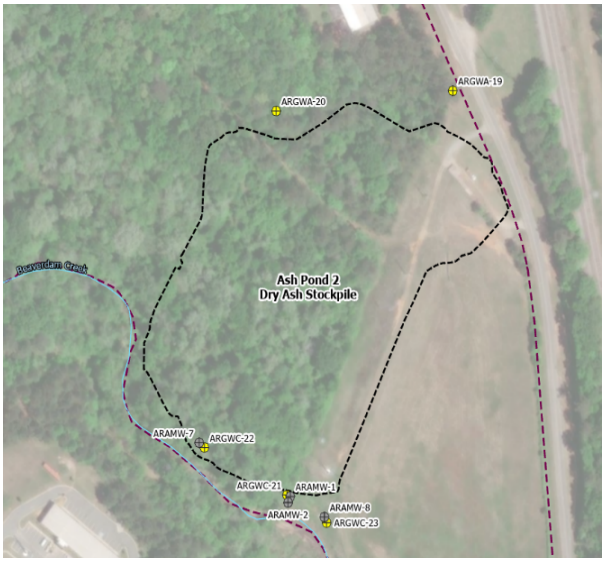
LIST OF FIGURES

LIST OF APPENDICES

Executive Summary

This summary of the *2022 Semi-Annual Groundwater Monitoring and Corrective Action Report* provides the status of groundwater monitoring and corrective action program from July 2022 through December 2022 at the Georgia Power Company (Georgia Power) former Plant Arkwright Ash Pond 2 Dry Ash Stockpile (AP-2 DAS). This summary was prepared by Stantec Consulting Services Inc. (Stantec) on behalf of Georgia Power to meet the requirements listed in Georgia Environmental Protection Division (GA EPD) Rules of Solid Waste Management 391-3-4-.10(6)(a)-(c) and 391-3-4-.14.

Plant Arkwright is located in Bibb County, Georgia, approximately 6 miles northwest of the city of Macon. The plant address is 5241 Arkwright Road, Macon, Georgia, 31210. The 11-acre AP-2 DAS is located between Arkwright Road to the north and Beaverdam Creek to the south. When in operation, Plant Arkwright coal-fired power plant consisted of four 40-megawatt units. In the years before retirement, the plant was used primarily to provide peaking power and operated approximately 40 to 60 days per year. Plant Arkwright was retired in 2002, decommissioned in 2003, and closed in 2010. Georgia Power officially closed the AP-2 DAS in 2010, with GA EPD's approval and in accordance with the solid waste landfill regulations in effect at the time of its closure.



Plant Arkwright Ash Pond 2 Dry Ash Stockpile

The groundwater monitoring program for AP-2 DAS is managed in accordance with Georgia Solid Waste Management Rules for Groundwater Monitoring and Corrective Action of a municipal solid waste landfill, Rule 391-3-4-.14, per GA EPD Permit No. 011-031D(LI). AP-2 DAS is also subject to the GA EPD Rules for Solid Waste Management 391-3-4-.10 for coal combustion residuals (CCR) management. Groundwater at AP-2 DAS is monitored using a comprehensive groundwater monitoring system that meets the GA EPD requirements. Groundwater sampling and reporting for compliance to meet requirements of Rule 391-3-4.10 began after upgradient groundwater conditions were established between August 2016 and October 2018. Based on groundwater conditions at AP-2 DAS, an assessment monitoring program was initiated on November 13, 2019, and assessment of corrective measures began on July 9, 2020. During the 2022 semi-annual reporting period, AP-2 DAS remained in assessment monitoring as corrective measures were evaluated.

During the latter half of the 2022 reporting period, Stantec conducted one groundwater sampling event in August-September 2022. Samples were analyzed for the full suites of Appendix III[1] and Appendix IV[2] constituents and Appendix I constituent (silver). Groundwater and surface water samples were respectively submitted to GEL Laboratories, LLC and Pace Analytical Services, LLC for analysis. Per the CCR Rule, groundwater results for the August-September 2022 sampling activities were evaluated in accordance with the certified statistical methods. Statistical analyses indicate statistically significant increases (SSIs) for Appendix III constituents above the statistical limits and statistically significant levels (SSLs) of Appendix IV constituents above the groundwater protection standards (GWPS) as summarized below.

Appendix III Constituents	**August/September 2022**
Boron	ARGWC-21, ARGWC-22, ARGWC-23
Calcium	ARGWC-21, ARGWC-22, ARGWC-23
Fluoride	ARGWC-21, ARGWC-23
pH	ARGWC-23
Sulfate	ARGWC-21, ARGWC-22, ARGWC-23
TDS	ARGWC-21, ARGWC-22, ARGWC-23
Appendix IV Constituents	**August/September 2022**
Cobalt	ARAMW-7
Lithium	ARAMW-7

Based on review of the Appendix III and Appendix IV statistical results completed for the groundwater monitoring and corrective action program from August-September 2022 through January 2023, assessment monitoring will continue along with assessment of corrective measures. Georgia Power will continue routine groundwater monitoring and reports will be submitted to the GA EPD semi-annually.

[1] Boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS)
[2] Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 + 228

Acronyms / Abbreviations

40 CFR	Title 40 Code of Federal Regulations
ACM	Assessment of Corrective Measures
AP-2	Ash Pond 2
AP-2 DAS	Ash Pond 2 Dry Ash Stockpile
CCR	Coal Combustion Residuals
CCR Rule	Coal Combustion Residuals Rule
DO	Dissolved Oxygen
GA EPD	Georgia Environmental Protection Division
GWPS	Groundwater Protection Standards
GSC	Groundwater Stats Consulting
MCL	Maximum Contaminant Level
mg/L	Milligrams per Liter
NELAP	National Environmental Laboratory Accreditation Program
ORP	Oxidation-Reduction Potential
PWR	Partially Weathered Rock
QA/QC	Quality Assurance/Quality Control
RSL	Regional Screening Level
Site	Former Plant Arkwright Ash Pond 2 Dry Ash Stockpile
SSI	Statistically Significant Increase
SSL	Statistically Significant Level
UPL	Upper Prediction Limit
US EPA	United States Environmental Protection Agency
UTL	Upper Tolerance Limit

1.0 Introduction

In accordance with the Georgia Environmental Protection Division (GA EPD) Rules of Solid Waste Management 391-3-4-.10(6)(a)-(c) and 391-3-4-.14, this *2022 Semi-Annual Groundwater Monitoring and Corrective Action Report* has been prepared to document groundwater monitoring activities conducted at the Georgia Power Company (Georgia Power) former Plant Arkwright Ash Pond 2 Dry Ash Stockpile (AP-2 DAS). To specify groundwater monitoring requirements, GA EPD Rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (US EPA) Coal Combustion Residuals (CCR) Rule Title 40 Code of Federal Regulations (40 CFR) § 257 Subpart D. For ease of reference, the US EPA CCR rules are cited within this report.

Groundwater monitoring and reporting for Plant Arkwright AP-2 DAS are performed in accordance with the monitoring requirements of 40 CFR § 257.90 through § 257.96. This semi-annual report documents the activities completed between July 2022 and December 2022. One semi-annual assessment monitoring event was conducted during this reporting period in August- September 2022.

Due to statistically significant levels (SSL) of selected Appendix IV constituents identified in the 2020 Annual Groundwater Monitoring and Corrective Action Report (Wood, 2020a), Georgia Power initiated an Assessment of Corrective Measures (ACM) for AP-2 DAS on July 9, 2020, pursuant to 40 CFR § 257.96(b). In accordance with 40 CFR § 257.96(b), an ACM Report for the cobalt was prepared and submitted to GA EPD in December 2020 (Wood, 2020b). Based on statistical analyses on the recent semi-annual sampling event, vertical assessment well ARAMW-7 is the only well showing SSLs for cobalt and lithium at AP-2, with cobalt being newly identified as an SSL in this report.

Cobalt and lithium are delineated by surface water with both being reported at concentrations below the GWPS. Vertical delineation for cobalt and lithium has been completed with the installation of ARAMW-9 during this reporting period. Statistical analysis of these constituents will be performed following the collection and analysis of four data points from well ARAMW-9.

1.1 Site Description and Background

The Site is located in Bibb County, Georgia, approximately 6 miles northwest of the city of Macon (Figure 1). The physical address of the plant is 5241 Arkwright Road, Macon, GA 31210. The 11-acre AP-2 DAS is located between Arkwright Road to the north and Beaverdam Creek to the south. When in operation, the Plant Arkwright coal-fired power plant consisted of four 40-megawatt units. In the years before retirement, the plant was used primarily to provide peaking power and operated approximately 40 to 60 days per year. Plant Arkwright was retired in 2002 and decommissioned in 2003.

Arkwright Ash Pond 2 (AP-2) was in operation in the 1950s. Soil was placed over AP-2 as a closure measure and was estimated to be closed in-place in the late 1970s to early 1980s. Georgia Power officially closed AP-2 DAS by removing ash from the former AP-2, located directly east of AP-2 DAS, in 2010 with GA EPD's approval and in accordance with the solid waste landfill regulations specified by GA EPD Rule 391-3-4, in effect at the time of its closure. A Closure Certificate was issued by GA EPD for

AP-2 DAS on June 30, 2010. The Closure Certificate initiated the post-closure care period for the CCR unit, which has been performed in accordance with the GA EPD Permit No. 011-031D(LI) following closure. AP-2 DAS is subject to the requirements of relevant portions of GA EPD 391-3-4-.10. The CCR unit referred to as AP-2 DAS is defined as an inactive CCR landfill per GA EPD Rule 391-3-4-.10(2)(a)(3).

AP-2 DAS is exempt from the requirements in 40 CFR Part 257 Subpart D – Standard for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments in accordance with 40 CFR §257.50 (d) and (e), which states that the subpart does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015 (US EPA, 2015). These CCR units are, however, subject to the requirements of relevant portions of GA EPD 391-3-4-.10. The CCR unit referred to as AP-2 DAS is defined as an inactive CCR Landfill per GA EPD Rule 391-3-4-.10(2)(a)(3).

Semi-annual groundwater monitoring at AP-2 DAS is performed for an approved list of analytes in accordance with the post-closure care period requirements of GA EPD Permit #: 011-031D(LI). The permit lists GA EPD 391-3-4-.10 Appendix I constituents as arsenic, barium, cadmium, chloride, lead, selenium, silver, and sulfate. A minor modification approved by GA EPD on August 9, 2017, added the US EPA CCR Rule Appendix III and IV constituents to the groundwater monitoring plan. The Appendix I constituents overlap with the Appendix III and IV constituents, with the exception of silver. Georgia Power is currently updating the permit application to include AP-2 DAS in the new on-site landfill permit application.

1.2 Regional Geology & Hydrogeologic Setting

The geology and hydrogeology of Plant Arkwright are summarized below. The Site is located along the southern edge of the Washington Slope District (the District) within the Piedmont Physiographic Province (Clark and Zisa, 1976). The District is characterized by a gently undulating surface, which generally slopes to the south and southeast toward the Coastal Plain Physiographic Province located approximately 3.8 miles to the southeast of the Site.

Topography of the District ranges from approximately 700 feet above mean sea level in the areas of southern Atlanta and Athens to approximately 500 feet above mean sea level at its southern limit along the Georgia Fall Line. Streams follow the surface topography of the underlying crystalline rocks eastward toward the Ocmulgee River. Typically, relief throughout the District ranges between 50 and 100 feet. However, the greatest relief occurs along the Ocmulgee River where the elevation changes from 150-200 feet due to steep walled valleys. (Clark and Zisa, 1976). Ultimately, the area surface water flow is directed toward the Ocmulgee River.

Bedrock in the region is composed of moderate to high-grade metamorphic rocks, consisting of biotite-granite gneiss, schist, and amphibolite, and igneous rocks like granite. In the southernmost Piedmont, around the Site, bedrock is predominantly composed of biotite gneiss. Major geologic structures in the region include the Ocmulgee fault, located approximately 7 miles northwest of the Site which strikes mostly northeast – southwest. The top of bedrock surface is highly weathered and, where exposed, is generally soft and friable (LeGrand, 1962).

1.3 Site Geology

The general geology beneath Plant Arkwright consists of clays, silty and sandy clays, silty sands, sandy silts, and minor gravel at depth, underlain by a silty sand saprolite and bedrock. Historical borings advanced at the Site indicate bedrock occurs at depths ranging from approximately 14 feet to 63 feet below ground surface and consists of weathered quartzofeldspathic gneiss, hornblende gneiss, and schist. Boring logs also indicate a relatively thin zone of partially weathered rock (PWR) above a more competent bedrock, which ranges in thickness from 1 to 4 feet in the southern and eastern portions of the Site, and up to 14 feet in the northeastern portion of the Site.

1.4 Site Hydrogeology

The uppermost aquifer at the Site consists of two hydrostratigraphic units: the water table (overburden) hydrostratigraphic unit and the underlying shallow fractured bedrock hydrostratigraphic unit. The water table (overburden) unit is composed of unconsolidated silty sands and sandy silts with clays and variable thicknesses of PWR mantling the bedrock surface, whereas the bedrock unit is a zone comprised of weathered and fractured bedrock.

The water table unit is hydraulically connected to the underlying bedrock through fractures in the partially weathered and fractured bedrock (Southern Company Services, 2005) and is considered to be under unconfined conditions. The monitoring well network for AP-2 DAS (Figure 2) monitors the uppermost aquifer at the Site.

Slug testing data from the Site reflects a range of hydraulic conductivities from 10^{-6} to 10^{-3} centimeters per second in the water table hydrostratigraphic unit (Southern Company Services, 2005). Groundwater level monitoring data from the Site show stable water level trends and the potentiometric maps reflect groundwater generally flowing to the south across AP-2 DAS (Figure 3).

1.5 Groundwater Monitoring System

Pursuant to 40 CFR § 257.91, Georgia Power installed a groundwater monitoring system within the uppermost aquifer at AP-2 DAS. The monitoring system is designed to monitor groundwater passing the waste boundary of AP-2 DAS within the uppermost aquifer. Wells were located to serve as upgradient, or downgradient monitoring points based on the groundwater flow direction (Table 1). The monitoring well locations are depicted in Figure 2.

2.0 Groundwater Monitoring Activities

The following describes monitoring-related activities performed between July 2022 and December 2022. In accordance with 40 CFR § 257.93, Table 2 presents a summary of the groundwater sampling event completed for AP-2 DAS during this monitoring period.

2.1 Monitoring Well Installation and Maintenance

As part of delineation activities, an assessment monitoring well, ARAMW-9, was installed south of AP-2 DAS. The well installation report is included in Appendix A. Monitoring wells are inspected semi-annually to determine if repairs or corrective actions are necessary to meet the requirements of the Georgia Water Well Standards Act (O.C.G.A. § 12-5-134(5)(d)(vii)). In August-September 2022, the monitoring wells were inspected. No needed corrective actions were identified, as documented in Appendix B.

2.2 Assessment Monitoring

Georgia Power implemented assessment monitoring in accordance with 40 CFR § 257.95 in November 2019. The second 2022 semi-annual assessment monitoring event was conducted from August 30 to September 8, 2022. Groundwater samples were collected from each well in the certified groundwater monitoring system and analyzed for the full suites of Appendix III and Appendix IV constituents and the Appendix I constituent, silver. Laboratory and Field Data reports for the August-September 2022 monitoring event are included in Appendix C.

2.3 Additional Groundwater Analysis and Surface Water Sampling

Additional sampling was conducted during the reporting period in support of the assessment of corrective measures and to continue evaluating the nature and extent of impacts resulting from AP-2 DAS. This additional sampling is further discussed in Section 4.4.

Due to the close proximity of Beaverdam Creek in the downgradient direction of ARGWC-22 and ARGWC-23, further well installation was infeasible. Instead, six surface water samples were collected on August 16, 2022, from various locations along Beaverdam Creek near AP-2 DAS, as shown in Figure 2. Surface water samples were collected in accordance with Region 4 US EPA Science and Ecosystem Support Division Operating Procedures for Surface Water Sampling (SESDPROC-201-R4, December 16, 2016). Sample bottles were placed in ice-packed coolers and submitted to Pace Analytical Services, LLC (Pace) of Peachtree Corners, Georgia, following chain-of-custody protocol. The laboratory reports associated with the August 2022 sampling event are provided in Appendix C. Georgia Power will continue collecting surface water samples semi-annually.

3.0 Sample Methodology & Analyses

The semi-annual monitoring event completed in August-September 2022 for AP-2 DAS includes sampling for the constituents listed in Appendix III and Appendix IV, with the addition of silver, which is a constituent in Appendix I. Groundwater analytical data and chain-of-custody records are located in Appendix C. The following sections describe methods used to conduct the groundwater monitoring activities at the Site.

3.1 Groundwater Elevation Measurements and Flow Direction

Prior to each sampling event, the static groundwater levels were measured in each monitoring well and piezometer at AP-2 DAS. The water level indicator was properly decontaminated between each monitoring well. Groundwater elevations are summarized in Table 3. The recorded groundwater levels were used to determine the groundwater elevations in each well and develop a potentiometric surface elevation contour map (Figure 3). Review of Figure 3 indicates that the apparent groundwater flow direction in the uppermost aquifer is to the south. This groundwater flow direction is consistent with historical groundwater flow directions.

3.2 Groundwater Gradient and Flow Velocity

The groundwater flow velocity at AP-2 DAS was calculated using a derivation of Darcy's Law. Specifically,

$$V = \frac{K * i}{n_e}$$

Where:

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

K = Average hydraulic conductivity of the aquifer $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right)$

n_e = Effective porosity (unitless)

The general groundwater flow velocities were calculated for AP-2 DAS based on hydraulic gradients, average hydraulic conductivity based on previous slug test data, and an estimated effective porosity of 0.20 (based on a review of several sources, including Driscoll, 1986; US EPA, 1989; Freeze and Cherry, 1979). The general groundwater flow velocity values based on August 30, 2022, groundwater elevations are presented in Table 4. The results for groundwater flow velocity through the central portion of AP-2 DAS was 0.284 feet/day (103.7 feet/year) while the eastern flank was 0.236 feet/day (86.1 feet/year). The observed groundwater flow velocities calculated for this monitoring event are also generally consistent with expected velocities in the regolith-upper bedrock aquifers of Georgia Piedmont.

3.3 Groundwater Sampling

Groundwater samples were collected in early September for the August-September 2022 event. Sampling procedures were conducted in accordance with US EPA Region 4 Laboratory Services and Applied Science Division operating procedures. Monitoring wells were purged and sampled using low-flow sampling procedures. Dedicated and/or non-dedicated low-flow pneumatic bladder or peristaltic pumps were used to purge and sample the wells. An In-Situ Aqua TROLL® 400 field instrument was used to monitor and record field water quality parameters (pH, conductivity, dissolved oxygen [DO], temperature, and oxidation-reduction potential [ORP]) and a Hach 2100Q was used to measure turbidity during well purging to verify stabilization prior to sampling.

Groundwater samples were collected when the following field parameters stabilized for three (3) consecutive readings measured at 3–5-minute intervals:

- pH ± 0.1 Standard Units.
- Specific conductance ± 5%.
- ± 10% for DO where DO > 0.5 milligrams per liter (mg/L). No criterion applies if DO < 0.5 mg/L.
- Turbidity measurements less than 5 Nephelometric Turbidity Units.
- Temperature – Record only, not used for stabilization criteria.
- ORP – Record only, not used for stabilization criteria.

Once stabilization was achieved, samples were collected into appropriately preserved laboratory-supplied sample containers. Sample bottles were placed in ice-packed coolers and submitted to GEL Laboratories LLC (GEL) of Charleston, South Carolina following chain-of-custody protocol. Stabilization logs and Equipment Calibration forms are included in Appendix C.

3.4 Laboratory Analyses

The August-September 2022 groundwater samples were analyzed for Appendix III and Appendix IV constituents, as well as the Appendix I constituent, silver. The samples were analyzed for additional parameters[3] to assist with remedy selection evaluation. Laboratory analyses of the groundwater were performed by GEL, which is accredited by the National Environmental Laboratory Accreditation Program (NELAP) and maintains the NELAP accreditation for the constituents analyzed for this project. Table 5 summarizes the groundwater analytical results, and the corresponding formal analytical reports are in Appendix C.

The August 2022 surface water samples were also analyzed for Appendix III and Appendix IV constituents, as well as silver. Laboratory analyses of the surface water samples were performed by Pace, which is also a NELAP accredited laboratory. Table 6 summarizes the surface water analytical results, and the corresponding formal analytical reports can be found in Appendix C.

3.5 Quality Assurance & Quality Control

During each sampling event, various quality assurance/quality control (QA/QC) samples were collected. Equipment blanks (where non-dedicated sampling equipment is used) were collected at a rate of one QA/QC sample per 10 groundwater samples to assess the adequacy of the decontamination process. Blind field duplicate samples were collected by filling additional containers at the same location during the sampling event at a rate of one QA/QC sample per 10 groundwater samples. Field blanks were also collected to evaluate ambient conditions at the sampling locations at a rate of one QA/QC sample per 10 groundwater samples.

Quality assurance and quality control of the groundwater data were assessed by performing a data quality evaluation of the laboratory results reported. A data quality evaluation was conducted on the data using laboratory precision and accuracy, and analytical method requirements (US EPA, 2002). The data quality evaluations are included in Appendix C.

The analytical results provided in Table 5 provide concentrations from the August-September 2022 assessment monitoring sampling event as reported by the laboratory. When values are followed by a ”J” flag, this indicates that the value is an estimated analyte concentration detected between the method detection limit and the laboratory reporting limit. The estimated value is positively identified but is below the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine laboratory operating conditions. Radium values followed by a “U” flag indicate that the constituent was not detected above the analytical minimum detectable concentration. The data are considered usable for meeting project objectives and the results are considered valid.

4.0 Statistical Analyses

Statistical analyses of Appendix I (silver), Appendix III and Appendix IV constituents were performed on the August-September 2022 samples collected from the groundwater monitoring system pursuant to 40 CFR § 257.93(f) and following the statistical method for AP-2 DAS. In addition, pursuant to 40 CFR § 257.95(d)(2), Georgia Power established GWPS for the Appendix IV constituents and completed their own statistical analyses of the Appendix IV groundwater monitoring data resulting from the assessment monitoring event. The August-September 2022 data were statistically analyzed by Groundwater Stats Consulting, LLC (GSC) and the reports generated from the analyses are provided in Appendix D.

The following sections provide an overview of the statistical methods used to evaluate the Appendix I, Appendix III, and Appendix IV constituents and statistical analyses results.

4.1 Statistical Method

The statistical analysis method used at the Site was developed by GSC using a methodology presented in the Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance, March 2009, EPA 530/R-09-007 (US EPA, 2009). Sanitas™ Statistical Software is a commercially available decision support software package that incorporates the statistical tests required of Subtitle C and D facilities by US EPA regulations and guidance as recommended in the Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance, March 2009, EPA 530/R-09-007 (US EPA, 2009) document. Specific methodology information is described in the following paragraphs.

4.2 Appendix I and Appendix III Statistical Method

Interwell prediction limits were used for the analysis of the six Appendix I constituents (arsenic, barium, cadmium, lead, selenium, and silver) and the full suite of Appendix III constituents. A comparison of confidence intervals to GWPS were also used to evaluate the Appendix I constituents. When using the interwell method, upgradient well data are pooled to establish a background statistical limit (upper prediction limit [UPL] or in the case of pH, prediction interval) for each constituent. The interwell prediction limit assumed 1-of-2 verification resample plan. Individual sample result(s) are then compared to the UPL or prediction interval for pH to determine if a statistically significant increase (SSI) has occurred for the constituent/well pair. When an initial exceedance is identified, a second sample may be collected to verify the initial result.

Data from groundwater samples from downgradient wells collected in the August-September 2022 monitoring event were compared to the UPLs to evaluate whether concentrations exceed background statistical limits.

If data from a sampling event initially exceeds the UPL, then a resample may be collected to verify the initial result. In 1-of-2 resampling, one independent resample is collected and evaluated within 90 days to determine whether the initial exceedance is verified. If the resample exceeds the UPL or a resample is

not collected, then the initial exceedance is verified, and a SSI is identified. If the resample result does not exceed the UPL, then an SSI is not declared.

4.3 Appendix IV Statistical Method

The assessment monitoring program statistics for Appendix IV and Appendix I constituents were conducted in two parts. The first part was to establish the GWPS for each Appendix IV and Appendix I constituent. The second part was the calculation of confidence intervals for individual downgradient well/constituent pairs and then comparing them to the GWPS.

Upper Tolerance Limits (UTLs) were calculated from pooled upgradient well data for Appendix IV constituents. Parametric UTLs were calculated when data followed a normal or transformed-normal distribution. When data contained greater than 50% non-detects or were not a normal or transformed-normal distribution, non-parametric tolerance limits were used. When parametric methods were appropriate, a 95% UTL with 95% coverage was calculated. When non-parametric UTLs were appropriate, the level of confidence cannot be pre-specified and is a function of the size of the data set. The level of confidence for the non-parametric UTLs are provided in the GSC, 2022 report. For the August-September 2022 event, the background limits were used when determining the GWPS under 40 CFR § 257.95(h).

On July 30, 2018, US EPA revised the Federal CCR rule providing a GWPS for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L). On February 22, 2022, GA EPD updated the Rules for Solid Waste Management 391-3-4-.10(6) to incorporate the updated Federal GWPS where an MCL had not been established. Statistical evaluation for the Fall 2022 event was updated to reflect these changes.

As described in 40 CFR § 257.95(h) (1-3), the GWPS is:

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title
- Where an MCL has not been established for a constituent, CCR-rule specified levels have been specified for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L)
- The respective background level for a constituent when the background level is higher than the MCL or Federal CCR Rule identified GWPS.

Table 7 summarizes the background limits established for each Appendix IV constituent and the GWPS established under GA EPD Rules.

To complete the statistical evaluation, 99% confidence intervals were constructed for each downgradient well/constituent pair and compared to the GWPS. In assessment monitoring, a SSL above background is identified only when the entire confidence interval is above a GWPS in the downgradient well/constituent pair.

4.4 Statistical Analyses Results – Appendix I and Appendix III

Based on review of the full Appendix I and Appendix III statistical analysis from the August-September 2022 sampling event, groundwater conditions have not returned to background concentrations and assessment monitoring shall continue to be conducted. Note that Appendix I constituent, silver, was not identified as an SSI during the semi-annual sampling event. The statistical analyses and comparisons to prediction limits are included in Appendix D. Additionally, tables contained in Appendix D summarize the various SSIs identified based on the statistical analyses performed on the recent groundwater analytical results.

4.5 Statistical Analyses Results – Appendix IV

The August-September 2022 GWPS are based on site-specific background as required by GA EPD, and the GA EPD adopted federal GWPS (cobalt, molybdenum, lithium, and lead). Appendix D shows the individual well/constituent pairs with their respective confidence intervals in comparison to the respective constituent GWPS. Based on the statistical results presented in Appendix D, SSLs identified include:

(i) August-September 2022:

a. Lithium: ARAMW-7

b. Cobalt: ARAMW-7

4.6 Summary of Statistical Analyses

Georgia Power initiated an Assessment of Corrective Measures (ACM) for AP-2 DAS on July 9, 2020, pursuant to 40 CFR § 257.96(b). In accordance with 40 CFR § 257.96(b), an ACM Report was prepared and submitted to GA EPD in December 2020 (Wood, 2020b).

For the most recent sampling event, lithium and cobalt are the constituents with SSL exceedances at AP-2, and these exceedances are present in a single vertical delineation well at AP-2. Newly installed vertical delineation well ARAMW-9 (screened interval approximately 50 feet deeper than ARAMW-7) was sampled on October 20, 2022, and the results of Appendix IV constituents were below their respective GWPS, with the exception of radium. A verification resampling event was conducted December 8, 2022, to verify the initial radium results. The radium resampling results were below the minimum detection concentrations. Analytical data is presented in Table 5 and laboratory data reports included in Appendix C.

5.0 Nature and Extent

The SSLs for cobalt and lithium are horizontally delineated in downgradient wells or in downgradient surface water to below the GWPS. The SSLs for cobalt and lithium in vertical delineation well ARAMW-7 are delineated with new vertical delineation well ARAMW-9.

Due to the presence of Beaverdam Creek in the downgradient direction of ARAMW-7, further well installation was infeasible. Georgia Power collected surface water samples in August 2022 from six locations along Beaverdam Creek. The surface water sampling locations are shown in Figure 2. The horizontal extent of lithium in piezometer ARAMW-7 is delineated by surface water samples BC-05.5, BC-0.5.6 and BC-0.5.7 in Beaverdam Creek, which acts as a barrier to groundwater flow. Based on the recent sampling activities, no impacts to surface water have been detected, and horizontal delineation to below the GWPS is considered complete. The surface water analytical results from the August-September 2022 sampling events are summarized in Table 6. Georgia Power will continue collecting surface water samples semi-annually.

6.0 Monitoring Program Status

Pursuant to § 257.96(b), Georgia Power will continue to monitor the groundwater at AP-2 DAS in accordance with the assessment monitoring program regulations of § 257.95 while ACM efforts continue to be evaluated. Pursuant to § 257. 95(g)(1)(iv), the assessment wells will continue to be sampled as part of the ongoing groundwater monitoring program.

The ACM efforts completed during the reporting period covered by this groundwater monitoring and corrective action report are presented in the Semi-Annual Remedy Selection and Design Progress Report provided in Appendix E. The semi-annual progress report summarizes:

- the current conceptual site model applicable to evaluating groundwater corrective measures proposed in the ACM Report (Wood, 2020b)
- the analytical data obtained during the supplemental ACM-specific field investigation
- the status of evaluating applicable corrective measures, and
- the planned activities and anticipated schedule for the following semi-annual reporting period.

Georgia Power will include future Semi-Annual Remedy Selection and Design Progress Reports with each groundwater monitoring and corrective action report.

Pursuant to 40 CFR § 257.96(b), AP-2 DAS will remain in the assessment monitoring program and assessment of corrective measures will continue during the next reporting period.

7.0 Conclusions & Future Actions

The *2022 Semi-Annual Groundwater Monitoring and Corrective Action Report* was prepared to fulfill the requirements of US EPA's 40 CFR §257.95 and GA EPD Rules for Solid Waste Management 391-3-4-.10. Review of analytical results and statistical analyses developed for the Site indicates confirmed SSIs of Appendix I and Appendix III constituents above background, and SSLs of cobalt and lithium in well ARAMW-7 above the established GWPS. Lateral delineation of cobalt and lithium SSLs is considered complete by surface water sampling in Beaverdam Creek, and further vertical delineation has been achieved.

Georgia Power will continue to monitor AP-2 DAS under the assessment monitoring program pursuant to 40 CFR §257.95 and evaluate the potential remedies presented in the remedy selection and progress Report (Appendix E). The next semi-annual sampling event is planned for February 2023. The February 2023 semi-annual assessment monitoring event will include sampling and analysis of all Appendix III and Appendix IV constituents, as well as permit specific Appendix I constituents. Additional groundwater monitoring and delineation activities in support of ACM efforts will occur in the interim as described in the remedy selection and progress report presented in Appendix E.

8.0 References

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TABLES

TABLE 1
SUMMARY OF MONITORING WELL CONSTRUCTION
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Well	Installation Date	Northing [1]	Easting [1]	Top of Casing Elevation (feet NAVD88)[2][3]	Ground Surface Elevation (feet NAVD88)[2][3]	Top of Screen Elevation (feet NAVD88)[4]	Screen Bottom Elevation (feet NAVD88)[4]	Screen Length (feet)	Total Well Depth on Construction Log (feet below land surface)	Groundwater Zone Screened	Hydraulic Location
Detection Monitoring Wells											
ARGWA-19	12/16/2008	1063774.45	2439488.71	343.30	339.86	300.18	290.18	10.0	49.98	Bedrock	Upgradient
ARGWA-20	12/4/2008	1063732.73	2439088.01	331.28	327.73	303.18	293.18	10.0	34.85	Overburden	Upgradient
ARGWC-21	12/2/2008	1062941.24	2439112.52	309.15	305.97	291.70	281.70	10.0	24.57	Overburden	Downgradient
ARGWC-22	11/19/2019	1063039.36	2438925.04	309.95	307.01	292.01	282.01	10.0	25.00	Overburden	Downgradient
ARGWC-23	11/20/2019	1062884.38	2439202.38	307.70	304.29	289.29	279.29	10.0	25.00	Overburden	Downgradient
Assessment Monitoring Wells											
ARAMW-1	11/20/2019	1062938.38	2439120.01	308.51	305.07	271.07	261.07	10.0	44.00	Bedrock	Downgradient
ARAMW-2	11/20/2019	1062925.96	2439114.97	308.27	305.12	293.12	283.12	10.0	22.00	Overburden	Downgradient
ARAMW-7[5]	11/14/2020	1063049.07	2438913.27	309.81	307.13	269.43	259.43	10.0	48.00	Bedrock	Downgradient
ARAMW-8[5]	11/13/2020	1062895.98	2439197.40	307.36	304.53	267.83	257.83	10.0	47.00	Bedrock	Downgradient
ARAMW-9[6]	10/7/2022	1063022.92	2438935.47	309.28	306.31	213.91	203.91	10.0	102.90	Bedrock	Downgradient

Notes:
1. Horizontal locations referenced to Georgia State Plane West, North American Datum (NAD) of 1983 surveyed in June 26, 2020.
2. Vertical elevations are feet referenced to North American Vertical Datum of 1988 (NAVD88).
3. Elevations updated with revised survey certified by Donaldson & Garrett Associates on June 26, 2020.
4. Screen elevations calculated using Ground Surface Elevation surveyed on June 26, 2020.
5. ARAMW-7 and ARAMW-8 were surveyed by Donaldson & Garrett Associates and certified on December 18, 2020.
6. ARAMW-9 was surveyed by Metro Engineering & Surveying CO., Inc. on November 22, 2022.

TABLE 2
GROUNDWATER SAMPLING EVENT SUMMARY
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Well ID	Hydraulic Location	Summary of Sampling Events			Status of Monitoring Well
		September 1-7, 2022	October 20, 2022	December 8, 2022	
ASH POND 2 DRY ASH STOCKPILE MONITORING WELL NETWORK					
ARGWA-19	Upgradient	X			Assessment Monitoring
ARGWA-20	Upgradient	X			Assessment Monitoring
ARGWC-21	Downgradient	X			Assessment Monitoring
ARGWC-22	Downgradient	X			Assessment Monitoring
ARGWC-23	Downgradient	X			Assessment Monitoring
ARAMW-1	Delineation Piezometer	X			Assessment Monitoring
ARAMW-2	Delineation Piezometer	X			Assessment Monitoring
ARAMW-7	Delineation Piezometer	X			Assessment Monitoring
ARAMW-8	Delineation Piezometer	X			Assessment Monitoring
ARAMW-9	Delineation Piezometer		X	X	Assessment Monitoring

Notes:

X - Indicates well sampled during monitoring event

ARAMW-9 was installed on 10/7/2022, sampled on 10/20/22 and resampled for selected constituents on 12/8/22

TABLE 3
SUMMARY OF GROUNDWATER ELEVATIONS
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Well ID	Top of Casing Elevation (feet NAVD88)[1][2]	Depth to Water (feet below TOC)[2]	Groundwater Elevation (feet NAVD88)[1]
Measurement Date		8/30/2022	
ARGWA-19	343.30	28.70	314.60
ARGWA-20	331.28	15.88	315.40
ARGWC-21	309.15	14.39	294.76
ARGWC-22	309.95	14.15	295.80
ARGWC-23	307.70	12.41	295.29
ARAMW-1	308.51	13.53	294.98
ARAMW-2	308.27	13.65	294.62
ARAMW-7	309.81	13.15	296.66
ARAMW-8	307.36	12.40	294.96
ARAMW-9	309.28	Not Installed	Not Installed

Notes:
1. Groundwater elevations are feet referenced to North American Vertical Datum of 1988 (NAVD88)
2. Groundwater elevations were measured as depth to water from the top of casing (TOC).

TABLE 4
GROUNDWATER FLOW VELOCITY CALCULATIONS
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Potentiometric Map Date	Location	Groundwater Elevations in Well Pairs (h_1, h_2) (feet)		Change in Elevation (Δh) (feet)	Distance Measured (L) (feet)	Hydraulic Gradient (i) (feet/foot)	Average Hydraulic Conductivity (K) (feet/day)	Estimated Effective Porosity (n_e)	Calculated Groundwater Flow Velocity (V) (feet/day)	Calculated Groundwater Flow Velocity (V) (feet/year)
August 30, 2022	ARGWA-20 to ARGWC-21	315.40	294.76	20.64	792	0.026	2.18	0.2	0.284	103.7
	ARGWA-19 to ARAMW-1	314.60	294.98	19.62	907	0.022	2.18	0.2	0.236	86.1

Notes:
1. In-situ hydraulic conductivity was estimated using slug test data from the overburden wells at the Site and averaged 2.18 feet/day.
2. Effective porosity of 20% was selected for the silty sands/sandy silts overburden based on a review of several sources, including Driscoll, 1986; US EPA, 1989; Freeze and Cherry, 1979.

TABLE 5
ANALYTICAL DATA SUMMARY - GROUNDWATER
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

	Substance	Well ID											
		ARGWA-19	ARGWA-20	ARGWA-20-Dissolved	ARGWC-21	ARGWC-22	ARGWC-23	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARAMW-9	ARAMW-9
		9/1/2022	9/2/2022	9/2/2022	9/1/2022	9/6/2022	9/6/2022	9/2/2022	9/2/2022	9/7/2022	9/2/2022	10/20/2022	12/8/2022
APPENDIX III	Boron	0.0238	0.0597	0.0596	0.921	2.78	0.458	1.18	1.08	2.33	0.558	0.0500	NA
	Calcium	8.52	9.48	9.68	71.5	162	65.2	80.5	89.2	264	61.4	140	NA
	Chloride	6.27	5.44	NA	3.34	8.34	3.73	3.50	3.54	5.78	5.31	50.9	NA
	Fluoride	0.148	0.122	NA	0.161	0.0560 J	0.362	0.180	0.146	<0.0330	0.206	0.839	NA
	Sulfate	8.38	18.5	NA	221	667	65.3	223	315	1050	108	474	NA
	TDS	81.0	101	NA	537	1180	305	546	664	1610	385	896	NA
	pH	5.88	5.68	NA	5.97	5.88	6.41	6.04	6.00	5.57	6.44	7.80	8.02
APPENDIX IV	Antimony	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	NA
	Arsenic	<0.00200	<0.00200	<0.00200	0.00207 J	<0.00200	<0.00200	0.00233 J	0.0158	<0.00200	0.00206 J	0.00265 J	NA
	Barium	0.0303	0.0806	0.0826	0.0425	0.0226	0.0939	0.0445	0.0792	0.0263	0.116	0.0305	NA
	Beryllium	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000236 J	<0.000200	<0.000200	NA
	Cadmium	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	NA
	Chromium	<0.00300	0.00578 J	0.00606 J	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	NA
	Cobalt	<0.000300	<0.000300	<0.000300	0.000690 J	0.00198	0.000588 J	0.000449 J	0.00200	0.0737	0.00292	<0.000300	NA
	Lead	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	NA
	Lithium	0.00359 J	<0.00300	<0.00300	0.0116	0.0136	0.0578	0.00970 J	0.0232	0.0634	0.00654 J	0.00631 J	NA
	Mercury	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	NA
	Molybdenum	0.000501 J	<0.000200	<0.000200	<0.000200	0.000203 J	0.0670	0.00785	0.000603 J	0.000379 J	0.175	0.0205	NA
	Radium	0.913 U	0.783 U	NA	1.57 U	2.580	2.36 U	3.41	4.18	4.29	1.89 U	8.42	1.41 U
	Selenium	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	NA
	Thallium	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	NA
*	Silver	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	NA
ADDITIONAL PARAMETERS	Total Alkalinity	37.8	42.6	NA	162	162	180	187	166	60.2	214	78.2	NA
	Bicarbonate Alkalinity	37.8	42.6	NA	162	162	180	187	166	60.2	214	78.2	NA
	Carbonate Alkalinity	<1.45	<1.45	NA	<1.45	<1.45	<1.45	<1.45	<1.45	<1.45	<1.45	<1.45	NA
	Aluminum	<0.0193	0.126	NA	0.0241 J	<0.0193	<0.0193	<0.0193	<0.0193	0.0327 J	0.0292 J	0.143	NA
	Iron	<0.0330	0.204	NA	0.887	10.1	<0.0330	0.204	9.93	3.34	2.60	1.01	NA
	Manganese	<0.00100	0.00519	NA	0.326	19.5	0.417	0.162	0.866	14.8	0.374	0.220	NA
	Magnesium	3.32	4.9	NA	36.0	75.0	11.6	38.2	40.2	75.0	27.7	10.6	NA
	Potassium	1.99	1.33	NA	5.51	3.93	1.79	5.32	7.01	9.26	6.07	10.6	NA
	Sodium	9.76	10.0	NA	18.2	23.9	14.3	19.5	18.9	28.1	15.5	154	NA

Notes:

1. Results for constituents are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
2. < indicates the constituent was not detected above the analytical method detection limit (MDL).
3. J indicates the constituent was detected at such low levels that the precision of the laboratory instrument could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
4. TDS indicates total dissolved solids.
5. U indicates the constituent was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value.Therefore, the value followed by U is qualified by the laboratory as estimated.
6. * - Georgia Appendix I constituent that is not also included in Appendix IV.
7. NA indicates constituent was not analyzed

TABLE 6
ANALYTICAL DATA SUMMARY - SURFACE WATER
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Substance		Surface Water Sample Location				
		BC-0.8a	BC-0.5.7	BC-0.5.6	BC-0.5.5	BC-BR
		8/16/2022	8/16/2022	8/16/2022	8/16/2022	8/16/2022
APPENDIX III	Boron	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086
	Calcium	9.7	10.1	10.5	10.3	10.2
	Chloride	7.7	7.7	7.9	7.7	7.7
	Fluoride	0.11	0.11	0.11	0.11	0.11
	Sulfate	4.1	4.3	6.2	5.6	5.8
	TDS	89.9	90.9	83.9	85.9	84.9
	pH	7.22	7.30	7.42	7.26	7.27
APP IV*	Cobalt	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Lithium	<0.00073	<0.00073	<0.00073	<0.00073	<0.00073
ADDITIONAL ANALYTES	Total Alkalinity	46.5	47.6	47.3	48.5	49.8
	Bicarbonate Alkalinity	46.5	47.6	47.3	48.5	49.8
	Carbonate Alkalinity	NA	NA	NA	NA	NA
	Magnesium	4.3	4.4	4.6	4.5	4.5
	Potassium	2.3	2.4	2.4	2.4	2.4
	Sodium	8.7	8.5	8.7	8.6	8.2

Notes:

1. Results for constituents are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
2. < indicates the constituent was not detected above the analytical method detection limit (MDL).
3. J indicates the constituent was detected at such low levels that the precision of the laboratory instrument could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
4. TDS indicates total dissolved solids.
5. U indicates the constituent was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value.Therefore, the value followed by U is qualified by the laboratory as estimated.
6. * - Only SSL constituents were analyzed in surface water.

TABLE 7
SUMMARY OF GROUNDWATER PROTECTION STANDARDS
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

PLANT ARKWRIGHT AP-2 DAS GWPS					
Constituent Name	**UNITS**	**MCL**	**CCR-Rule Specified[1]**	**Site Specific Background Limit[2] August 2022**	**State GWPS August 2022**
Antimony	mg/L	0.006		0.003	0.006
Arsenic	mg/L	0.01		0.005	0.01
Barium	mg/L	2		0.1	2
Beryllium	mg/L	0.004		0.0005	0.004
Cadmium	mg/L	0.005		0.001	0.005
Chromium	mg/L	0.1		0.01	0.1
Cobalt	mg/L	n/a	0.006	0.001	0.006
Combined Radium	pCi/L	5		1.27	5
Fluoride	mg/L	4		0.15	4
Lead	mg/L	n/a	0.015	0.002	0.015
Lithium	mg/L	n/a	0.04	0.013	0.04
Mercury	mg/L	0.002		0.0002	0.002
Molybdenum	mg/L	n/a	0.1	0.001	0.1
Selenium	mg/L	0.05		0.005	0.05
Silver	mg/L	n/a		0.001	0.001
Thallium	mg/L	0.002		0.001	0.002

Notes:

mg/L - milligrams per liter

piC/L - picoCuries per liter

n/a - constituent does not have an established MCL

MCL - Maximum Contaminant Level

GWPS - Groundwater Protection Standard

CCR - Coal Combustion Residuals

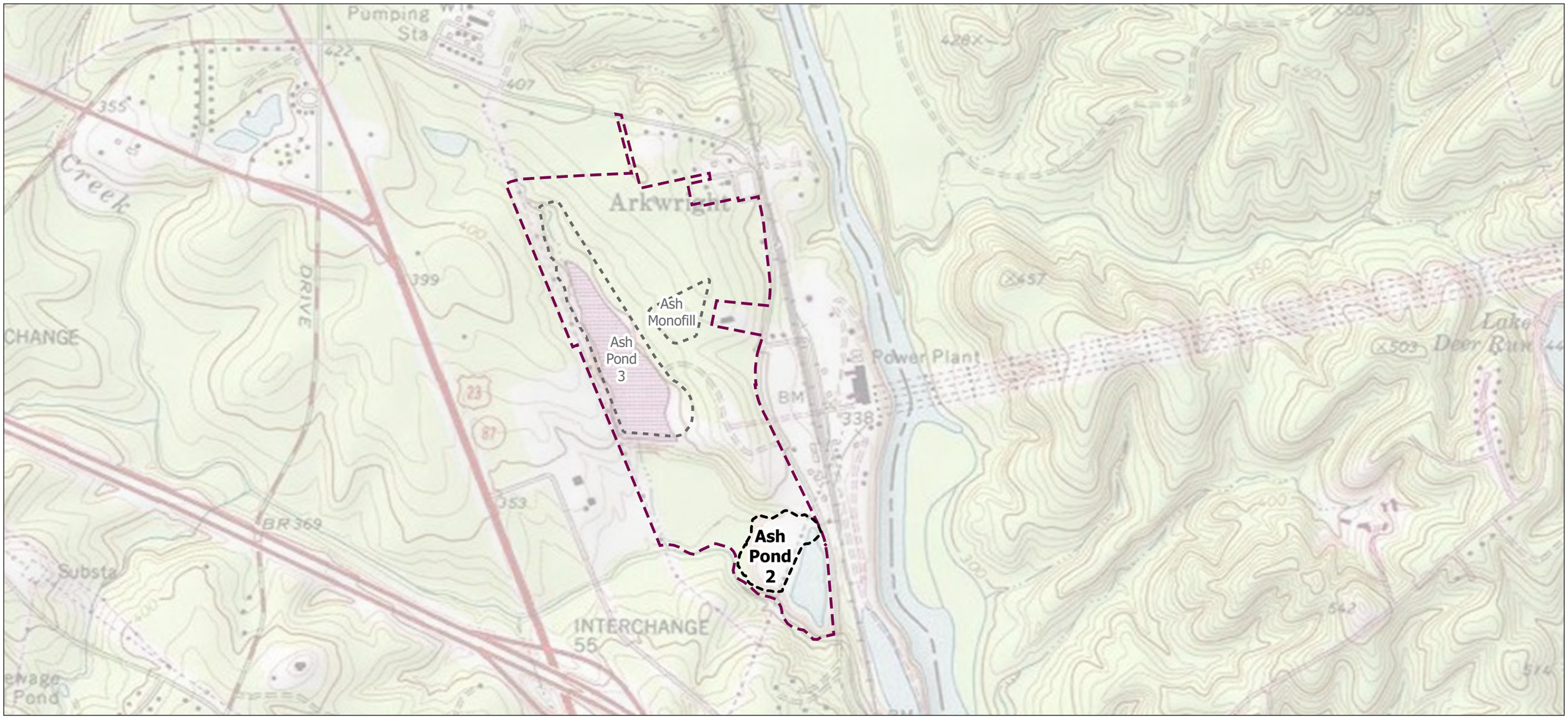
GA EPD = Georgia Environmental Protection Division

AP-2 DAS = Ash Pond 2 Dry Ash Stockpile

[1] GA EPD incorporated the US EPA GWPS into the current GA EPD Rules for Solid Waste Management 391-3-4-.10(6)(a) on February 22, 2022.

[2] The background limits are evaluated when determining the GWPS under 40 CFR § 257.95(h) and 391-3-4-.10(6)(a).

FIGURES



Notes
1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet
2. Data Sources: Tax Parcel and AP-2 Landfill Boundary provided by Southern Company Services and Wood Environment & Infrastructure Solutions
3. Background: Copyright:© 2013 National Geographic Society, i-cubed, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Legend
- Approximate Property Boundary
- Ash Pond 2 Dry Ash Stockpile
- Ash Pond 3 and Ash Monofill

0 1,000 2,000 Feet
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N

Stantec

Georgia Power

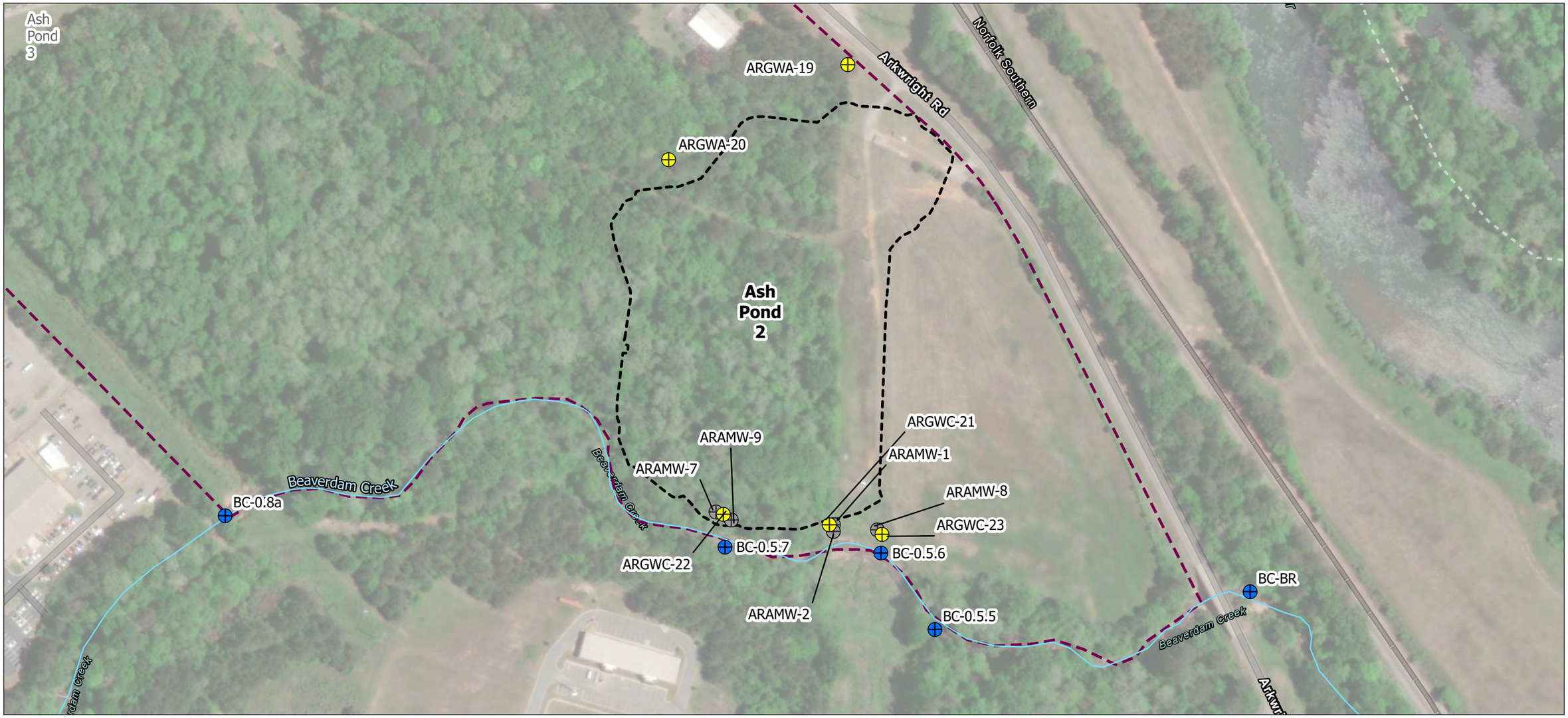
Project Location
Macon, Georgia

Prepared by DMB on 2/2/2023
TR by BS on 2/2/2023
IR by MD on 2/2/2023

Client/Project 175569434
Georgia Power
Semi-annual Report
Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
1

Title
Site Location Map



Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet
2. Data Sources: Ash Pond Boundaries, Surface Water Samples, Monitoring Wells, Piezometers, Property Boundary, and Beaverdam Creek locations provided by Southern Company Services and Wood Environment & Infrastructure Solutions
3. Background: Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Legend

- Detection Monitoring Well
- Assessment Monitoring Well
- Surface Water Sampling Location
- Beaverdam Creek
- Approximate Property Boundary
- Ash Pond 2 Dry Ash Stockpile
- Ash Pond 3 and Ash Monofill

0 200 400 Feet

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N

Stantec

Georgia Power

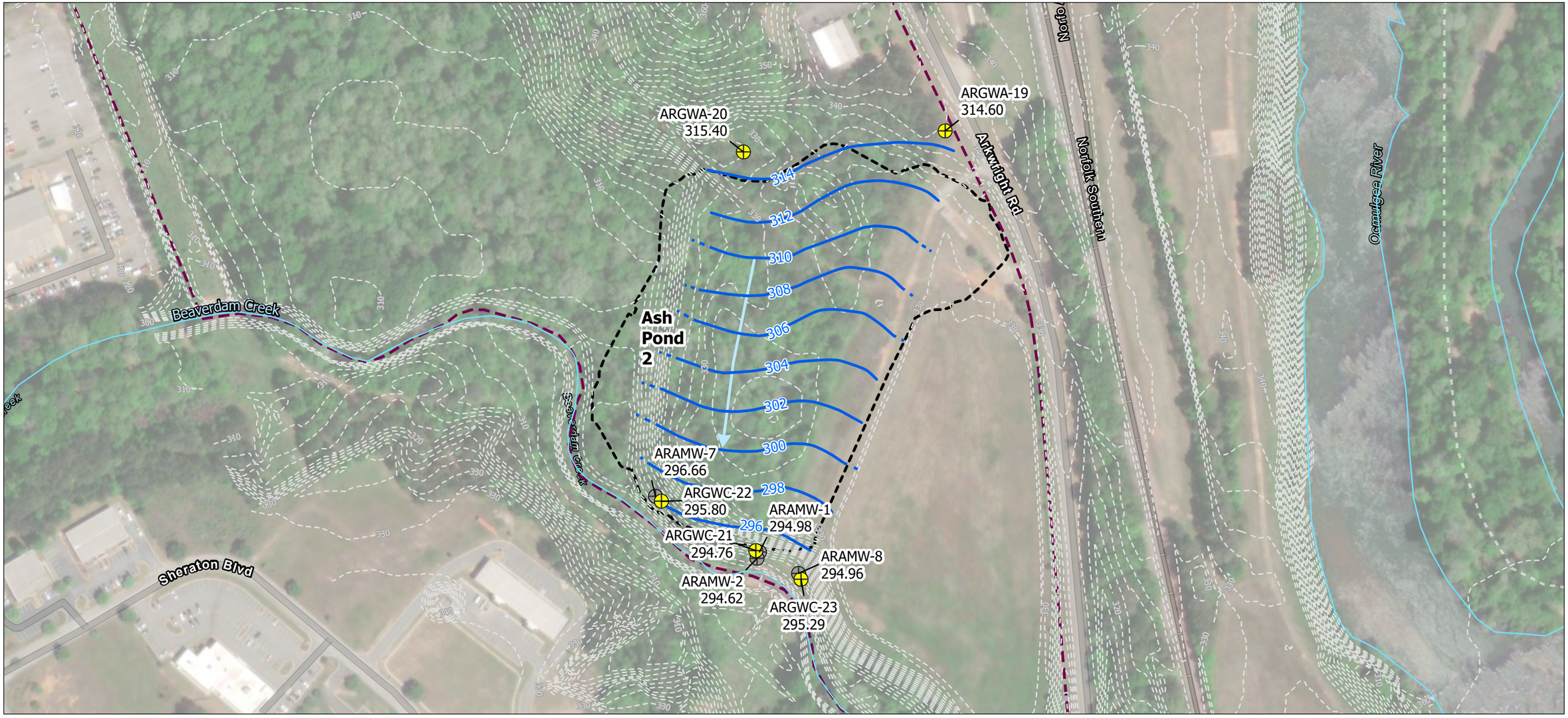
Project Location
Macon, Georgia

Prepared by DMB on 2/2/2023
TR by BS on 2/2/2023
IR by MD on 2/2/2023

Client/Project 175569434
Georgia Power
Semi-annual Report
Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
2

Title
Detection Monitoring Network Well, Assessment Monitoring Well, and Sampling Locations Map



Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet
2. Data Sources: Ash Pond Boundaries, Monitoring Wells, Property Boundary, Topography, and Beaverdam Creek provided by Southern Company Services and Wood Environment & Infrastructure Solutions; Contours, Flow Arrow, and Ocmulgee River provided by Stantec
3. Background: Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Legend

- Detection Monitoring Well
- Assessment Monitoring Well
- Beaverdam Creek/Ocmulgee River (Approximate)
- Potentiometric Surface Contour Aug 2022 (ft NAVD88)
- Inferred Potentiometric Surface Contour Aug 2022 (ft NAVD88)
- Interpreted Groundwater Flow Direction
- Topographic Contour 2018 (2 ft interval)
- Approximate Property Boundary
- Ash Pond 2 Dry Ash Stockpile

314.60 Groundwater Elevation (ft NAVD88)

BRIAN STEELE
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST
2/28/23
No. PG002171

0 200 400 Feet

(At original document size of 11x17)
1:2,400

N

Stantec

Georgia Power

Project Location
Macon, Georgia

Prepared by DMB on 2/2/2023
TR by BS on 2/2/2023
IR by MD on 2/2/2023

Client/Project 175569434
Georgia Power
Semi-annual Report
Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
3

Title
Potentiometric Surface Contour Map AP-2 DAS – August 30, 2022

Appendix A
Piezometer Installation (ARAMW-9) Report

Stantec Consulting Services Inc.
10745 Westside Way Suite 250
Alpharetta GA 30009-7640

December 8, 2022

Attention: Mr. Joju Abraham, PG
Southern Company Services
Earth Sciences and Environmental Engineering
241 Ralph McGill Blvd NE
Atlanta, GA 30308

Reference: Piezometer Installation (ARAMW-9) Report
Georgia Power Company – Plant Arkwright
Macon, Georgia

Dear Mr. Abraham,

Stantec Consulting Services Inc. (Stantec) is submitting this Piezometer Installation Report to Southern Company Services, Inc. (SCS) and Georgia Power Company (Georgia Power), which documents the construction of one piezometer at Plant Arkwright in Macon, Georgia (Site). Piezometer construction activities were performed in general accordance with the standards described in the Resource Conservation and Recovery Act (RCRA) Technical Enforcement Guidance Document (1986) and the Georgia Water Wells Standards Act of 1985. The well installation was completed to meet the requirements promulgated in the United States Environmental Protection Agency (US EPA) coal combustion residuals (CCR) rule [40 Code of Federal Regulations (CFR) Part 257, Subpart D], specifically 40 CFR §257.91(e)(1) and Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10. The installation of the piezometer was conducted under the oversight and direction of Brian Steele, a Georgia Registered Professional Geologist (PG).

Piezometer ARAMW-9 was installed approximately 20 ft to the east of ARAMW-7 downgradient of Ash Pond 2 Dry Ash Stockpile (AP-2 DAS) in October 2022. The piezometer details are included in Table 1: Piezometer Construction Details and the location is shown in Figure 1: Piezometer Location Map. This report provides details for the drilling and installation of piezometer ARAMW-9.

Piezometer Drilling and Construction Activities

Piezometer ARAMW-9 was drilled and installed by Cascade Drilling, LP, who was contracted through SCS, at the Site, between October 4 and 7, 2022. Cascade had a current and valid bond with the Water Wells Standards Advisory Council for the state of Georgia at the time of drilling (Appendix A). The driller's name is provided on the boring/construction diagrams presented in Appendix B.

An experienced Stantec geologist was present on site to oversee and record the drilling and piezometer construction under the supervision of a professional geologist registered to practice in Georgia (Brian Steele). Drilling methods employed for borehole advancement were rotosonic drilling techniques. The drilling equipment consisted of a TSI 150cc Track-Mounted Compact Crawler Sonic drilling rig, equipped with 4-inch sonic rods with a 6-inch outer- casing sleeve. During the drilling, continuous core samples were logged and photographed in the field for lithologic properties, refer to Appendix B for the subsurface boring log.

The piezometer was constructed within the borehole using factory-cleaned and sealed Schedule 40 polyvinyl chloride (PVC) products with flush-threaded fittings. Piezometer ARAMW-9 was constructed with a 10-foot section of 4-inch outer diameter (OD) and 2-inch inner diameter (ID), flush-threaded, 0.010-inch factory-slotted PVC, U-Pack screen. The annulus of the U-Pack screen section was filled with No. 1 filter sand. The screen was placed near the bottom of the borehole, with the remainder of the piezometer constructed from 10-foot sections of 2-inch ID, flush-threaded, PVC casing riser. A flush-threaded PVC end cap was placed on the bottom of the piezometer to provide a 0.4-foot sump/sediment trap, and the top of the piezometer to extend to approximately 2.7 feet above grade. Construction details for the piezometer are shown on the piezometer installation log (Appendix B). The PVC products used were American Society for Testing and Materials (ASTM) and National Sanitation Foundation (NSF) rated.

Following placement of the screen and casing, the annular space in the borehole adjacent to the screen was filled with US Standard Sieve size No. 1 filter pack sand as appropriate for the formation. The filter pack sand was poured into the borehole and extended approximately 2 to 3 feet above the depth of the top of the screen. Immediately following placement of the filter pack, the piezometer was pumped using a portable submersible pump until visibly clear water was discharged. A filter pack seal, composed of approximately 71 feet of hydrated 3/8” coated bentonite pellets, was placed on top of the filter pack by slowly pouring the material down the borehole and tamping it into place. The bentonite was hydrated using potable water and allowed to cure for approximately two hours prior to grouting the piezometer.

Following hydration of the bentonite, the remaining annular space was grouted with an AquaGuard® bentonite grout mixture to approximately 2 feet below ground surface using a tremie method. Based on information provided by the product manufacturer, AquaGuard® is a bentonite grout consisting of bentonite and additives that allow for a mixture of 30% solids by weight to facilitate grouting via tremie pipe, with additives that slow the bentonite curing so that proper placement can be achieved. Each piezometer surface completion consists of a locked, aluminum protective casing and a 4-foot by 4-foot by 4-inch concrete pad with an engraved tag showing the piezometer name, along with four concrete filled bollards surrounding the pad. The annular space of the aluminum protective casing was filled with pea gravel to approximately 2 inches from top of PVC. A weep hole was drilled into the lower side of the protective casing.

Piezometer Development Activities

Development activities for the newly installed piezometer was initiated on October 11, 2022, and completed the following day, October 12, 2022. Well Development activities were performed in general accordance with the Monitoring Well Development Procedures prepared by SCS (March 2016), and the US EPA Science and Ecosystem Support Division Design (SESD) and Installation of Monitoring Wells (February 2008). The piezometer was initially bailed and surged using a new, clean, disposable polyethylene bailer before being pumped and surged using a Reclaimer pump system. During development, water quality measurements of pH, temperature, specific conductance, oxidation reduction potential (ORP), dissolved oxygen (DO), and turbidity were periodically collected using field-calibrated water quality equipment.

During development activities, water quality measurements were conducted utilizing an AquaTroll® multimeter and a Hach turbidimeter. A turbidity value of 4.76 nephelometric turbidity units (NTUs) was achieved at the piezometer. Water level measurements were collected using a decontaminated electronic water level indicator, referenced to a permanent marking at the top of the casing and recorded to within 0.01 foot.

Stantec calibrated field instruments used to collect, generate, or measure environmental data prior to use each morning, as specified by US EPA SESD In Situ Water Quality Monitoring (April 2022). Afternoon calibration verifications were performed to monitor instrument drift during the day's activities. Temperature and barometric pressure were recorded during calibration using a National Institute of Standards and Technology traceable thermometer and local barometric pressure readings.

Equipment Calibration and Well Development Forms are included in Appendix C with development details summarized in Table 2. Stantec completed a well Development Form for the piezometer, documenting piezometer location, development date(s), elapsed time since development started, depth to water, purge rate, cumulative purge volume, and water quality parameter measurements throughout and at completion of the development process.

Piezometer Survey

The newly installed piezometer was surveyed on November 2nd, 2022, by Metro Survey and Engineering. The survey was completed using Leica GS18T (survey-grade) global positioning system receiver and a closed level check loop with a Leica DNA 10 digital level with a positional tolerance of 0.5/0.01' H:V. The top of the PVC casing was surveyed to 0.5 foot horizontal and 0.01-foot vertical tolerance, and a marking was made on the PVC to use for reference during future measurements. Surveyed coordinates and elevations are presented on the subsurface boring log and piezometer installation log and on Table 1. The certified surveyor's report is attached as Appendix D.

Closing

Stantec appreciates the opportunity to assist SCS and Georgia Power with this project. Should you have any questions or require additional information, please contact the undersigned.

Respectfully,

Stantec Consulting Services Inc.

Brian Steele, PG
Senior Geologist
brian.steele@stantec.com
(678) 401-9446

Edgar Smith, II PG
Senior Associate, Project Manager
edgar.smithii@stantec.com
(770) 656-2676

Attachments:

Table 1 – Piezometer Construction Details
Table 2 – Piezometer Development Summary
Figure 1 – Piezometer Location Map
Appendix A – Cascade Drilling Bond
Appendix B – Subsurface Boring Log and Piezometer Installation Log
Appendix C – Well Development Form and Calibration Forms
Appendix D – Certified Piezometer Survey

CERTIFICATION STATEMENT

I certify that I am a qualified ground-water scientist who has received a baccalaureate or post-graduate degree in the natural sciences and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgements regarding groundwater monitoring and containment fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction. We certify that the information included is to the best of our knowledge and belief, true, accurate and complete.

_____ December 8, 2022

Brian Steele, P.G. Date
Senior Geologist

ATTACHMENTS

Plant Arkwright

Piezometer Installation Report

TABLES

Table 1 – Piezometer Construction Details

Table 2 – Piezometer Development Summary

Table 1
Piezometer Construction Details

Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Well	Latitude	Longitude	Northing (NAD83)[1]	Easting (NAD83)[1]	Top of Casing Elevation (feet NAVD88)[2]	Ground Surface Elevation (feet NAVD88)[2]	Top of Screen Elevation (feet NAVD88)[3]	Screen Bottom Elevation (feet NAVD88)[3]	Total Depth (feet bgs)	Depth to Bedrock (feet bgs)	Screened Interval (feet bgs)	Screen Length (feet)	Core Available	Water Level (feet bTOC)[4]	Date Installed
ARAMW-9	32.921665	-83.702746	1063022.92	2438935.47	309.28	306.31	213.91	203.91	102.9	41.0	92.4-102.4	10.0	Yes	24.62	10/7/2022

Notes:
1. Horizontal locations referenced to Georgia State Plane West, North American Datum (NAD) of 1983
2. Vertical elevations are feet referenced to North American Vertical Datum of 1988 (NAVD88).
3. Screen elevations calculated using Ground Surface Elevation
4. Groundwater measurement from October 20, 2022
5. ARAMW-9 was surveyed by Metro Survey and Engineering

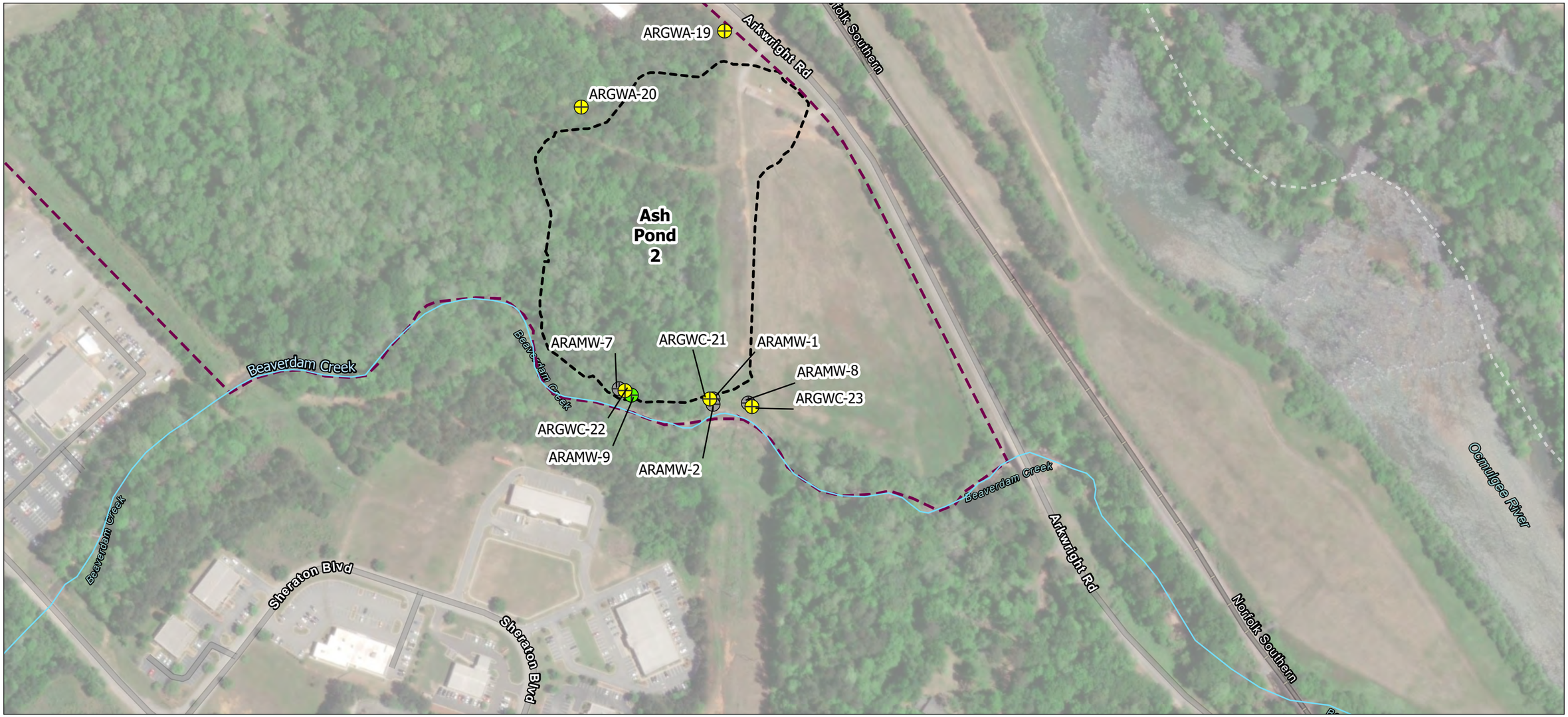
Table 2
Piezometer Development Summary

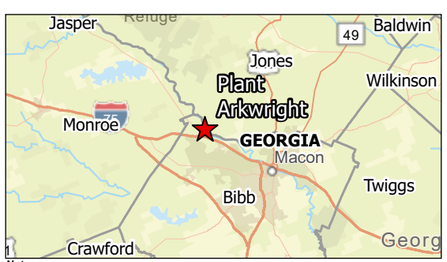
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Well	Date Started	Date Finished	Development Method	Measured Total Depth of Well (feet bTOC)	Initial Water level (feet bTOC)	Final Water Level (feet bTOC)	Total Volume Removed (gal)	pH (SU)	Specific Conductance (µS/cm)	Temp (°C)	Turbidity (NTU)	ORP (mV)	DO (mg/L)
ARAMW-9	10/11/2022	10/12/2022	Bailer/Reclaimer Pump	105.55	43.30	72.25	10.72	7.94	611.11	19.59	4.76	86.0	3.22

Notes:
bTOC - feet below Top of Casing
gal - gallons
SU - Standard Units
mS/cm - millisiemens per centimeter
oC - degrees Celsius
NTU - nephelometric turbidity units
mV - millivolts
mg/L - milligrams per liter
ORP - oxygen reduction potential
DO - dissolved oxygen
Temp - Tempeature

FIGURE





Legend

- Groundwater Monitoring Network Well
- Delineation Piezometer
- Delineation Piezometer - October 2022
- Beaverdam Creek
- Approximate Property Boundary
- Ash Pond 2 Dry Ash Stockpile

0 250 500 Feet

(At original document size of 11x17)
1:3,000

N

Stantec

Georgia Power

Project Location
Macon, Georgia

Prepared by DMB on 11/22/2022
TR by MP on 11/22/2022
IR by MD on 11/22/2022

Client/Project
175569434
Piezometer Installation (ARAMW-9) Report
Georgia Power Company – Plant Arkwright

Figure No.
1

Title
Piezometer Location Map

Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet
2. Data Sources: Ash Pond Boundaries, Surface Water Samples, Monitoring Wells, Piezometers, Property Boundary, and Beaverdam Creek locations provided by Southern Company Services and Wood Environment & Infrastructure Solutions
3. Background: Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

APPENDIX A

Cascade Drilling Bond

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Deanna M. French, Susan B. Larson, Elizabeth R. Hahn, Jana M. Roy, Scott McGilvray, Mindee L. Rankin, Ronald J. Lange, John R. Claeys, Roger Kaltenbach, Guy Armfield, Scott Fisher, Andrew P. Larsen, Nicholas Fredrickson, William M. Smith, Derek Sabo, Charla M. Boadle**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-seventh day of April, 2020.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

By _____
Paul J. Brehm, Senior Vice President

STATE OF MINNESOTA
HENNEPIN COUNTY

On this twenty-seventh day of April, 2020, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.

ALISON DWAN NASH-TROUT
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2025

_____
Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 12 day of April, 2021.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

This Power of Attorney expires
January 31, 2025

_____
Kara Barrow, Secretary

Please direct bond verifications to surety@intactinsurance.com

CONTINUATION
CERTIFICATE

Atlantic Specialty Insurance Company , Surety upon

a certain Bond No. 800033976

dated effective 09/27/2017
(MONTH-DAY-YEAR)

on behalf of Ricky Davis / Cascade Drilling, L.P.
(PRINCIPAL)

and in favor of Department of Natural Resources, State of Georgia
(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on 06/30/2021
(MONTH-DAY-YEAR)

and ending on 06/30/2023
(MONTH-DAY-YEAR)

Amount of bond Thirty Thousand and 00/100 Dollars ($30,000.00)

Description of bond Performance Bond for Water Well Contractors

PROVIDED: That this continuation certificate does not create a new obligation and is executed upon the express condition and provision that the Surety's liability under said bond and this and all Continuation Certificates issued in connection therewith shall not be cumulative and that the said Surety's aggregate liability under said bond and this and all such Continuation Certificates on account of all defaults committed during the period (regardless of the number of years) said bond had been and shall be in force, shall not in any event exceed the amount of said bond as hereinbefore set forth.

Signed and dated on April 12th , 2021
(MONTH-DAY-YEAR)

Atlantic Specialty Insurance Company

By Andrew P. Larsen
Attorney-in-Fact Andrew P. Larsen

Parker, Smith & Feek, Inc.
Agent

2233 112th Ave NE Bellevue, WA 98004
Address of Agent

425-709-3600
Telephone Number of Agent

S-0157/GE 8/08

XDP

APPENDIX B

Subsurface Boring Log and Piezometer Installation Log

SUBSURFACE LOG

Client Borehole ID	ARAMW-9	Stantec Boring No.	**ARAMW-9**
Client	Georgia Power Company	Boring Location	1,063,022.92 N; 2,438,935.47 E
Project Number	175569434	Surface Elevation	306.31 ft
		Elevation Datum	NAVD88
Project Name	AP-2 ARAMW-9 Installation	Date Started	10/4/22
		Completed	10/7/22
Project Location	Bibb Co, Macon, Georgia	Depth to Water	43.3 ft
		Date/Time	10/11/22
Inspector	B. Steele, PG	Logger	J. Bankston
Depth to Water	24.6 ft	Date/Time	10/20/22
Drilling Contractor	Cascade Drilling / C. Franklin	Drill Rig Type and ID	TSI 150 CC Sonic
Overburden Drilling and Sampling Tools (Type and Size)	4" x 6" Rotosonic		
Sampler Hammer Type	N/A	Weight	N/A
Drop	N/A	Efficiency	N/A
Reviewed By	B. Steele, PG	Approved By	E. Smith, PG

Lithology Depth Ft[2]	Elevation	Description	Overburden: / Rock Core:	Sample[1] / RQD %	Depth Ft[2] / Run Ft	Rec. Ft / Rec. Ft	Blows/PSI / Rec. %	Remarks
0.0	306.3	Top of Hole						
0.1	306.2	Topsoil						
		SILTY SAND WITH CLAY, fine to medium, non-plastic, loose, dry to moist, Reddish-brown		RS01	0.0 - 10.0	3.2	N/A	
13.3	293.0	SANDY POORLY GRADED GRAVEL, medium to coarse, non-plastic, loose, moist, Gray		RS02	10.0 - 20.0	7.4	N/A	
16.5	289.8	SILTY SAND, non-plastic, loose, moist, Yellow brown to brown						
20.0	286.3							

SUBSURFACE LOG

Client Borehole ID: ARAMW-9 | Stantec Boring No.: **ARAMW-9**

Client: Georgia Power Company | Boring Location: 1,063,022.92 N; 2,438,935.47 E

Project Number: 175569434 | Surface Elevation: 306.31 ft | Elevation Datum: NAVD88

Lithology Depth Ft[2]	Lithology Elevation	Description	Overburden: / Rock Core:	Sample[1] / RQD %	Depth Ft[2] / Run Ft	Rec. Ft / Rec. Ft	Blows/PSI / Rec. %	Remarks
20		SILTY SAND WITH CLAY, very fine to medium, non-plastic, medium dense to loose, moist, no staining, Blocky, Red brown to brown						
25				RS03	20.0 - 30.0	10.0	N/A	
30.0	276.3	WELL GRADED SAND, coarse, non-plastic, loose, wet, Light brown to dark gray						
35.0	271.3	GRAVELLY POORLY GRADED SAND WITH CLAY, very fine to coarse, non to low plasticity, medium dense, wet, Gray-brown		RS04	30.0 - 40.0	6.3	N/A	ARAMW-9 30.0 - 40.0 collected for treatability analysis
38.5	267.8	SANDY WELL GRADED GRAVEL WITH SILT, fine to coarse, non-plastic, loose, Dark brown						
40								
41.0	265.3	Gneiss, white to black, medium crystalline to finely crystalline, very hard, dry, biotite, plagioclase, quartz, Quartz cemented fracture present at 41.5'						ARAMW-9 41.0 - 43.0 collected for geochemical and treatability analysis

SUBSURFACE LOG

Client Borehole ID ARAMW-9 | Stantec Boring No. **ARAMW-9**

Client Georgia Power Company | Boring Location 1,063,022.92 N; 2,438,935.47 E

Project Number 175569434 | Surface Elevation 306.31 ft | Elevation Datum NAVD88

Lithology			Description	Overburden: / Rock Core:	Sample[1] / RQD %	Depth Ft[2] / Run Ft	Rec. Ft / Rec. Ft	Blows/PSI / Rec. %	Remarks
Depth Ft[2]	Elevation								
45			Gneiss, white to black, medium crystalline to finely crystalline, very hard, dry, biotite, plagioclase, quartz, Quartz cemented fracture present at 41.5' *(Continued)*		RS05	40.0 - 50.0	3.6	N/A	
			Minor iron oxide discoloration 47.4' remainder of run competent						
50			Fractures present at 51.2-51.9 and 55-56.1 feet (no weathering discoloration present)						
55					RS06	50.0 - 60.0	9.2	N/A	
			Higher plagioclase and quartz content, trace muscovite from 57.7 to 58.4 feet						
60									
			Highly fractured from 62.0 to 65.0 feet. Weathering discoloration suggests water-bearing fractures in this zone. Fractures appear to be hydraulically connected to fractures present in screened interval of ARAWM-7.						
65	65.0	241.3			RS07	60.0 - 70.0	8.9	N/A	
			Gneiss, very competent, non-fractured						

SUBSURFACE LOG

Client Borehole ID ARAMW-9 | Stantec Boring No. **ARAMW-9**

Client Georgia Power Company | Boring Location 1,063,022.92 N; 2,438,935.47 E

Project Number 175569434 | Surface Elevation 306.31 ft | Elevation Datum NAVD88

Lithology			Description	Overburden:	Sample[1]	Depth Ft[2]	Rec. Ft	Blows/PSI	Remarks
Depth Ft[2]	Elevation			Rock Core:	RQD %	Run Ft	Rec. Ft	Rec. %	
70			Gneiss, very competent, non-fractured *(Continued)*						
75					RS08	70.0 - 80.0	7.9	N/A	
80									
85					RS09	80.0 - 90.0	8.4	N/A	
90									

SUBSURFACE LOG

Client Borehole ID ARAMW-9 | Stantec Boring No. **ARAMW-9**

Client Georgia Power Company | Boring Location 1,063,022.92 N; 2,438,935.47 E

Project Number 175569434 | Surface Elevation 306.31 ft | Elevation Datum NAVD88

Lithology			Description	Overburden: / Rock Core:	Sample[1] / RQD %	Depth Ft[2] / Run Ft	Rec. Ft / Rec. Ft	Blows/PSI / Rec. %	Remarks
Depth Ft[2]	Elevation								
95			Gneiss, very competent, non-fractured *(Continued)* Heavily fractured from 95.2 to 96.0 (weathering discoloration present)		RS10	90.0 - 100.0	8.3	N/A	ARAMW-9 95.0 - 96.5 collected for geochemical and treatability analysis
100			Heavily fractured from 100.7 to 102.0 (weathering discoloration present)						ARAMW-9 100.7 - 102.0 collected for geochemical and treatability analysis
					RS11	100.0 - 105.0	5.0	N/A	
105	105.0	201.3	No Refusal / Bottom of Hole at 105.0 Ft.						

Depths are reported in feet below ground surface

Georgia Power

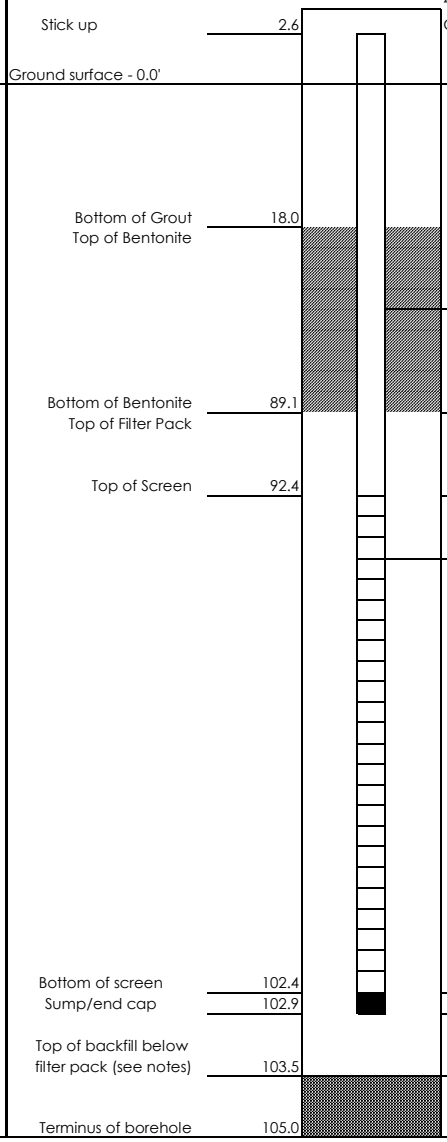
Well Installation Field Log

Project Name:	Plant Arkwright Vertical Groundwater Delineation	Date Started:	10/4/2022	Date Completed:	10/7/2022
Borehole/Well No:	ARAMW-9	Northing (ft):	1063022.92	Easting (ft):	2438935.47
Plant Name:	Arkwright	Latitude:	32.921665	Longitude:	-83.702746
Plant Address:	5241 Arkwright Road, Macon, Georgia, 31210	Location Datum:	NAD83	Elevation Datum:	NAVD88
Project & Task Number:	175569434/ 2.3	Surface/ Ground Elevation (ft):	306.31	Stickup (ft, ags):	2.6
Goals/Task:	AP-2 ARAMW-9 Well Installation	Borehole Diameter (in):	6.0	Borehole Depth (ft, bgs):	105.0
Drilling Company:	Cascade Drilling	Well Casing Diameter (in):	2.0	Well Depth (ft, bgs):	102.9
Drilling Equipment/Rig Type:	TSI-150CC	Top of Casing elev (ft):	309.28	Screen length (ft):	10
Drilling Method:	4" x 6" Rotosonic	DTW at Completion (ftoc):	43.30		
Sampling Method:	Sonic 4" core barrel				
Prepared By:	Jackson Bankston				
Review By:	Edgar Smith				

***Not to Scale**

Depth (feet)

Well Construction



Materials Inventory

Stick up: 2.6 ft, ags

Casing Type (steel or PVC, schedule 40 or 80): 2" ID PVC

Casing Top: 2.6 ft, ags Bottom: 92.4 ft, bgs

Screen Type: PVC U-Pack Type II

Screen Slot Size: 0.010

Screen Top: 92.4 ft, bgs Bottom: 102.4 ft, bgs

Sump/end cap Top: 102.4 ft, bgs Bottom: 102.9 ft, bgs

Grout Quantity: 2 (50 lb) bags of Aqua Guard and 30 gallons H2O

Grout Type: Baroid Aqua Guard 30% Solids Grout.

Grout Top: 0.0 ft, bgs Bottom: 18.0 ft, bgs

Bentonite Type: Pel Plug 3/8" PDS TR30 pellets / Halliburton 3/8" uncoated chips

Bentonite Quantity: 12 (50 lb) bags

Bentonite Seal Top: 18.0 ft, bgs Bottom: 89.1 ft, bgs

Filter Pack - Pre-pack and Annular Space
Type (manufacturer, size):
Southern Product & Silica Co. Filter Sand and Gravel #1. Used 4.5 (14 L) bags

Filter Pack: Top: 89.1 ft, bgs Bottom: 103.5 ft, bgs

Notes: Bentonite seal hydrated 2-hours prior to grout backfill placement.

Backfill was not necessary due to crushed rock that settled at the bottom of the bore hole from 105-103.5

Elevation in feet NAVD88 (North American Vertical Datum 1988)

APPENDIX C

Well Development Form and Calibration Forms

Low-Flow Test Report:

Test Date / Time: 10/11/2022 11:13:29 AM
Project:
Operator Name:

Location Name: AP2-ARAMW-9 **Well Diameter: 2 in** **Screen Length: 10 ft** **Top of Screen: 94.5 ft** **Total Depth: 105.55 ft** **Initial Depth to Water: 43.3 ft**	**Pump Intake From TOC: 98 ft** **Estimated Total Volume Pumped: 38058.332 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 31.6 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 883536**

Test Notes:
After 1:44:20, Pump lifted to 94.0
After 2:21:15, Pump Lowered to 98.0
Paused at 17:32 for end of day; Resume development the following day

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
10/11/2022 11:13 AM	00:00	7.82 pH	19.10 °C	726.24 µS/cm	1.71 mg/L	29.50 NTU	-15.0 mV	48.65 ft	100.00 ml/min
10/11/2022 11:18 AM	04:46	7.67 pH	19.19 °C	838.61 µS/cm	1.16 mg/L	13.80 NTU	-126.1 mV	49.51 ft	100.00 ml/min
10/11/2022 11:23 AM	09:46	7.70 pH	19.32 °C	838.87 µS/cm	1.54 mg/L	21.30 NTU	-109.5 mV	50.05 ft	100.00 ml/min
10/11/2022 11:27 AM	14:20	7.74 pH	19.46 °C	842.83 µS/cm	1.57 mg/L	26.00 NTU	-132.7 mV	50.30 ft	100.00 ml/min
10/11/2022 11:32 AM	19:20	7.75 pH	19.68 °C	850.68 µS/cm	1.81 mg/L	21.40 NTU	-105.5 mV	50.65 ft	100.00 ml/min
10/11/2022 11:37 AM	24:20	7.79 pH	19.87 °C	851.83 µS/cm	2.18 mg/L	25.30 NTU	-86.5 mV	51.00 ft	100.00 ml/min
10/11/2022 11:42 AM	29:20	7.77 pH	19.73 °C	907.66 µS/cm	1.36 mg/L	30.40 NTU	-120.1 mV	51.90 ft	100.00 ml/min
10/11/2022 11:47 AM	34:20	7.78 pH	19.63 °C	931.95 µS/cm	1.08 mg/L	25.40 NTU	-123.1 mV	52.35 ft	100.00 ml/min
10/11/2022 11:52 AM	39:20	7.79 pH	19.59 °C	958.14 µS/cm	0.98 mg/L	30.80 NTU	-128.0 mV	53.00 ft	100.00 ml/min
10/11/2022 11:57 AM	44:20	7.79 pH	19.68 °C	968.13 µS/cm	0.89 mg/L	27.00 NTU	-129.7 mV	53.60 ft	100.00 ml/min
10/11/2022 12:02 PM	49:20	7.80 pH	19.76 °C	974.03 µS/cm	0.90 mg/L	20.10 NTU	-130.6 mV	54.00 ft	100.00 ml/min
10/11/2022 12:07 PM	54:20	7.80 pH	19.87 °C	978.83 µS/cm	0.84 mg/L	20.90 NTU	-127.0 mV	54.45 ft	100.00 ml/min
10/11/2022 12:12 PM	59:20	7.80 pH	19.99 °C	986.48 µS/cm	0.81 mg/L	19.40 NTU	-130.7 mV	54.90 ft	100.00 ml/min
10/11/2022 12:17 PM	01:04:20	7.81 pH	20.60 °C	984.41 µS/cm	0.70 mg/L	20.40 NTU	-134.9 mV	55.25 ft	100.00 ml/min
10/11/2022 12:22 PM	01:09:20	7.81 pH	20.35 °C	986.68 µS/cm	0.63 mg/L	17.20 NTU	-129.9 mV	55.70 ft	100.00 ml/min

10/11/2022 12:27 PM	01:14:20	7.81 pH	20.64 °C	987.24 µS/cm	1.04 mg/L	16.20 NTU	-117.6 mV	56.00 ft	100.00 ml/min
10/11/2022 12:32 PM	01:19:20	7.80 pH	20.75 °C	981.58 µS/cm	0.84 mg/L	15.60 NTU	-131.0 mV	56.30 ft	100.00 ml/min
10/11/2022 12:37 PM	01:24:20	7.81 pH	20.46 °C	981.94 µS/cm	0.61 mg/L	14.30 NTU	-133.4 mV	56.60 ft	100.00 ml/min
10/11/2022 12:42 PM	01:29:20	7.81 pH	20.55 °C	978.63 µS/cm	0.60 mg/L	12.50 NTU	-131.1 mV	56.95 ft	100.00 ml/min
10/11/2022 12:47 PM	01:34:20	7.82 pH	20.46 °C	974.24 µS/cm	0.61 mg/L	10.90 NTU	-130.4 mV	57.30 ft	100.00 ml/min
10/11/2022 12:52 PM	01:39:20	7.82 pH	20.48 °C	975.69 µS/cm	0.63 mg/L	11.80 NTU	-130.8 mV	57.55 ft	100.00 ml/min
10/11/2022 12:57 PM	01:44:20	7.82 pH	20.59 °C	975.07 µS/cm	0.66 mg/L	10.10 NTU	-122.8 mV	57.75 ft	100.00 ml/min
10/11/2022 1:02 PM	01:49:20	7.81 pH	20.94 °C	979.20 µS/cm	1.02 mg/L	10.10 NTU	-141.3 mV	57.75 ft	100.00 ml/min
10/11/2022 1:04 PM	01:51:25	7.81 pH	21.03 °C	983.67 µS/cm	1.40 mg/L	38.60 NTU	-135.6 mV	58.90 ft	100.00 ml/min
10/11/2022 1:09 PM	01:56:25	7.81 pH	21.53 °C	790.72 µS/cm	1.73 mg/L	16.90 NTU	-117.6 mV	59.20 ft	100.00 ml/min
10/11/2022 1:14 PM	02:01:25	7.81 pH	21.82 °C	973.02 µS/cm	1.20 mg/L	9.86 NTU	-124.0 mV	59.45 ft	100.00 ml/min
10/11/2022 1:19 PM	02:06:25	7.81 pH	21.99 °C	972.64 µS/cm	1.33 mg/L	9.63 NTU	-111.1 mV	59.85 ft	100.00 ml/min
10/11/2022 1:24 PM	02:11:25	7.81 pH	22.00 °C	965.86 µS/cm	0.92 mg/L	9.64 NTU	-127.5 mV	60.20 ft	100.00 ml/min
10/11/2022 1:29 PM	02:16:25	7.82 pH	21.73 °C	961.46 µS/cm	0.86 mg/L	7.16 NTU	-126.6 mV	60.65 ft	100.00 ml/min
10/11/2022 1:34 PM	02:21:25	7.81 pH	22.17 °C	961.48 µS/cm	0.90 mg/L	6.93 NTU	-125.4 mV	60.90 ft	100.00 ml/min
10/11/2022 1:39 PM	02:25:55	7.81 pH	22.80 °C	960.15 µS/cm	1.04 mg/L	11.30 NTU	-138.5 mV	61.05 ft	100.00 ml/min
10/11/2022 1:44 PM	02:30:55	7.82 pH	22.62 °C	938.96 µS/cm	0.60 mg/L	8.48 NTU	-129.7 mV	61.25 ft	100.00 ml/min
10/11/2022 1:49 PM	02:35:55	7.82 pH	22.66 °C	937.17 µS/cm	0.63 mg/L	7.70 NTU	-143.3 mV	61.55 ft	100.00 ml/min
10/11/2022 1:54 PM	02:40:55	7.83 pH	22.57 °C	924.54 µS/cm	0.57 mg/L	7.97 NTU	-125.5 mV	61.90 ft	100.00 ml/min
10/11/2022 1:59 PM	02:45:55	7.84 pH	22.32 °C	906.78 µS/cm	0.68 mg/L	9.91 NTU	-121.8 mV	61.90 ft	100.00 ml/min
10/11/2022 2:04 PM	02:50:55	7.84 pH	22.92 °C	889.47 µS/cm	0.81 mg/L	12.70 NTU	-119.4 mV	62.10 ft	100.00 ml/min
10/11/2022 2:09 PM	02:55:55	7.85 pH	23.97 °C	868.66 µS/cm	0.77 mg/L	18.80 NTU	-132.6 mV	62.50 ft	100.00 ml/min
10/11/2022 2:14 PM	03:00:55	7.86 pH	21.14 °C	833.90 µS/cm	1.53 mg/L	15.10 NTU	-108.3 mV	63.45 ft	100.00 ml/min
10/11/2022 2:19 PM	03:05:55	7.88 pH	21.22 °C	699.63 µS/cm	1.18 mg/L	15.30 NTU	-104.6 mV	64.10 ft	100.00 ml/min
10/11/2022 2:22 PM	03:08:32	7.88 pH	21.30 °C	798.14 µS/cm	1.30 mg/L	15.90 NTU	-99.9 mV	64.65 ft	100.00 ml/min
10/11/2022 2:27 PM	03:13:32	7.90 pH	21.32 °C	771.21 µS/cm	1.29 mg/L	16.80 NTU	-95.1 mV	65.10 ft	100.00 ml/min
10/11/2022 2:32 PM	03:18:32	7.90 pH	21.50 °C	764.45 µS/cm	1.33 mg/L	15.60 NTU	-92.7 mV	65.55 ft	100.00 ml/min
10/11/2022 2:37 PM	03:23:32	7.90 pH	22.00 °C	769.43 µS/cm	1.36 mg/L	14.70 NTU	-86.2 mV	65.80 ft	100.00 ml/min
10/11/2022 2:42 PM	03:28:32	7.90 pH	22.54 °C	770.27 µS/cm	1.57 mg/L	14.90 NTU	-90.8 mV	66.10 ft	100.00 ml/min

10/11/2022 2:47 PM	03:33:32	7.90 pH	22.09 °C	768.34 µS/cm	1.13 mg/L	15.10 NTU	-93.9 mV	66.35 ft	100.00 ml/min
10/11/2022 2:52 PM	03:38:32	7.89 pH	22.39 °C	748.01 µS/cm	1.93 mg/L	16.60 NTU	-92.7 mV	66.65 ft	100.00 ml/min
10/11/2022 2:57 PM	03:43:32	7.89 pH	22.68 °C	750.67 µS/cm	1.56 mg/L	13.60 NTU	-88.9 mV	66.90 ft	100.00 ml/min
10/11/2022 3:02 PM	03:48:32	7.89 pH	22.53 °C	775.14 µS/cm	1.32 mg/L	13.50 NTU	-89.6 mV	67.10 ft	100.00 ml/min
10/11/2022 3:07 PM	03:53:32	7.89 pH	22.71 °C	704.97 µS/cm	1.52 mg/L	13.60 NTU	-97.4 mV	67.40 ft	100.00 ml/min
10/11/2022 3:12 PM	03:58:32	7.89 pH	22.34 °C	714.07 µS/cm	1.21 mg/L	17.40 NTU	-100.8 mV	67.50 ft	100.00 ml/min
10/11/2022 3:17 PM	04:03:32	7.89 pH	22.14 °C	764.03 µS/cm	1.39 mg/L	16.30 NTU	-96.8 mV	67.80 ft	100.00 ml/min
10/11/2022 3:22 PM	04:08:32	7.90 pH	21.91 °C	752.90 µS/cm	1.39 mg/L	18.00 NTU	-97.6 mV	68.10 ft	100.00 ml/min
10/11/2022 3:27 PM	04:13:32	7.90 pH	21.81 °C	747.61 µS/cm	1.46 mg/L	16.10 NTU	-90.5 mV	68.40 ft	100.00 ml/min
10/11/2022 3:32 PM	04:18:32	7.91 pH	21.99 °C	736.88 µS/cm	1.46 mg/L	15.10 NTU	-86.1 mV	68.70 ft	100.00 ml/min
10/11/2022 3:37 PM	04:23:32	7.91 pH	22.00 °C	763.73 µS/cm	1.72 mg/L	15.20 NTU	-87.4 mV	68.95 ft	100.00 ml/min
10/11/2022 3:42 PM	04:28:32	7.91 pH	21.97 °C	567.26 µS/cm	1.59 mg/L	16.30 NTU	-82.6 mV	69.30 ft	100.00 ml/min
10/11/2022 3:47 PM	04:33:32	7.92 pH	22.11 °C	710.79 µS/cm	1.16 mg/L	13.70 NTU	-81.8 mV	69.50 ft	100.00 ml/min
10/11/2022 3:52 PM	04:38:32	7.92 pH	21.55 °C	700.36 µS/cm	1.13 mg/L	14.10 NTU	-81.8 mV	69.80 ft	100.00 ml/min
10/11/2022 3:57 PM	04:43:32	7.92 pH	21.15 °C	696.54 µS/cm	0.82 mg/L	12.60 NTU	-78.6 mV	70.10 ft	100.00 ml/min
10/11/2022 4:02 PM	04:48:32	7.91 pH	21.10 °C	691.33 µS/cm	1.16 mg/L	12.70 NTU	-75.9 mV	70.40 ft	100.00 ml/min
10/11/2022 4:07 PM	04:53:32	7.92 pH	21.50 °C	691.21 µS/cm	1.94 mg/L	12.60 NTU	-70.0 mV	70.65 ft	100.00 ml/min
10/11/2022 4:12 PM	04:58:32	7.92 pH	21.22 °C	677.23 µS/cm	1.15 mg/L	11.80 NTU	-71.9 mV	71.00 ft	100.00 ml/min
10/11/2022 4:17 PM	05:03:32	7.92 pH	21.10 °C	675.27 µS/cm	1.25 mg/L	11.10 NTU	-71.0 mV	71.45 ft	100.00 ml/min
10/11/2022 4:22 PM	05:08:32	7.93 pH	21.19 °C	666.79 µS/cm	1.18 mg/L	10.00 NTU	-69.7 mV	71.95 ft	100.00 ml/min
10/11/2022 4:27 PM	05:13:32	7.93 pH	21.28 °C	660.04 µS/cm	1.73 mg/L	8.75 NTU	-63.9 mV	72.30 ft	100.00 ml/min
10/11/2022 4:32 PM	05:18:32	7.93 pH	21.38 °C	655.73 µS/cm	1.82 mg/L	7.96 NTU	-61.3 mV	72.55 ft	100.00 ml/min
10/11/2022 4:37 PM	05:23:32	7.93 pH	21.53 °C	647.37 µS/cm	1.70 mg/L	8.55 NTU	-57.4 mV	72.75 ft	100.00 ml/min
10/11/2022 4:42 PM	05:28:32	7.93 pH	21.58 °C	554.74 µS/cm	1.40 mg/L	7.86 NTU	-56.5 mV	72.95 ft	100.00 ml/min
10/11/2022 4:47 PM	05:33:32	7.94 pH	21.60 °C	631.95 µS/cm	1.32 mg/L	7.79 NTU	-53.7 mV	73.10 ft	100.00 ml/min
10/11/2022 4:52 PM	05:38:32	7.94 pH	21.73 °C	627.99 µS/cm	1.62 mg/L	7.13 NTU	-50.6 mV	73.25 ft	100.00 ml/min
10/11/2022 4:57 PM	05:43:32	7.94 pH	21.88 °C	628.95 µS/cm	1.28 mg/L	7.14 NTU	-47.5 mV	73.50 ft	100.00 ml/min
10/11/2022 5:02 PM	05:48:32	7.94 pH	22.08 °C	620.08 µS/cm	1.66 mg/L	6.88 NTU	-44.1 mV	73.70 ft	100.00 ml/min
10/11/2022 5:07 PM	05:53:32	7.94 pH	22.13 °C	616.83 µS/cm	1.39 mg/L	6.82 NTU	-42.1 mV	73.90 ft	100.00 ml/min

10/11/2022 5:12 PM	05:58:32	7.94 pH	22.17 °C	612.61 µS/cm	1.62 mg/L	6.77 NTU	-40.1 mV	74.05 ft	100.00 ml/min
10/11/2022 5:17 PM	06:03:32	7.94 pH	21.94 °C	607.54 µS/cm	1.44 mg/L	7.86 NTU	-37.6 mV	74.20 ft	100.00 ml/min
10/11/2022 5:22 PM	06:08:35	7.94 pH	21.69 °C	604.46 µS/cm	1.62 mg/L	7.62 NTU	-32.2 mV	74.40 ft	100.00 ml/min
10/11/2022 5:25 PM	06:11:35	7.94 pH	21.73 °C	601.24 µS/cm	1.96 mg/L	7.25 NTU	-31.9 mV	74.60 ft	100.00 ml/min
10/11/2022 5:28 PM	06:14:35	7.94 pH	21.68 °C	600.54 µS/cm	1.55 mg/L	7.79 NTU	-29.4 mV	74.70 ft	100.00 ml/min
10/11/2022 5:31 PM	06:17:35	7.95 pH	21.68 °C	593.61 µS/cm	1.58 mg/L	7.87 NTU	-28.0 mV	74.85 ft	100.00 ml/min
10/11/2022 5:34 PM	06:20:35	7.95 pH	21.37 °C	591.43 µS/cm	2.36 mg/L	7.85 NTU	-24.8 mV	74.90 ft	100.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 10/12/2022 8:31:54 AM
Project: Low-Flow Test 23 (2)
Operator Name:

Location Name: AP2-ARAMW-9 **Well Diameter: 2 in** **Screen Length: 10 ft** **Top of Screen: 94.5 ft** **Total Depth: 105.55 ft** **Initial Depth to Water: 67.82 ft**	**Pump Intake From TOC: 98 ft** **Estimated Total Volume Pumped: 2500 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 4.43 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 883536**

Test Notes:
Continued Development from 10/11/22

Weather Conditions:
Overcast 70 F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
10/12/2022 8:31 AM	00:00	7.86 pH	20.50 °C	539.03 µS/cm	4.01 mg/L	5.85 NTU	97.2 mV	69.10 ft	100.00 ml/min
10/12/2022 8:36 AM	05:00	7.90 pH	19.79 °C	585.96 µS/cm	3.89 mg/L	5.30 NTU	88.5 mV	69.95 ft	100.00 ml/min
10/12/2022 8:41 AM	10:00	7.92 pH	19.55 °C	599.98 µS/cm	3.91 mg/L	5.08 NTU	96.8 mV	70.60 ft	100.00 ml/min
10/12/2022 8:46 AM	15:00	7.93 pH	19.54 °C	625.95 µS/cm	4.02 mg/L	4.90 NTU	95.9 mV	71.20 ft	100.00 ml/min
10/12/2022 8:51 AM	20:00	7.93 pH	19.54 °C	610.43 µS/cm	3.47 mg/L	4.95 NTU	80.2 mV	71.70 ft	100.00 ml/min
10/12/2022 8:56 AM	25:00	7.94 pH	19.59 °C	611.11 µS/cm	3.22 mg/L	4.76 NTU	86.0 mV	72.25 ft	100.00 ml/min

Samples

Sample ID:	Description:

WELL DEVELOPMENT FORM

Stantec

Project Name:	Southern Company Arkwright	**Page**	1 of 1
Plant Name:	Plant Arkwright	**Well Type:**	MW
Plant Address:	5001 Arkwright Road, Macon, GA 31210	**Well Diameter (inches):**	2
Project Number:	175569434	**Initial Depth to Water (Feet BTOC):**	43.3
Goal/Task:	Hydrogeological Development	**Total Depth of Well (Feet BTOC):**	105.55
Well ID:	ARAMW-9	**Development Start Date:**	10/11/2022
Development Methods:	Bailing/Reclaimer Pump	**Development End Date:**	10/12/2022
Developed By:	John Myer	**Recorded by:**	John Myer

Time	Depth to Water (feet btoc)	Flow Rate (mL/min)	Cumulative Vol. Purged (gal)	Temp. (°C)	pH (SU)	Specific Conductance (µS/cm)	Turbidity (NTU)	Color (visual)	Comments/Observations During Purging (sediment, odor, etc.)
Stabilization Criteria				N/A	± 0.1	± 5%	< 5 NTUs		
1113	48.65	100	0	19.1	7.82	726.24	29.5	clear	Start after bailing ~3 gal; Started pump at 102' BTOC
1118	49.51	100	0.13	19.2	7.67	838.61	13.8	clear	No odor
1123	50.05	100	0.26	19.3	7.70	838.87	21.3	clear	No odor
1127	50.30	100	0.37	19.5	7.74	842.83	26.0	clear	No odor
1132	50.65	100	0.50	19.7	7.75	850.68	21.4	clear	No odor
1137	51.00	100	0.63	19.9	7.79	851.83	25.3	clear	No odor
1142	51.90	100	0.77	19.7	7.77	907.66	30.4	clear	No odor
1147	52.35	100	0.90	19.6	7.78	931.95	25.4	clear	No odor
1152	53.00	100	1.03	19.6	7.79	958.14	30.8	clear	No odor
1157	53.60	100	1.16	19.7	7.79	968.13	27.0	clear	No odor
1202	54.00	100	1.29	19.8	7.80	974.03	20.1	clear	No odor
1207	54.45	100	1.43	19.9	7.80	978.83	20.9	clear	No odor
1212	54.90	100	1.56	20.0	7.80	986.48	19.4	clear	No odor
1217	55.25	100	1.69	20.6	7.81	984.41	20.4	clear	No odor
1222	55.70	100	1.82	20.4	7.81	986.68	17.2	clear	No odor
1227	56.00	100	1.95	20.6	7.81	987.24	16.2	clear	No odor
1232	56.30	100	2.09	20.7	7.80	981.58	15.6	clear	No odor
1237	56.60	100	2.22	20.5	7.81	981.94	14.3	clear	No odor
1242	56.95	100	2.35	20.5	7.81	978.63	12.5	clear	No odor
1247	57.30	100	2.48	20.5	7.82	974.24	10.9	clear	No odor
1252	57.55	100	2.62	20.5	7.82	975.69	11.8	clear	No odor
1257	57.75	100	2.75	20.6	7.82	975.07	10.1	clear	Raised pump to 94.0' BTOC
1302	57.75	100	2.88	20.9	7.81	979.20	10.1	clear	No odor
1304	58.90	100	2.93	21.0	7.81	983.67	38.6	clear	No odor
1309	59.20	100	3.06	21.5	7.81	790.72	16.9	clear	No odor
1314	59.45	100	3.20	21.8	7.81	973.02	9.86	clear	No odor
1319	59.85	100	3.33	22.0	7.81	972.64	9.63	clear	No odor
1324	60.20	100	3.46	22.0	7.81	965.86	9.64	clear	No odor
1329	60.65	100	3.59	21.7	7.82	961.46	7.16	clear	No odor
1334	60.90	100	3.72	22.2	7.81	961.48	6.93	clear	Lowered pump to 98.0' BTOC
1339	61.05	100	3.86	22.8	7.81	960.15	11.3	clear	No odor
1344	61.25	100	3.99	22.6	7.82	938.96	8.48	clear	No odor
1349	61.55	100	4.12	22.7	7.82	937.17	7.70	clear	No odor
1354	61.90	100	4.25	22.6	7.83	924.54	7.97	clear	No odor
1359	61.90	100	4.39	22.3	7.84	906.78	9.91	clear	No odor
1404	62.10	100	4.52	22.9	7.84	889.47	12.7	clear	No odor
1409	62.50	100	4.65	24.0	7.85	868.66	18.8	clear	No odor
1414	63.45	100	4.78	21.1	7.86	833.90	15.1	clear	No odor
1419	64.10	100	4.91	21.2	7.88	699.63	15.3	clear	No odor
1422	64.65	100	4.99	21.3	7.88	798.14	15.9	clear	No odor
1427	65.10	100	5.12	21.3	7.90	771.21	16.8	clear	No odor
1432	65.55	100	5.26	21.5	7.90	764.45	15.6	clear	No odor
1437	65.80	100	5.39	22.0	7.90	769.43	14.7	clear	No odor
1442	66.10	100	5.52	22.5	7.90	770.27	14.9	clear	No odor
1447	66.35	100	5.65	22.1	7.90	768.34	15.1	clear	No odor
1452	66.65	100	5.79	22.4	7.89	748.01	16.6	clear	No odor
1457	66.90	100	5.92	22.7	7.89	750.67	13.6	clear	No odor
1502	67.10	100	6.05	22.5	7.89	775.14	13.5	clear	No odor
1507	67.40	100	6.18	22.7	7.89	704.97	13.6	clear	No odor
1512	67.50	100	6.31	22.3	7.89	714.07	17.4	clear	No odor
1517	67.80	100	6.45	22.1	7.89	764.03	16.3	clear	No odor
1522	68.10	100	6.58	21.9	7.90	752.90	18.0	clear	No odor
1527	68.40	100	6.71	21.8	7.90	747.61	16.1	clear	No odor
1532	68.70	100	6.84	22.0	7.91	736.88	15.1	clear	No odor
1537	68.95	100	6.97	22.0	7.91	763.73	15.2	clear	No odor
1542	69.30	100	7.11	22.0	7.91	567.26	16.3	clear	No odor
1547	69.50	100	7.24	22.1	7.92	710.79	13.7	clear	No odor
1552	69.80	100	7.37	21.5	7.92	700.36	14.1	clear	No odor
1557	70.10	100	7.50	21.1	7.92	696.54	12.6	clear	No odor
1602	70.40	100	7.63	21.1	7.91	691.33	12.7	clear	No odor
1607	70.65	100	7.77	21.5	7.92	691.21	12.6	clear	No odor
1612	71.00	100	7.90	21.2	7.92	677.23	11.8	clear	No odor
1617	71.45	100	8.03	21.1	7.92	675.27	11.1	clear	No odor
1622	71.95	100	8.16	21.2	7.93	666.79	10.0	clear	No odor
1627	72.30	100	8.30	21.3	7.93	660.04	8.75	clear	No odor
1632	72.55	100	8.43	21.4	7.93	655.73	7.96	clear	No odor
1637	72.75	100	8.56	21.5	7.93	647.37	8.55	clear	No odor
1642	72.95	100	8.69	21.6	7.93	554.74	7.86	clear	No odor
1647	73.10	100	8.82	21.6	7.94	631.95	7.79	clear	No odor
1652	73.25	100	8.96	21.7	7.94	627.99	7.13	clear	No odor
1657	73.50	100	9.09	21.9	7.94	628.95	7.14	clear	No odor
1702	73.70	100	9.22	22.1	7.94	620.08	6.88	clear	No odor
1707	73.90	100	9.35	22.1	7.94	616.83	6.82	clear	No odor
1712	74.05	100	9.48	22.2	7.94	612.61	6.77	clear	No odor
1717	74.20	100	9.62	21.9	7.94	607.54	7.86	clear	No odor
1722	74.40	100	9.75	21.7	7.94	604.46	7.62	clear	No odor
1725	74.60	100	9.83	21.7	7.94	601.24	7.25	clear	No odor
1728	74.70	100	9.91	21.7	7.94	600.54	7.79	clear	No odor
1731	74.85	100	9.99	21.7	7.95	593.61	7.87	clear	No odor
1734	74.90	100	10.06	21.4	7.95	591.43	7.85	clear	Development Stopped for End of day
0831	69.10	100	10.06	20.5	7.86	539.03	5.85	clear	Development Resumed on 10/12/2022
0836	69.95	100	10.19	19.8	7.90	585.96	5.30	clear	No odor
0841	70.60	100	10.32	19.5	7.92	599.98	5.08	clear	No odor
0846	71.20	100	10.46	19.5	7.93	625.95	4.90	clear	No odor
0851	71.70	100	10.59	19.5	7.93	610.43	4.95	clear	No odor
0856	72.25	100	10.72	19.6	7.94	611.11	4.76	clear	No odor
Final Values:		0856	10.72	19.6	7.94	611.1	4.76	clear	

Field Personnel Signatures: John Myer

FTL/Designee Review by: _____ **Date:** _____ **Signature:** _____

DL/SME Review by: _____ **Date:** _____ **Signature:** _____

Calibration Report

Instrument	Aqua TROLL 400
Serial Number	883536
Created	10/11/2022

Sensor	**RDO**
Serial Number	878563
Last Calibrated	10/11/2022

Calibration Details

Slope	1.0228
Offset	0.00 mg/L

Calibration point 100%

Concentration	9.10 mg/L
Temperature	18.82 °C
Barometric Pressure	1,013.2 mbar

Sensor	**Conductivity**
Serial Number	883536
Last Calibrated	10/11/2022

Calibration Details

Cell Constant	1.01
Reference Temperature	25.00 °C
TDS Conversion Factor (ppm)	0.65

Sensor	**Level**
Serial Number	883843
Last Calibrated	Factory Defaults

Sensor	**pH/ORP**
Serial Number	21631
Last Calibrated	10/11/2022

Calibration Details

Total Calibration Points	3

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	165.7 mV
Temperature	19.94 °C

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-7.7 mV
Temperature	19.90 °C

Calibration Point 3

pH of Buffer	10.05 pH
pH mV	-177.1 mV
Temperature	20.03 °C

Slope and Offset 1

Slope	-57.41 mV/pH
Offset	-6.6 mV

Slope and Offset 2

Slope	-55.92 mV/pH
Offset	-6.6 mV

ORP

ORP Solution	Zobell's
Offset	13.4 mV
Temperature	19.12 °C

Calibration Report

Instrument	Aqua TROLL 400
Serial Number	883536
Created	10/12/2022

Sensor	**RDO**
Serial Number	878563
Last Calibrated	10/12/2022

Calibration Details

Slope	1.020264
Offset	0.00 mg/L

Calibration point 100%

Concentration	8.69 mg/L
Temperature	21.08 °C
Barometric Pressure	1,009.8 mbar

Sensor	**Conductivity**
Serial Number	883536
Last Calibrated	10/12/2022

Calibration Details

Cell Constant	1.064
Reference Temperature	25.00 °C
TDS Conversion Factor (ppm)	0.65

Sensor	**Level**
Serial Number	883843
Last Calibrated	Factory Defaults

Sensor	**pH/ORP**
Serial Number	21631
Last Calibrated	10/12/2022

Calibration Details

Total Calibration Points	3

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	164.3 mV
Temperature	21.10 °C

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-7.8 mV
Temperature	21.10 °C

Calibration Point 3

pH of Buffer	10.05 pH
pH mV	-176.2 mV
Temperature	21.02 °C

Slope and Offset 1

Slope	-56.98 mV/pH
Offset	-6.7 mV

Slope and Offset 2

Slope	-55.57 mV/pH
Offset	-6.7 mV

ORP

ORP Solution	Zobell's
Offset	13.2 mV
Temperature	21.09 °C

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 10/11/2022

Morning (AM) Calibration			**Calibrated By:**	John Myer	
Weather:	Overcast 50 F				
Time (24hr) Start:	7:45	*Acceptance Criteria*	**Time (24hr) Finish:**	8:45	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	18.0	*+/- 4°C*	*Local Weather Station:*	1024.4	
Aqua TROLL 400:	19.1		*Aqua TROLL 400:*	1013.2	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.1	100	807	10.3	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4481	*+/- 1 %*	19.8	NA
pH 7 (SU)	7.00	7.02	*+/- .1 (SU)*	19.9	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	19.9	NA
pH 10 (SU)	10.00	10.05	*+/- .1 (SU)*	20.0	NA
D.O. (%)	*N/A*	100.1	*95-105 %*	18.8	NA
ORP (mV)	236.9	236.7	*+/- 10 mV*	19.1	NA

Afternoon (PM) Calibration Verification			**Verification By:**	John Myer	
Weather:	Clear 71 F				
Time (24hr) Start:	21:15	*Acceptance Criteria*	**Time (24hr) Finish:**	21:55	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	23.0	*+/- 4°C*	*Local Weather Station:*	1021.3	
Aqua TROLL 400:	21.6		*Aqua TROLL 400:*	1010.2	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.4	103	808	10.3	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4447	*+/- 1 %*	21.7	NA
pH 7 (SU)	7.00	7.04	*+/- .1 (SU)*	21.5	NA
pH 4 (SU)	4.00	4.03	*+/- .1 (SU)*	21.6	NA
pH 10 (SU)	10.00	10.02	*+/- .1 (SU)*	21.4	NA
D.O. (%)	*N/A*	96.0	*95-105 %*	21.3	NA
ORP (mV)	228.0	233.8	*+/- 10 mV*	21.5	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	21140143	4/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	6/1/2023
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	883536	
Turbidity Meter	Hach	2100Q	15040C040490	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: John Myer *Date:* 10/11/2022 *Signature:* John Myer

Review By: Edgar Smith *Date:* 10/20/2022 *Signature:* Edgar Smith

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 10/12/2022

Morning (AM) Calibration			**Calibrated By:**	John Myer	
Weather:	Overcast 69 F				
Time (24hr) Start:	6:30	*Acceptance Criteria*	**Time (24hr) Finish:**	7:00	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	20.9	*+/- 4°C*	*Local Weather Station:*	1021.7	
Aqua TROLL 400:	20.9		*Aqua TROLL 400:*	1009.7	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.2	99.8	813	10.3	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4489	*+/- 1 %*	21.0	NA
pH 7 (SU)	7.00	7.02	*+/- .1 (SU)*	21.1	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	21.1	NA
pH 10 (SU)	10.00	10.05	*+/- .1 (SU)*	21.0	NA
D.O. (%)	*N/A*	100.0	*95-105 %*	21.1	NA
ORP (mV)	234.3	234.5	*+/- 10 mV*	21.0	NA

Afternoon (PM) Calibration Verification			**Verification By:**	John Myer	
Weather:	Overcast 72 F				
Time (24hr) Start:	11:20	*Acceptance Criteria*	**Time (24hr) Finish:**	11:35	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	21.2	*+/- 4°C*	*Local Weather Station:*	1021.0	
Aqua TROLL 400:	20.6		*Aqua TROLL 400:*	1008.9	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.4	100	791	10.0	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4450	*+/- 1 %*	20.9	NA
pH 7 (SU)	7.00	7.05	*+/- .1 (SU)*	21.2	NA
pH 4 (SU)	4.00	4.02	*+/- .1 (SU)*	21.0	NA
pH 10 (SU)	10.00	10.05	*+/- .1 (SU)*	21.2	NA
D.O. (%)	*N/A*	96.8	*95-105 %*	20.7	NA
ORP (mV)	228.0	233.4	*+/- 10 mV*	21.2	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	21140143	4/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	6/1/2023
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	883536	
Turbidity Meter	Hach	2100Q	15040C040490	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: John Myer *Date:* 10/12/2022 *Signature:* John Myer

Review By: Edgar Smith *Date:* 10/20/2022 *Signature:* Edgar Smith

APPENDIX D

Certified Piezometer Survey

METRO ENGINEERING & SURVEYING CO., INC.
SURVEYORS - ENGINEERS - PHOTOGRAMMETRISTS
PROVIDING PROFESSIONAL SERVICE SINCE 1967

1469 HIGHWAY 20 WEST • MCDONOUGH, GA 30253
phone: 770-707-0777 fax: 770.707-0755
WWW.METRO-ENGINEERING.COM

SURVEYOR'S REPORT

SCOPE OF WORK:

Field survey of existing monitoring wells at Georgia Power Company, Plant Arkwright in Macon, GA.

Horizontal and vertical datum was derived from provided coordinates of nails at existing monitoring wells ARAMW-7 and ARGWC-22 using conventional surveying methods and equipment. Horizontal datum is Georgia State Plane, West Zone, NAD83(2011) and vertical datum is NAVD88.

PROVIDED COORDINATES:

ARAMW-7, NORTH=1,063,049.07, EAST=2,438,913.27, EL=307.13, PK NAIL
ARGWC-22, NORTH=1,063,039.36, EAST=2,438,925.04, PK NAIL

EQUIPMENT USED TO ESTABLISH THE MONITORING WELL LOCATIONS:

Leica TS16 Total Station
Leica DNA10 Digital Level

CERTIFICATION:

I hereby certify that based on the provided coordinates list above that the center of well casing has a horizontal accuracy of 0.5+/- feet or better referencing the Georgia State Plane, West Zone, NAD83(2011) coordinate system in US survey feet. The top of well, nail in the concrete pad and rebar set elevations was determined to be accurate within 0.01 foot through a closed level check loop with a Leica DNA10 digital level having a published accuracy of 0.9mm per dual-traverse kilometer.

James R. Green R.L.S. No. 2543

GEORGIA REGISTERED NO. LS002543 PROFESSIONAL LAND SURVEYOR JAMES RANDOLPH GREEN

Date: 11/22/2022

WELL	LATITUDE	LONGITUDE	WELL NORTH	WELL EAST	TOP OF CASING	NAIL NORTH	NAIL EAST	NAIL EL	GRD SUR NORTH	GRD SUR EAST	GRD SUR ELEV	PAD EL
ARAMW-9	32.921665	-83.702746	1063022.92	2438935.47	309.28	1063024.53	2438936.09	306.83	1063023.52	2438937.49	306.31	306.87

	TOP ELEV	BASE ELEV
CREEK GAUGE	297.02	293.60

Appendix B
Well Inspections

MONITORING WELL INSPECTION CHECKLIST

Stantec

Project Name: Southern Company Arkwright
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Gauging/Inspection

Date: 8/30/2022
Monitoring Well No.: ARAMW-1
Priority Maintenance Item Identified: NA

	Description	Yes	No	NA	Comments
	Location/Identification				
	Is the well visible and accessible?	X			
	Is the well properly identified with the correct well ID?	X			
	Is the well in a high traffic area and does the well require protection from traffic?		X		
	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	X			
	Protective Casing				
	Is the protective casing free from apparent damage and able to be secured?	X			
	Is the casing free of degradation or deterioiration?	X			
	Does the casing have a functioning weep hole?	X			
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	X			
	Is the well locked and is the lock in good condition?	X			
	Surface pad				
	Is the well pad in good conditon (not cracked or broken)?	X			
	Is the well pad sloped away from the protective casing?	X			
	Is the well pad in complete contact with the protective casing?	X			
	Is the well pad in complete contact with the ground surface and stable?(Not underminde by erosion, animal burrows, and does not move when stepped on).	X			
	Is the pad surface clean (not covered with sediment or debris)?	X			
	Internal casing				
	Does the cap prevent entry of foreign material into the well?	X			
	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	X			
	Is the well properly vented for equilibrium of air pressure?	X			
	Is the survey point clearly marked on the inner casing?	X			
	Is the depth of the well consistent with the original well log?	X			
	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	X			
	Sampling (Groundwater Wells Only)				
	Does well recharge adequetely when purged?	X			
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility?			X	No Dedicated equipment
	Does the well require redevelopment (low-flow, turbid)?		X		

Comments: Include inspection details, including items requiring repair or maintenance.

NA

Prepared By / Date: John Myer 8/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22

MONITORING WELL INSPECTION CHECKLIST

Stantec

Project Name: Southern Company Arkwright
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Gauging/Inspection

Date: 8/30/2022
Monitoring Well No.: ARAMW-2
Priority Maintenance Item Identified: NA

	Description	Yes	No	NA	Comments
	Location/Identification				
	Is the well visible and accessible?	X			
	Is the well properly identified with the correct well ID?	X			
	Is the well in a high traffic area and does the well require protection from traffic?		X		
	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	X			
	Protective Casing				
	Is the protective casing free from apparent damage and able to be secured?	X			
	Is the casing free of degradation or deterioiration?	X			
	Does the casing have a functioning weep hole?	X			
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	X			
	Is the well locked and is the lock in good condition?	X			
	Surface pad				
	Is the well pad in good conditon (not cracked or broken)?	X			
	Is the well pad sloped away from the protective casing?	X			
	Is the well pad in complete contact with the protective casing?	X			
	Is the well pad in complete contact with the ground surface and stable?(Not underminde by erosion, animal burrows, and does not move when stepped on).	X			
	Is the pad surface clean (not covered with sediment or debris)?	X			
	Internal casing				
	Does the cap prevent entry of foreign material into the well?	X			
	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	X			
	Is the well properly vented for equilibrium of air pressure?	X			
	Is the survey point clearly marked on the inner casing?	X			
	Is the depth of the well consistent with the original well log?	X			
	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	X			
	Sampling (Groundwater Wells Only)				
	Does well recharge adequetely when purged?	X			
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility?			X	No Dedicated equipment
	Does the well require redevelopment (low-flow, turbid)?		X		

Comments: Include inspection details, including items requiring repair or maintenance.

NA

Prepared By / Date: John Myer 8/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22

MONITORING WELL INSPECTION CHECKLIST

Stantec

Project Name: Southern Company Arkwright
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Gauging/Inspection

Date: 8/30/2022
Monitoring Well No.: ARAMW-7
Priority Maintenance Item Identified: NA

	Description	Yes	No	NA	Comments
	Location/Identification				
	Is the well visible and accessible?	X			
	Is the well properly identified with the correct well ID?	X			
	Is the well in a high traffic area and does the well require protection from traffic?		X		
	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	X			
	Protective Casing				
	Is the protective casing free from apparent damage and able to be secured?	X			
	Is the casing free of degradation or deterioiration?	X			
	Does the casing have a functioning weep hole?	X			
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	X			
	Is the well locked and is the lock in good condition?	X			
	Surface pad				
	Is the well pad in good conditon (not cracked or broken)?	X			
	Is the well pad sloped away from the protective casing?	X			
	Is the well pad in complete contact with the protective casing?	X			
	Is the well pad in complete contact with the ground surface and stable?(Not underminde by erosion, animal burrows, and does not move when stepped on).	X			
	Is the pad surface clean (not covered with sediment or debris)?	X			
	Internal casing				
	Does the cap prevent entry of foreign material into the well?	X			
	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	X			
	Is the well properly vented for equilibrium of air pressure?	X			
	Is the survey point clearly marked on the inner casing?	X			
	Is the depth of the well consistent with the original well log?	X			
	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	X			
	Sampling (Groundwater Wells Only)				
	Does well recharge adequetely when purged?	X			
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility?			X	No Dedicated equipment
	Does the well require redevelopment (low-flow, turbid)?		X		

Comments: Include inspection details, including items requiring repair or maintenance.

NA

Prepared By / Date: John Myer 8/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22

MONITORING WELL INSPECTION CHECKLIST

Stantec

Project Name: Southern Company Arkwright
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Gauging/Inspection

Date: 8/30/2022
Monitoring Well No.: ARAMW-8
Priority Maintenance Item Identified: NA

	Description	Yes	No	NA	Comments
	Location/Identification				
	Is the well visible and accessible?	X			
	Is the well properly identified with the correct well ID?	X			
	Is the well in a high traffic area and does the well require protection from traffic?		X		
	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	X			
	Protective Casing				
	Is the protective casing free from apparent damage and able to be secured?	X			
	Is the casing free of degradation or deterioiration?	X			
	Does the casing have a functioning weep hole?	X			
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	X			
	Is the well locked and is the lock in good condition?	X			
	Surface pad				
	Is the well pad in good conditon (not cracked or broken)?	X			
	Is the well pad sloped away from the protective casing?	X			
	Is the well pad in complete contact with the protective casing?	X			
	Is the well pad in complete contact with the ground surface and stable?(Not underminde by erosion, animal burrows, and does not move when stepped on).	X			
	Is the pad surface clean (not covered with sediment or debris)?	X			
	Internal casing				
	Does the cap prevent entry of foreign material into the well?	X			
	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	X			
	Is the well properly vented for equilibrium of air pressure?	X			
	Is the survey point clearly marked on the inner casing?	X			
	Is the depth of the well consistent with the original well log?	X			
	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	X			
	Sampling (Groundwater Wells Only)				
	Does well recharge adequetely when purged?	X			
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility?			X	No Dedicated equipment
	Does the well require redevelopment (low-flow, turbid)?		X		

Comments: Include inspection details, including items requiring repair or maintenance.

NA

Prepared By / Date: John Myer 8/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22

MONITORING WELL INSPECTION CHECKLIST

Stantec

Project Name: Southern Company Arkwright
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Gauging/Inspection

Date: 8/30/2022
Monitoring Well No.: ARGWA-19
Priority Maintenance Item Identified: NA

	Description	Yes	No	NA	Comments
	Location/Identification				
	Is the well visible and accessible?	X			
	Is the well properly identified with the correct well ID?	X			
	Is the well in a high traffic area and does the well require protection from traffic?		X		
	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	X			
	Protective Casing				
	Is the protective casing free from apparent damage and able to be secured?	X			
	Is the casing free of degradation or deterioiration?	X			
	Does the casing have a functioning weep hole?	X			
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	X			
	Is the well locked and is the lock in good condition?	X			
	Surface pad				
	Is the well pad in good conditon (not cracked or broken)?	X			
	Is the well pad sloped away from the protective casing?	X			
	Is the well pad in complete contact with the protective casing?	X			
	Is the well pad in complete contact with the ground surface and stable?(Not underminde by erosion, animal burrows, and does not move when stepped on).	X			
	Is the pad surface clean (not covered with sediment or debris)?	X			
	Internal casing				
	Does the cap prevent entry of foreign material into the well?	X			
	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	X			
	Is the well properly vented for equilibrium of air pressure?	X			
	Is the survey point clearly marked on the inner casing?	X			
	Is the depth of the well consistent with the original well log?	X			
	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	X			
	Sampling (Groundwater Wells Only)				
	Does well recharge adequetely when purged?	X			
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility?	X			
	Does the well require redevelopment (low-flow, turbid)?		X		

Comments: Include inspection details, including items requiring repair or maintenance.

NA

Prepared By / Date: John Myer 8/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22

MONITORING WELL INSPECTION CHECKLIST

Stantec

Project Name: Southern Company Arkwright
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Gauging/Inspection

Date: 8/30/2022
Monitoring Well No.: ARGWA-20
Priority Maintenance Item Identified: NA

	Description	Yes	No	NA	Comments
	Location/Identification				
	Is the well visible and accessible?	X			
	Is the well properly identified with the correct well ID?	X			
	Is the well in a high traffic area and does the well require protection from traffic?		X		
	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	X			
	Protective Casing				
	Is the protective casing free from apparent damage and able to be secured?	X			
	Is the casing free of degradation or deterioiration?	X			
	Does the casing have a functioning weep hole?	X			
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	X			
	Is the well locked and is the lock in good condition?	X			
	Surface pad				
	Is the well pad in good conditon (not cracked or broken)?	X			
	Is the well pad sloped away from the protective casing?	X			
	Is the well pad in complete contact with the protective casing?	X			
	Is the well pad in complete contact with the ground surface and stable?(Not underminde by erosion, animal burrows, and does not move when stepped on).	X			
	Is the pad surface clean (not covered with sediment or debris)?	X			
	Internal casing				
	Does the cap prevent entry of foreign material into the well?	X			
	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	X			
	Is the well properly vented for equilibrium of air pressure?	X			
	Is the survey point clearly marked on the inner casing?	X			
	Is the depth of the well consistent with the original well log?	X			
	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	X			
	Sampling (Groundwater Wells Only)				
	Does well recharge adequetely when purged?	X			
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility?	X			
	Does the well require redevelopment (low-flow, turbid)?		X		

Comments: Include inspection details, including items requiring repair or maintenance.

NA

Prepared By / Date: John Myer 8/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22

MONITORING WELL INSPECTION CHECKLIST

Stantec

Project Name: Southern Company Arkwright
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Gauging/Inspection

Date: 8/30/2022
Monitoring Well No.: ARGWC-21
Priority Maintenance Item Identified: NA

	Description	Yes	No	NA	Comments
	Location/Identification				
	Is the well visible and accessible?	X			
	Is the well properly identified with the correct well ID?	X			
	Is the well in a high traffic area and does the well require protection from traffic?		X		
	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	X			
	Protective Casing				
	Is the protective casing free from apparent damage and able to be secured?	X			
	Is the casing free of degradation or deterioiration?	X			
	Does the casing have a functioning weep hole?	X			
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	X			
	Is the well locked and is the lock in good condition?		X		
	Surface pad				
	Is the well pad in good conditon (not cracked or broken)?	X			
	Is the well pad sloped away from the protective casing?	X			
	Is the well pad in complete contact with the protective casing?	X			
	Is the well pad in complete contact with the ground surface and stable?(Not underminde by erosion, animal burrows, and does not move when stepped on).	X			
	Is the pad surface clean (not covered with sediment or debris)?	X			
	Internal casing				
	Does the cap prevent entry of foreign material into the well?	X			
	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	X			
	Is the well properly vented for equilibrium of air pressure?	X			
	Is the survey point clearly marked on the inner casing?	X			
	Is the depth of the well consistent with the original well log?	X			
	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	X			
	Sampling (Groundwater Wells Only)				
	Does well recharge adequetely when purged?	X			
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility?	X			
	Does the well require redevelopment (low-flow, turbid)?		X		

Comments: Include inspection details, including items requiring repair or maintenance.

NA

Prepared By / Date: John Myer 8/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22

MONITORING WELL INSPECTION CHECKLIST

Stantec

Project Name: Southern Company Arkwright
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Gauging/Inspection

Date: 8/30/2022
Monitoring Well No.: ARGWC-22
Priority Maintenance Item Identified: NA

	Description	Yes	No	NA	Comments
	Location/Identification				
	Is the well visible and accessible?	X			
	Is the well properly identified with the correct well ID?	X			
	Is the well in a high traffic area and does the well require protection from traffic?		X		
	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	X			
	Protective Casing				
	Is the protective casing free from apparent damage and able to be secured?	X			
	Is the casing free of degradation or deterioiration?	X			
	Does the casing have a functioning weep hole?	X			
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	X			
	Is the well locked and is the lock in good condition?	X			
	Surface pad				
	Is the well pad in good conditon (not cracked or broken)?	X			
	Is the well pad sloped away from the protective casing?	X			
	Is the well pad in complete contact with the protective casing?	X			
	Is the well pad in complete contact with the ground surface and stable?(Not underminde by erosion, animal burrows, and does not move when stepped on).	X			
	Is the pad surface clean (not covered with sediment or debris)?	X			
	Internal casing				
	Does the cap prevent entry of foreign material into the well?	X			
	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	X			
	Is the well properly vented for equilibrium of air pressure?	X			
	Is the survey point clearly marked on the inner casing?	X			
	Is the depth of the well consistent with the original well log?	X			
	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	X			
	Sampling (Groundwater Wells Only)				
	Does well recharge adequetely when purged?	X			
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility?			X	No Dedicated equipment
	Does the well require redevelopment (low-flow, turbid)?		X		

Comments: Include inspection details, including items requiring repair or maintenance.

NA

Prepared By / Date: John Myer 8/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22

MONITORING WELL INSPECTION CHECKLIST

Stantec

Project Name: Southern Company Arkwright
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Gauging/Inspection

Date: 8/30/2022
Monitoring Well No.: ARGWC-23
Priority Maintenance Item Identified: NA

	Description	Yes	No	NA	Comments
	Location/Identification				
	Is the well visible and accessible?	X			
	Is the well properly identified with the correct well ID?	X			
	Is the well in a high traffic area and does the well require protection from traffic?		X		
	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	X			
	Protective Casing				
	Is the protective casing free from apparent damage and able to be secured?	X			
	Is the casing free of degradation or deterioiration?	X			
	Does the casing have a functioning weep hole?	X			
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	X			
	Is the well locked and is the lock in good condition?	X			
	Surface pad				
	Is the well pad in good conditon (not cracked or broken)?	X			
	Is the well pad sloped away from the protective casing?	X			
	Is the well pad in complete contact with the protective casing?	X			
	Is the well pad in complete contact with the ground surface and stable?(Not underminde by erosion, animal burrows, and does not move when stepped on).	X			
	Is the pad surface clean (not covered with sediment or debris)?	X			
	Internal casing				
	Does the cap prevent entry of foreign material into the well?	X			
	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	X			
	Is the well properly vented for equilibrium of air pressure?	X			
	Is the survey point clearly marked on the inner casing?	X			
	Is the depth of the well consistent with the original well log?	X			
	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	X			
	Sampling (Groundwater Wells Only)				
	Does well recharge adequetely when purged?	X			
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility?			X	No Dedicated equipment
	Does the well require redevelopment (low-flow, turbid)?		X		

Comments: Include inspection details, including items requiring repair or maintenance.

NA

Prepared By / Date: John Myer 8/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22

Appendix C
Field Sampling Data and Analytical Data Reports

C.1 Field Sampling Data

Low-Flow Test Report:

Test Date / Time: 9/2/2022 9:30:13 AM
Project: Plant Arkwright AP-2 DAS
Operator Name: J. Meyer

Location Name: ARAMW-1 **Well Diameter: 2 in** **Screen Length: 10 ft** **Top of Screen: 34.9 ft** **Total Depth: 47.4 ft** **Initial Depth to Water: 13.8 ft**	**Pump Intake From TOC: 42.4 ft** **Estimated Total Volume Pumped: 6841.667 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 250 ml/min** **Final Draw Down: 0.1 ft**	**Casing Type: PVC** **Pump Type: Peristaltic Pump** **Tubing Type: LDPE** **Tubing Inner Diameter: 0.17 in** **Tubing Length: 48 ft** **Instrument Used: Aqua TROLL 400** **Serial Number: 850724**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/2/2022 9:30 AM	00:00	6.09 pH	20.01 °C	844.26 µS/cm	0.21 mg/L	3.02 NTU	53.5 mV	13.85 ft	250.00 ml/min
9/2/2022 9:32 AM	02:22	6.09 pH	19.84 °C	840.18 µS/cm	0.19 mg/L	3.02 NTU	57.8 mV	13.85 ft	250.00 ml/min
9/2/2022 9:37 AM	07:22	6.08 pH	19.73 °C	849.51 µS/cm	0.18 mg/L	3.61 NTU	56.4 mV	13.90 ft	250.00 ml/min
9/2/2022 9:42 AM	12:22	6.06 pH	19.69 °C	843.05 µS/cm	0.17 mg/L	2.18 NTU	61.1 mV	13.90 ft	250.00 ml/min
9/2/2022 9:47 AM	17:22	6.06 pH	19.68 °C	839.72 µS/cm	0.16 mg/L	1.74 NTU	61.0 mV	13.90 ft	250.00 ml/min
9/2/2022 9:52 AM	22:22	6.05 pH	19.68 °C	844.70 µS/cm	0.15 mg/L	1.38 NTU	60.8 mV	13.90 ft	250.00 ml/min
9/2/2022 9:57 AM	27:22	6.04 pH	19.67 °C	843.90 µS/cm	0.17 mg/L	2.12 NTU	63.2 mV	13.90 ft	250.00 ml/min

Samples

Sample ID:	Description:
ARAMW-1	Sample collected at 1000

Low-Flow Test Report:

Test Date / Time: 9/2/2022 12:00:14 PM
Project: Plant Arkwright AP-2 DAS
Operator Name: J. Meyer

Location Name: ARAMW-2 **Well Diameter: 2 in** **Screen Length: 10 ft** **Top of Screen: 14.82 ft** **Total Depth: 24.7 ft** **Initial Depth to Water: 13.75 ft**	**Pump Intake From TOC: 20.2 ft** **Estimated Total Volume Pumped: 34450 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 0 ft**	**Casing Type: PVC** **Pump Type: Peristaltic Pump** **Tubing Type: LDPE** **Tubing Inner Diameter: 0.17 in** **Tubing Length: 24 ft** **Instrument Used: Aqua TROLL 400** **Serial Number: 850724**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/2/2022 12:00 PM	00:00	5.99 pH	20.72 °C	772.19 µS/cm	0.24 mg/L	39.00 NTU	45.4 mV	13.75 ft	200.00 ml/min
9/2/2022 12:05 PM	05:00	5.98 pH	20.46 °C	768.57 µS/cm	0.23 mg/L	36.40 NTU	46.8 mV	13.75 ft	200.00 ml/min
9/2/2022 12:10 PM	10:00	5.98 pH	20.43 °C	771.84 µS/cm	0.16 mg/L	37.60 NTU	46.8 mV	13.75 ft	200.00 ml/min
9/2/2022 12:15 PM	15:00	6.19 pH	20.88 °C	781.77 µS/cm	4.21 mg/L	44.70 NTU	36.1 mV	13.75 ft	200.00 ml/min
9/2/2022 12:20 PM	20:00	6.07 pH	22.05 °C	779.29 µS/cm	2.01 mg/L	67.20 NTU	29.3 mV	13.75 ft	200.00 ml/min
9/2/2022 12:25 PM	25:00	6.00 pH	21.60 °C	770.49 µS/cm	1.08 mg/L	45.80 NTU	22.0 mV	13.75 ft	200.00 ml/min
9/2/2022 12:30 PM	30:00	5.98 pH	21.11 °C	774.77 µS/cm	0.61 mg/L	55.60 NTU	29.7 mV	13.75 ft	200.00 ml/min
9/2/2022 12:35 PM	35:00	5.97 pH	21.06 °C	776.34 µS/cm	0.41 mg/L	43.60 NTU	30.0 mV	13.75 ft	200.00 ml/min
9/2/2022 12:40 PM	40:00	5.97 pH	20.94 °C	775.50 µS/cm	0.30 mg/L	29.50 NTU	28.8 mV	13.75 ft	200.00 ml/min
9/2/2022 12:45 PM	45:00	5.97 pH	20.91 °C	775.99 µS/cm	0.23 mg/L	24.70 NTU	27.0 mV	13.75 ft	200.00 ml/min
9/2/2022 12:50 PM	50:00	5.97 pH	20.85 °C	776.94 µS/cm	0.14 mg/L	18.70 NTU	25.7 mV	13.75 ft	200.00 ml/min
9/2/2022 12:55 PM	55:00	5.97 pH	20.88 °C	778.73 µS/cm	0.12 mg/L	16.60 NTU	24.3 mV	13.75 ft	200.00 ml/min
9/2/2022 1:00 PM	01:00:00	5.97 pH	20.88 °C	780.42 µS/cm	0.11 mg/L	14.80 NTU	24.6 mV	13.75 ft	200.00 ml/min
9/2/2022 1:05 PM	01:05:00	5.97 pH	20.87 °C	786.11 µS/cm	0.10 mg/L	13.70 NTU	23.2 mV	13.75 ft	200.00 ml/min
9/2/2022 1:10 PM	01:10:00	5.97 pH	20.90 °C	789.26 µS/cm	0.10 mg/L	11.90 NTU	22.5 mV	13.75 ft	200.00 ml/min
9/2/2022 1:15 PM	01:15:00	5.97 pH	20.93 °C	796.83 µS/cm	0.10 mg/L	10.70 NTU	20.9 mV	13.75 ft	200.00 ml/min
9/2/2022 1:17 PM	01:17:15	5.97 pH	20.95 °C	800.84 µS/cm	0.10 mg/L	10.70 NTU	17.5 mV	13.75 ft	200.00 ml/min

9/2/2022 1:22 PM	01:22:15	5.98 pH	20.97 °C	810.13 µS/cm	0.09 mg/L	9.11 NTU	17.6 mV	13.75 ft	200.00 ml/min
9/2/2022 1:27 PM	01:27:15	5.98 pH	21.06 °C	814.20 µS/cm	0.09 mg/L	8.96 NTU	15.3 mV	13.75 ft	200.00 ml/min
9/2/2022 1:32 PM	01:32:15	5.97 pH	21.06 °C	828.80 µS/cm	0.10 mg/L	7.82 NTU	13.0 mV	13.75 ft	200.00 ml/min
9/2/2022 1:37 PM	01:37:15	5.98 pH	21.04 °C	833.20 µS/cm	0.11 mg/L	6.96 NTU	11.4 mV	13.75 ft	200.00 ml/min
9/2/2022 1:42 PM	01:42:15	5.98 pH	21.10 °C	838.83 µS/cm	0.11 mg/L	7.70 NTU	9.3 mV	13.75 ft	200.00 ml/min
9/2/2022 1:47 PM	01:47:15	5.98 pH	21.10 °C	845.95 µS/cm	0.10 mg/L	8.28 NTU	7.7 mV	13.75 ft	200.00 ml/min
9/2/2022 1:52 PM	01:52:15	5.98 pH	21.06 °C	852.57 µS/cm	0.10 mg/L	7.94 NTU	6.2 mV	13.75 ft	200.00 ml/min
9/2/2022 1:57 PM	01:57:15	5.99 pH	21.01 °C	865.43 µS/cm	0.10 mg/L	9.11 NTU	1.3 mV	13.75 ft	200.00 ml/min
9/2/2022 2:02 PM	02:02:15	5.99 pH	20.98 °C	870.59 µS/cm	0.10 mg/L	9.95 NTU	2.2 mV	13.75 ft	200.00 ml/min
9/2/2022 2:07 PM	02:07:15	5.99 pH	20.97 °C	881.27 µS/cm	0.10 mg/L	8.36 NTU	0.9 mV	13.75 ft	200.00 ml/min
9/2/2022 2:12 PM	02:12:15	5.99 pH	20.97 °C	885.67 µS/cm	0.09 mg/L	9.09 NTU	0.1 mV	13.75 ft	200.00 ml/min
9/2/2022 2:17 PM	02:17:15	5.99 pH	21.06 °C	885.18 µS/cm	0.10 mg/L	8.20 NTU	-1.2 mV	13.75 ft	200.00 ml/min
9/2/2022 2:22 PM	02:22:15	5.99 pH	21.37 °C	898.73 µS/cm	0.13 mg/L	7.65 NTU	-2.8 mV	13.75 ft	200.00 ml/min
9/2/2022 2:27 PM	02:27:15	6.00 pH	21.57 °C	908.35 µS/cm	0.13 mg/L	6.61 NTU	-4.3 mV	13.75 ft	200.00 ml/min
9/2/2022 2:32 PM	02:32:15	6.00 pH	21.68 °C	915.82 µS/cm	0.13 mg/L	6.27 NTU	-5.3 mV	13.75 ft	200.00 ml/min
9/2/2022 2:37 PM	02:37:15	6.00 pH	21.68 °C	924.70 µS/cm	0.14 mg/L	6.22 NTU	-5.9 mV	13.75 ft	100.00 ml/min
9/2/2022 2:42 PM	02:42:15	6.00 pH	21.73 °C	935.44 µS/cm	0.14 mg/L	5.94 NTU	-7.7 mV	13.75 ft	100.00 ml/min
9/2/2022 2:47 PM	02:47:15	6.00 pH	21.73 °C	950.67 µS/cm	0.14 mg/L	5.79 NTU	-10.0 mV	13.75 ft	100.00 ml/min
9/2/2022 2:52 PM	02:52:15	6.01 pH	21.75 °C	953.34 µS/cm	0.14 mg/L	5.26 NTU	-11.9 mV	13.75 ft	100.00 ml/min
9/2/2022 2:57 PM	02:57:15	6.01 pH	21.76 °C	955.47 µS/cm	0.14 mg/L	4.92 NTU	-12.9 mV	13.75 ft	100.00 ml/min
9/2/2022 3:02 PM	03:02:15	6.00 pH	21.80 °C	958.05 µS/cm	0.15 mg/L	4.85 NTU	-13.5 mV	13.75 ft	100.00 ml/min
9/2/2022 3:07 PM	03:07:15	6.00 pH	21.86 °C	960.58 µS/cm	0.15 mg/L	4.43 NTU	-14.7 mV	13.75 ft	100.00 ml/min

Samples

Sample ID:	Description:
ARAMW-2	Sample collected at 1510; Weather is sunny 87 F

Low-Flow Test Report:

Test Date / Time: 9/7/2022 9:38:15 AM
Project: Plant Arkwright AP-2 DAS
Operator Name: J. Meyer

Location Name: ARAMW-7 **Well Diameter: 2 in** **Screen Length: 10 ft** **Top of Screen: 40.4 ft** **Total Depth: 50.4 ft** **Initial Depth to Water: 13.08 ft**	**Pump Intake From TOC: 45.4 ft** **Estimated Total Volume Pumped: 3500 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 0 ft**	**Casing Type: PVC** **Pump Type: Peristaltic Pump** **Tubing Type: LDPE** **Tubing Inner Diameter: 0.17 in** **Tubing Length: 50 ft** **Instrument Used: Aqua TROLL 400** **Serial Number: 728623**

Test Notes:

Weather Conditions:
Overcast 75 F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/7/2022 9:38 AM	00:00	5.85 pH	20.04 °C	1,709.1 µS/cm	0.47 mg/L	5.03 NTU	191.7 mV	13.08 ft	100.00 ml/min
9/7/2022 9:43 AM	05:00	5.77 pH	19.82 °C	1,738.5 µS/cm	0.29 mg/L	4.30 NTU	178.8 mV	13.08 ft	100.00 ml/min
9/7/2022 9:48 AM	10:00	5.69 pH	19.71 °C	1,766.2 µS/cm	0.23 mg/L	3.06 NTU	172.8 mV	13.08 ft	100.00 ml/min
9/7/2022 9:53 AM	15:00	5.64 pH	19.65 °C	1,780.1 µS/cm	0.19 mg/L	2.54 NTU	170.7 mV	13.08 ft	100.00 ml/min
9/7/2022 9:58 AM	20:00	5.60 pH	19.64 °C	1,792.9 µS/cm	0.18 mg/L	3.06 NTU	153.7 mV	13.08 ft	100.00 ml/min
9/7/2022 10:03 AM	25:00	5.58 pH	19.64 °C	1,792.9 µS/cm	0.16 mg/L	1.39 NTU	137.7 mV	13.08 ft	100.00 ml/min
9/7/2022 10:08 AM	30:00	5.57 pH	19.65 °C	1,786.5 µS/cm	0.16 mg/L	0.90 NTU	146.5 mV	13.08 ft	100.00 ml/min
9/7/2022 10:13 AM	35:00	5.57 pH	19.63 °C	1,789.5 µS/cm	0.16 mg/L	2.66 NTU	117.0 mV	13.08 ft	100.00 ml/min

Samples

Sample ID:	Description:
ARAMW-7	Sample collected at 1020

Low-Flow Test Report:

Test Date / Time: 9/2/2022 12:01:40 PM
Project: Plant Arkwright AP-2 DAS
Operator Name: B. Pennell

Location Name: ARAMW-8 **Latitude: 32.9213264722445** **Longitude: -83.7019164115191** **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 39.54 ft** **Total Depth: 49.54 ft** **Initial Depth to Water: 12.07 ft**	**Pump Type: Peristaltic Pump** **Tubing Type: LDPE** **Tubing Inner Diameter: 0.17 in** **Tubing Length: 49.54 ft** **Pump Intake From TOC: 44.54 ft** **Estimated Total Volume Pumped: 5000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 6.83 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728623**

Test Notes:
Sample time: 1255

Weather Conditions:
Cloudy, 26 C

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.33	
9/2/2022 12:01 PM	00:00	6.39 pH	22.99 °C	648.71 µS/cm	0.53 mg/L	8.85 NTU	36.8 mV	12.07 ft	100.00 ml/min
9/2/2022 12:06 PM	05:00	6.42 pH	22.22 °C	652.91 µS/cm	0.37 mg/L	8.18 NTU	23.6 mV	14.10 ft	100.00 ml/min
9/2/2022 12:11 PM	10:00	6.42 pH	22.18 °C	653.08 µS/cm	0.31 mg/L	7.11 NTU	18.3 mV	14.74 ft	100.00 ml/min
9/2/2022 12:16 PM	15:00	6.42 pH	22.18 °C	649.38 µS/cm	0.28 mg/L	5.83 NTU	14.6 mV	15.38 ft	100.00 ml/min
9/2/2022 12:21 PM	20:00	6.43 pH	22.27 °C	646.05 µS/cm	0.26 mg/L	7.07 NTU	15.8 mV	16.00 ft	100.00 ml/min
9/2/2022 12:26 PM	25:00	6.43 pH	22.29 °C	639.88 µS/cm	0.32 mg/L	7.00 NTU	20.8 mV	16.58 ft	100.00 ml/min
9/2/2022 12:31 PM	30:00	6.43 pH	22.40 °C	637.69 µS/cm	0.36 mg/L	6.53 NTU	20.2 mV	17.11 ft	100.00 ml/min
9/2/2022 12:36 PM	35:00	6.43 pH	22.71 °C	635.10 µS/cm	0.35 mg/L	5.03 NTU	19.6 mV	17.62 ft	100.00 ml/min
9/2/2022 12:41 PM	40:00	6.43 pH	22.59 °C	633.00 µS/cm	0.27 mg/L	4.68 NTU	18.1 mV	18.06 ft	100.00 ml/min
9/2/2022 12:46 PM	45:00	6.44 pH	22.38 °C	630.81 µS/cm	0.26 mg/L	4.33 NTU	17.4 mV	18.51 ft	100.00 ml/min
9/2/2022 12:51 PM	50:00	6.44 pH	22.40 °C	630.88 µS/cm	0.22 mg/L	4.28 NTU	16.0 mV	18.90 ft	100.00 ml/min

Samples

Sample ID:	Description:
ARAMW-8	6 poly containers collected at 1255

Low-Flow Test Report:

Test Date / Time: 9/1/2022 10:07:43 AM
Project: Plant Arkwright AP-2 DAS
Operator Name: J. Meyer

Location Name: ARGWA-19 **Well Diameter: 2 in** **Screen Length: 10 ft** **Top of Screen: 43.1 ft** **Total Depth: 53.1 ft** **Initial Depth to Water: 28.65 ft**	**Pump Intake From TOC: 47.7 ft** **Estimated Total Volume Pumped: 6000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 300 ml/min** **Final Draw Down: 0 ft**	**Casing Type: PVC** **Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Tubing Inner Diameter: 0.17 in** **Tubing Length: 48 ft** **Instrument Used: Aqua TROLL 400** **Serial Number: 850724**

Test Notes:
Sunny 82 F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/1/2022 10:07 AM	00:00	6.10 pH	20.70 °C	133.50 µS/cm	3.53 mg/L	2.53 NTU	161.5 mV	28.65 ft	300.00 ml/min
9/1/2022 10:12 AM	05:00	5.89 pH	20.28 °C	133.10 µS/cm	2.96 mg/L	2.65 NTU	161.2 mV	28.65 ft	300.00 ml/min
9/1/2022 10:17 AM	10:00	5.88 pH	20.23 °C	132.35 µS/cm	2.94 mg/L	2.01 NTU	156.8 mV	28.65 ft	300.00 ml/min
9/1/2022 10:22 AM	15:00	5.87 pH	20.24 °C	132.09 µS/cm	2.97 mg/L	2.18 NTU	202.2 mV	28.65 ft	300.00 ml/min
9/1/2022 10:27 AM	20:00	5.88 pH	20.25 °C	131.42 µS/cm	3.00 mg/L	1.79 NTU	157.6 mV	28.65 ft	300.00 ml/min

Samples

Sample ID:	Description:
ARGWA-19	Sample collected at 1030

Low-Flow Test Report:

Test Date / Time: 9/1/2022 10:28:03 AM
Project: Plant Arkwright AP-2 DAS
Operator Name: B. Pennell

Location Name: AWGWA-20 **Latitude: 32.9236238101318** **Longitude: -83.7022825330496** **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 27.7 ft** **Total Depth: 37.7 ft** **Initial Depth to Water: 15.9 ft**	**Pump Type: QED Dedicated Pump** **Tubing Type: LDPE** **Tubing Inner Diameter: 0.17 in** **Pump Intake From TOC: 32.7 ft** **Estimated Total Volume Pumped: 210747.5 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 0.06 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728623**

Test Notes:
Sample time: 1014 on 9-2-22, purge was started on 9-1-22, due to high turbidity and continued inclement weather, the purging was stopped and resumed on 9-2-22. The purge log is inaccurate in the total volume purged and the time elapsed due to the log keeping time. 62.25 L purged, 7 hours and 35 minutes or active purging and recording or parameters

Weather Conditions:
Partly cloudy, 27 C

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.33	
9/1/2022 10:28 AM	00:00	5.69 pH	19.96 °C	142.06 µS/cm	5.66 mg/L	25.60 NTU	287.0 mV	15.90 ft	150.00 ml/min
9/1/2022 10:33 AM	05:00	5.61 pH	19.69 °C	142.07 µS/cm	5.63 mg/L	25.30 NTU	324.6 mV	15.97 ft	150.00 ml/min
9/1/2022 10:38 AM	10:00	5.61 pH	19.70 °C	141.65 µS/cm	5.61 mg/L	27.30 NTU	380.8 mV	15.97 ft	150.00 ml/min
9/1/2022 10:43 AM	15:00	5.61 pH	19.64 °C	141.54 µS/cm	5.63 mg/L	19.10 NTU	381.3 mV	15.97 ft	150.00 ml/min
9/1/2022 10:48 AM	20:00	5.61 pH	19.74 °C	141.61 µS/cm	5.60 mg/L	21.90 NTU	381.7 mV	15.97 ft	150.00 ml/min
9/1/2022 10:53 AM	25:00	5.62 pH	19.69 °C	141.87 µS/cm	5.62 mg/L	20.30 NTU	381.2 mV	15.97 ft	150.00 ml/min
9/1/2022 10:58 AM	30:00	5.62 pH	19.68 °C	142.32 µS/cm	5.60 mg/L	18.40 NTU	381.6 mV	15.97 ft	150.00 ml/min
9/1/2022 11:03 AM	35:00	5.63 pH	19.77 °C	142.38 µS/cm	5.59 mg/L	22.80 NTU	322.5 mV	15.97 ft	150.00 ml/min
9/1/2022 11:08 AM	40:00	5.63 pH	19.73 °C	142.88 µS/cm	5.57 mg/L	21.00 NTU	322.2 mV	15.97 ft	150.00 ml/min
9/1/2022 11:13 AM	45:00	5.63 pH	19.86 °C	143.92 µS/cm	5.59 mg/L	19.80 NTU	381.5 mV	15.97 ft	150.00 ml/min
9/1/2022 11:18 AM	50:00	5.63 pH	19.85 °C	144.30 µS/cm	5.59 mg/L	18.30 NTU	381.7 mV	15.97 ft	150.00 ml/min

9/1/2022 11:23 AM	55:00	5.64 pH	19.86 °C	144.58 µS/cm	5.62 mg/L	23.50 NTU	321.9 mV	15.97 ft	150.00 ml/min
9/1/2022 11:28 AM	01:00:00	5.64 pH	20.13 °C	145.12 µS/cm	5.57 mg/L	15.90 NTU	382.1 mV	15.97 ft	150.00 ml/min
9/1/2022 11:33 AM	01:05:00	5.64 pH	19.99 °C	145.12 µS/cm	5.60 mg/L	17.80 NTU	382.3 mV	15.97 ft	150.00 ml/min
9/1/2022 11:38 AM	01:10:00	5.64 pH	20.08 °C	145.59 µS/cm	5.70 mg/L	21.40 NTU	382.5 mV	15.97 ft	150.00 ml/min
9/1/2022 11:43 AM	01:15:00	5.65 pH	20.16 °C	145.71 µS/cm	5.67 mg/L	17.30 NTU	322.0 mV	15.97 ft	150.00 ml/min
9/1/2022 11:48 AM	01:20:00	5.65 pH	20.10 °C	146.04 µS/cm	5.68 mg/L	22.30 NTU	321.0 mV	15.97 ft	150.00 ml/min
9/1/2022 11:53 AM	01:25:00	5.65 pH	20.13 °C	146.30 µS/cm	5.68 mg/L	20.70 NTU	321.5 mV	15.97 ft	150.00 ml/min
9/1/2022 11:58 AM	01:30:00	5.65 pH	20.19 °C	146.72 µS/cm	5.69 mg/L	26.00 NTU	382.4 mV	15.97 ft	150.00 ml/min
9/1/2022 12:03 PM	01:35:00	5.65 pH	20.27 °C	146.85 µS/cm	5.70 mg/L	20.50 NTU	382.8 mV	15.97 ft	150.00 ml/min
9/1/2022 12:08 PM	01:40:00	5.66 pH	20.27 °C	147.24 µS/cm	5.71 mg/L	16.20 NTU	382.8 mV	15.97 ft	150.00 ml/min
9/1/2022 12:13 PM	01:45:00	5.65 pH	20.42 °C	147.33 µS/cm	5.72 mg/L	20.00 NTU	383.2 mV	15.97 ft	150.00 ml/min
9/1/2022 12:18 PM	01:50:00	5.66 pH	20.26 °C	147.28 µS/cm	5.70 mg/L	18.20 NTU	382.7 mV	15.97 ft	150.00 ml/min
9/1/2022 12:23 PM	01:55:00	5.66 pH	20.38 °C	147.58 µS/cm	5.70 mg/L	16.30 NTU	383.0 mV	15.97 ft	150.00 ml/min
9/1/2022 12:28 PM	02:00:00	5.66 pH	20.39 °C	147.77 µS/cm	5.70 mg/L	17.70 NTU	383.1 mV	15.97 ft	150.00 ml/min
9/1/2022 12:33 PM	02:05:00	5.66 pH	20.31 °C	147.99 µS/cm	5.70 mg/L	14.10 NTU	383.2 mV	15.97 ft	150.00 ml/min
9/1/2022 12:38 PM	02:10:00	5.66 pH	20.22 °C	147.50 µS/cm	5.69 mg/L	15.10 NTU	322.2 mV	15.97 ft	150.00 ml/min
9/1/2022 12:43 PM	02:15:00	5.67 pH	20.31 °C	147.87 µS/cm	5.66 mg/L	14.90 NTU	382.6 mV	15.97 ft	150.00 ml/min
9/1/2022 12:48 PM	02:20:00	5.67 pH	20.25 °C	147.77 µS/cm	5.64 mg/L	16.00 NTU	382.7 mV	15.97 ft	150.00 ml/min
9/1/2022 12:53 PM	02:25:00	5.67 pH	20.22 °C	148.22 µS/cm	5.66 mg/L	15.10 NTU	382.5 mV	15.97 ft	150.00 ml/min
9/1/2022 12:58 PM	02:30:00	5.68 pH	20.21 °C	147.58 µS/cm	5.64 mg/L	12.90 NTU	315.4 mV	15.97 ft	150.00 ml/min
9/1/2022 1:03 PM	02:35:00	5.65 pH	20.48 °C	148.68 µS/cm	5.65 mg/L	13.40 NTU	322.3 mV	15.97 ft	150.00 ml/min
9/1/2022 1:08 PM	02:40:00	5.66 pH	20.60 °C	148.22 µS/cm	5.64 mg/L	14.00 NTU	322.6 mV	15.97 ft	150.00 ml/min
9/1/2022 1:13 PM	02:45:00	5.66 pH	20.53 °C	148.62 µS/cm	5.63 mg/L	13.90 NTU	322.3 mV	15.97 ft	150.00 ml/min
9/1/2022 1:18 PM	02:50:00	5.67 pH	20.57 °C	148.82 µS/cm	5.62 mg/L	15.70 NTU	322.2 mV	15.97 ft	150.00 ml/min
9/1/2022 1:23 PM	02:55:00	5.67 pH	20.55 °C	148.87 µS/cm	5.61 mg/L	15.00 NTU	383.8 mV	15.97 ft	150.00 ml/min
9/1/2022 1:28 PM	03:00:00	5.67 pH	20.48 °C	148.85 µS/cm	5.63 mg/L	14.20 NTU	321.4 mV	15.97 ft	150.00 ml/min
9/1/2022 1:33 PM	03:05:00	5.67 pH	20.40 °C	148.95 µS/cm	5.68 mg/L	13.30 NTU	315.3 mV	15.97 ft	150.00 ml/min
9/1/2022 1:38 PM	03:10:00	5.66 pH	20.48 °C	149.01 µS/cm	5.67 mg/L	11.70 NTU	322.5 mV	15.97 ft	150.00 ml/min
9/1/2022 1:43 PM	03:15:00	5.66 pH	20.67 °C	149.55 µS/cm	5.66 mg/L	12.90 NTU	384.7 mV	15.97 ft	150.00 ml/min

9/1/2022 1:48 PM	03:20:00	5.67 pH	20.56 °C	149.57 µS/cm	5.67 mg/L	14.60 NTU	384.4 mV	15.97 ft	150.00 ml/min
9/1/2022 1:53 PM	03:25:00	5.67 pH	20.57 °C	149.65 µS/cm	5.66 mg/L	14.30 NTU	384.2 mV	15.97 ft	150.00 ml/min
9/1/2022 1:58 PM	03:30:00	5.68 pH	20.66 °C	149.68 µS/cm	5.66 mg/L	13.80 NTU	383.7 mV	15.97 ft	150.00 ml/min
9/1/2022 2:03 PM	03:35:00	5.67 pH	20.82 °C	149.58 µS/cm	5.64 mg/L	15.90 NTU	384.4 mV	15.97 ft	150.00 ml/min
9/1/2022 2:08 PM	03:40:00	5.67 pH	20.70 °C	149.84 µS/cm	5.65 mg/L	11.00 NTU	384.3 mV	15.97 ft	150.00 ml/min
9/1/2022 2:13 PM	03:45:00	5.68 pH	20.69 °C	149.36 µS/cm	5.68 mg/L		316.0 mV	15.97 ft	150.00 ml/min
9/1/2022 2:18 PM	03:50:00	5.69 pH	20.49 °C	149.33 µS/cm	5.68 mg/L		319.7 mV	15.97 ft	150.00 ml/min
9/1/2022 2:23 PM	03:55:00	5.70 pH	20.53 °C	149.68 µS/cm	5.65 mg/L		321.0 mV	15.97 ft	150.00 ml/min
9/1/2022 2:28 PM	04:00:00	5.70 pH	20.31 °C	149.23 µS/cm	5.70 mg/L		319.6 mV	15.97 ft	150.00 ml/min
9/1/2022 2:33 PM	04:05:00	5.69 pH	20.48 °C	149.89 µS/cm	5.71 mg/L		321.4 mV	15.97 ft	150.00 ml/min
9/1/2022 2:38 PM	04:10:00	5.70 pH	20.49 °C	149.94 µS/cm	5.71 mg/L		321.2 mV	15.97 ft	150.00 ml/min
9/1/2022 2:43 PM	04:15:00	5.69 pH	20.62 °C	150.01 µS/cm	5.70 mg/L		387.0 mV	15.97 ft	150.00 ml/min
9/1/2022 2:48 PM	04:20:00	5.70 pH	20.66 °C	149.70 µS/cm	5.72 mg/L		321.0 mV	15.97 ft	150.00 ml/min
9/1/2022 2:53 PM	04:25:00	5.70 pH	20.71 °C	149.88 µS/cm	5.72 mg/L		320.8 mV	15.97 ft	150.00 ml/min
9/1/2022 2:58 PM	04:30:00	5.70 pH	20.74 °C	149.54 µS/cm	5.69 mg/L		320.9 mV	15.97 ft	150.00 ml/min
9/1/2022 3:03 PM	04:35:00	5.70 pH	20.48 °C	149.36 µS/cm	5.70 mg/L		321.0 mV	15.97 ft	150.00 ml/min
9/1/2022 3:08 PM	04:40:00	5.70 pH	20.48 °C	150.35 µS/cm	5.69 mg/L		384.8 mV	15.97 ft	150.00 ml/min
9/1/2022 3:13 PM	04:45:00	5.70 pH	20.37 °C	150.08 µS/cm	5.74 mg/L		319.3 mV	15.97 ft	150.00 ml/min
9/1/2022 3:18 PM	04:50:00	5.70 pH	20.58 °C	149.92 µS/cm	5.75 mg/L		321.4 mV	15.97 ft	150.00 ml/min
9/1/2022 3:23 PM	04:55:00	5.70 pH	20.75 °C	149.91 µS/cm	5.70 mg/L		321.5 mV	15.97 ft	150.00 ml/min
9/1/2022 3:28 PM	05:00:00	5.70 pH	20.53 °C	149.87 µS/cm	5.69 mg/L		313.7 mV	15.97 ft	150.00 ml/min
9/1/2022 3:33 PM	05:05:00	5.70 pH	20.30 °C	149.74 µS/cm	5.70 mg/L		312.4 mV	15.97 ft	150.00 ml/min
9/1/2022 3:38 PM	05:10:00	5.72 pH	20.12 °C	150.31 µS/cm	5.76 mg/L		314.2 mV	15.97 ft	150.00 ml/min
9/1/2022 3:43 PM	05:15:00	5.73 pH	19.90 °C	149.93 µS/cm	5.71 mg/L		317.6 mV	15.97 ft	150.00 ml/min
9/1/2022 3:48 PM	05:20:00	5.73 pH	19.68 °C	150.84 µS/cm	5.75 mg/L		317.2 mV	15.97 ft	150.00 ml/min
9/1/2022 3:53 PM	05:25:00	5.73 pH	19.67 °C	150.39 µS/cm	5.73 mg/L		315.5 mV	15.97 ft	150.00 ml/min
9/1/2022 3:58 PM	05:30:00	5.73 pH	19.59 °C	150.42 µS/cm	5.74 mg/L		316.8 mV	15.97 ft	150.00 ml/min
9/1/2022 4:03 PM	05:35:00	5.73 pH	19.77 °C	150.88 µS/cm	5.74 mg/L		315.4 mV	15.97 ft	150.00 ml/min
9/1/2022 4:08 PM	05:40:00	5.73 pH	19.77 °C	150.89 µS/cm	5.75 mg/L		316.9 mV	15.97 ft	150.00 ml/min

9/1/2022 4:13 PM	05:45:00	5.73 pH	19.91 °C	150.69 µS/cm	5.71 mg/L		317.1 mV	15.97 ft	150.00 ml/min
9/1/2022 4:18 PM	05:50:00	5.73 pH	19.90 °C	150.80 µS/cm	5.71 mg/L		316.9 mV	15.97 ft	150.00 ml/min
9/1/2022 4:23 PM	05:55:00	5.73 pH	19.83 °C	150.35 µS/cm	5.68 mg/L		316.3 mV	15.97 ft	150.00 ml/min
9/1/2022 4:28 PM	06:00:00	5.74 pH	19.60 °C	150.38 µS/cm	5.70 mg/L		315.6 mV	15.97 ft	150.00 ml/min
9/1/2022 4:33 PM	06:05:00	5.71 pH	19.73 °C	151.07 µS/cm	5.77 mg/L		317.8 mV	15.97 ft	150.00 ml/min
9/1/2022 4:38 PM	06:10:00	5.69 pH	19.65 °C	150.89 µS/cm	5.73 mg/L		310.4 mV	15.97 ft	150.00 ml/min
9/2/2022 8:36 AM	22:08:19	5.63 pH	19.37 °C	142.26 µS/cm	6.02 mg/L	2.97 NTU	364.8 mV	15.93 ft	150.00 ml/min
9/2/2022 8:41 AM	22:13:19	5.60 pH	19.05 °C	141.05 µS/cm	5.86 mg/L	2.88 NTU	363.4 mV	15.97 ft	150.00 ml/min
9/2/2022 8:46 AM	22:18:19	5.60 pH	18.94 °C	140.80 µS/cm	5.85 mg/L	3.44 NTU	364.1 mV	15.97 ft	150.00 ml/min
9/2/2022 8:51 AM	22:23:19	5.59 pH	18.93 °C	141.32 µS/cm	5.80 mg/L	4.14 NTU	416.3 mV	15.97 ft	150.00 ml/min
9/2/2022 8:56 AM	22:28:19	5.59 pH	18.94 °C	141.63 µS/cm	5.77 mg/L	4.09 NTU	417.1 mV	15.97 ft	150.00 ml/min
9/2/2022 9:01 AM	22:33:19	5.61 pH	18.96 °C	143.68 µS/cm	5.75 mg/L	4.41 NTU	415.9 mV	15.97 ft	150.00 ml/min
9/2/2022 9:06 AM	22:38:19	5.65 pH	18.97 °C	147.55 µS/cm	5.77 mg/L	5.05 NTU	414.9 mV	15.97 ft	150.00 ml/min
9/2/2022 9:11 AM	22:43:19	5.66 pH	18.91 °C	148.10 µS/cm	5.78 mg/L	6.09 NTU	414.9 mV	15.97 ft	150.00 ml/min
9/2/2022 9:16 AM	22:48:19	5.66 pH	18.94 °C	148.32 µS/cm	5.76 mg/L	6.60 NTU	414.7 mV	15.96 ft	100.00 ml/min
9/2/2022 9:21 AM	22:53:19	5.66 pH	19.36 °C	148.39 µS/cm	5.69 mg/L	6.62 NTU	415.6 mV	15.96 ft	100.00 ml/min
9/2/2022 9:26 AM	22:58:19	5.66 pH	19.24 °C	147.76 µS/cm	5.73 mg/L	5.61 NTU	415.5 mV	15.96 ft	100.00 ml/min
9/2/2022 9:31 AM	23:03:19	5.66 pH	19.19 °C	148.12 µS/cm	5.71 mg/L	7.61 NTU	415.5 mV	15.96 ft	100.00 ml/min
9/2/2022 9:36 AM	23:08:19	5.66 pH	19.26 °C	148.86 µS/cm	5.72 mg/L	6.04 NTU	415.4 mV	15.96 ft	100.00 ml/min
9/2/2022 9:41 AM	23:13:19	5.67 pH	19.25 °C	148.55 µS/cm	5.71 mg/L	6.97 NTU	415.0 mV	15.96 ft	100.00 ml/min
9/2/2022 9:46 AM	23:18:19	5.67 pH	19.19 °C	148.30 µS/cm	5.72 mg/L	6.42 NTU	354.8 mV	15.96 ft	100.00 ml/min
9/2/2022 9:51 AM	23:23:19	5.67 pH	19.28 °C	148.51 µS/cm	5.69 mg/L	7.50 NTU	360.3 mV	15.96 ft	100.00 ml/min
9/2/2022 9:56 AM	23:28:19	5.67 pH	19.32 °C	148.56 µS/cm	5.70 mg/L	6.02 NTU	360.4 mV	15.96 ft	100.00 ml/min
9/2/2022 10:01 AM	23:33:19	5.68 pH	19.39 °C	148.83 µS/cm	5.68 mg/L	5.74 NTU	359.0 mV	15.96 ft	100.00 ml/min
9/2/2022 10:06 AM	23:38:19	5.68 pH	19.38 °C	149.10 µS/cm	5.73 mg/L	6.47 NTU	359.9 mV	15.96 ft	100.00 ml/min
9/2/2022 10:11 AM	23:43:19	5.68 pH	19.44 °C	149.57 µS/cm	5.69 mg/L	6.51 NTU	414.3 mV	15.96 ft	100.00 ml/min

Samples

Sample ID:	Description:

ARGWA-20	7 Poly containers collected at 1014, collected a filtered metals and an unfiltered metals

Low-Flow Test Report:

Test Date / Time: 9/1/2022 11:43:19 AM
Project: Plant Arkwright AP-2 DAS
Operator Name: J. Meyer

Location Name: ARGWC-21 **Well Diameter: 2 in** **Screen Length: 10 ft** **Top of Screen: 17.4 ft** **Total Depth: 27.4 ft** **Initial Depth to Water: 15.05 ft**	**Pump Intake From TOC: 22.4 ft** **Estimated Total Volume Pumped: 8500 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 0 ft**	**Casing Type: PVC** **Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Tubing Inner Diameter: 0.17 in** **Tubing Length: 23 ft** **Instrument Used: Aqua TROLL 400** **Serial Number: 850724**

Test Notes:

Weather Conditions:
Sunny 89 F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/1/2022 11:43 AM	00:00	6.00 pH	21.76 °C	777.56 µS/cm	0.57 mg/L	67.20 NTU	79.1 mV	15.05 ft	100.00 ml/min
9/1/2022 11:48 AM	05:00	6.00 pH	21.55 °C	781.06 µS/cm	0.45 mg/L	51.90 NTU	78.3 mV	15.05 ft	100.00 ml/min
9/1/2022 11:53 AM	10:00	5.99 pH	21.37 °C	780.15 µS/cm	0.35 mg/L	30.40 NTU	75.0 mV	15.05 ft	100.00 ml/min
9/1/2022 11:58 AM	15:00	5.97 pH	21.41 °C	779.70 µS/cm	0.29 mg/L	27.20 NTU	75.2 mV	15.05 ft	100.00 ml/min
9/1/2022 12:03 PM	20:00	5.97 pH	21.33 °C	778.49 µS/cm	0.27 mg/L	23.30 NTU	73.0 mV	15.05 ft	100.00 ml/min
9/1/2022 12:08 PM	25:00	5.97 pH	21.19 °C	777.49 µS/cm	0.26 mg/L	17.00 NTU	72.4 mV	15.05 ft	100.00 ml/min
9/1/2022 12:13 PM	30:00	5.97 pH	21.38 °C	778.06 µS/cm	0.25 mg/L	14.20 NTU	72.6 mV	15.05 ft	100.00 ml/min
9/1/2022 12:18 PM	35:00	5.97 pH	21.46 °C	774.09 µS/cm	0.24 mg/L	12.70 NTU	71.9 mV	15.05 ft	100.00 ml/min
9/1/2022 12:23 PM	40:00	5.97 pH	21.33 °C	774.43 µS/cm	0.24 mg/L	11.20 NTU	71.4 mV	15.05 ft	100.00 ml/min
9/1/2022 12:28 PM	45:00	5.97 pH	21.28 °C	777.46 µS/cm	0.23 mg/L	8.81 NTU	71.5 mV	15.05 ft	100.00 ml/min
9/1/2022 12:33 PM	50:00	5.97 pH	21.23 °C	772.72 µS/cm	0.24 mg/L	7.47 NTU	71.0 mV	15.05 ft	100.00 ml/min
9/1/2022 12:38 PM	55:00	5.97 pH	21.24 °C	776.37 µS/cm	0.23 mg/L	7.06 NTU	70.6 mV	15.05 ft	100.00 ml/min
9/1/2022 12:43 PM	01:00:00	5.97 pH	21.15 °C	776.33 µS/cm	0.22 mg/L	6.73 NTU	71.5 mV	15.05 ft	100.00 ml/min
9/1/2022 12:48 PM	01:05:00	5.97 pH	21.19 °C	774.62 µS/cm	0.22 mg/L	6.01 NTU	71.2 mV	15.05 ft	100.00 ml/min
9/1/2022 12:53 PM	01:10:00	5.97 pH	21.24 °C	772.63 µS/cm	0.22 mg/L	5.55 NTU	69.5 mV	15.05 ft	100.00 ml/min

9/1/2022 12:58 PM	01:15:00	5.97 pH	21.24 °C	771.44 µS/cm	0.22 mg/L	4.61 NTU	69.5 mV	15.05 ft	100.00 ml/min
9/1/2022 1:03 PM	01:20:00	5.97 pH	21.32 °C	772.53 µS/cm	0.22 mg/L	4.42 NTU	69.8 mV	15.05 ft	100.00 ml/min
9/1/2022 1:08 PM	01:25:00	5.97 pH	21.33 °C	771.11 µS/cm	0.21 mg/L	4.41 NTU	69.7 mV	15.05 ft	100.00 ml/min

Samples

Sample ID:	Description:
ARGWC-21	Sample collected at 1315

Low-Flow Test Report:

Test Date / Time: 9/6/2022 1:06:29 PM
Project: Plant Arkwright AP-2 DAS
Operator Name: E. Scheiben

Location Name: ARGWC-22 **Latitude: 32.9217432790022** **Longitude: -83.702798858285** **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 17.71 ft** **Total Depth: 27.71 ft** **Initial Depth to Water: 13.63 ft**	**Pump Type: Peristaltic** **Tubing Type: LDPE** **Tubing Inner Diameter: 0.17 in** **Tubing Length: 28 ft** **Pump Intake From TOC: 22.71 ft** **Estimated Total Volume Pumped: 7000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 0.07 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728648**

Test Notes:

Weather Conditions:
Sunny, 31.5 C

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
9/6/2022 1:06 PM	00:00	5.76 pH	26.95 °C	1,297.1 µS/cm	2.48 mg/L	8.78 NTU	36.9 mV	13.63 ft	100.00 ml/min
9/6/2022 1:11 PM	05:00	5.85 pH	21.80 °C	1,394.2 µS/cm	0.31 mg/L	6.43 NTU	24.0 mV	13.63 ft	100.00 ml/min
9/6/2022 1:16 PM	10:00	5.86 pH	21.07 °C	1,402.6 µS/cm	0.27 mg/L	6.24 NTU	18.3 mV	13.67 ft	100.00 ml/min
9/6/2022 1:21 PM	15:00	5.87 pH	20.99 °C	1,395.0 µS/cm	0.25 mg/L	6.82 NTU	20.9 mV	13.68 ft	100.00 ml/min
9/6/2022 1:26 PM	20:00	5.87 pH	20.83 °C	1,400.4 µS/cm	0.23 mg/L	8.32 NTU	20.5 mV	13.68 ft	100.00 ml/min
9/6/2022 1:31 PM	25:00	5.87 pH	20.68 °C	1,400.9 µS/cm	0.22 mg/L	7.31 NTU	20.5 mV	13.68 ft	100.00 ml/min
9/6/2022 1:36 PM	30:00	5.88 pH	20.54 °C	1,396.8 µS/cm	0.21 mg/L	8.02 NTU	20.4 mV	13.68 ft	100.00 ml/min
9/6/2022 1:41 PM	35:00	5.88 pH	20.55 °C	1,398.2 µS/cm	0.20 mg/L	7.65 NTU	20.2 mV	13.68 ft	100.00 ml/min
9/6/2022 1:46 PM	40:00	5.88 pH	20.59 °C	1,400.4 µS/cm	0.20 mg/L	6.06 NTU	20.3 mV	13.68 ft	100.00 ml/min
9/6/2022 1:51 PM	45:00	5.88 pH	20.76 °C	1,397.4 µS/cm	0.19 mg/L	5.50 NTU	20.7 mV	13.69 ft	100.00 ml/min
9/6/2022 1:56 PM	50:00	5.88 pH	20.73 °C	1,390.3 µS/cm	0.19 mg/L	5.97 NTU	21.1 mV	13.69 ft	100.00 ml/min
9/6/2022 2:01 PM	55:00	5.88 pH	20.76 °C	1,394.1 µS/cm	0.19 mg/L	5.02 NTU	17.8 mV	13.69 ft	100.00 ml/min

9/6/2022 2:06 PM	01:00:00	5.88 pH	20.77 °C	1,381.6 µS/cm	0.18 mg/L	4.80 NTU	21.5 mV	13.69 ft	100.00 ml/min
9/6/2022 2:11 PM	01:05:00	5.88 pH	20.58 °C	1,387.0 µS/cm	0.18 mg/L	3.97 NTU	21.9 mV	13.70 ft	100.00 ml/min
9/6/2022 2:16 PM	01:10:00	5.88 pH	20.83 °C	1,397.4 µS/cm	0.18 mg/L	4.68 NTU	22.0 mV	13.70 ft	100.00 ml/min

Samples

Sample ID:	Description:
ARGWC-22	Sample collected at 1425

Low-Flow Test Report:

Test Date / Time: 9/6/2022 1:56:06 PM
Project: Plant Arkwright AP-2 DAS
Operator Name: J. Meyer

Location Name: ARGWC-23 **Well Diameter: 2 in** **Screen Length: 10 ft** **Top of Screen: 18.4 ft** **Total Depth: 28.4 ft** **Initial Depth to Water: 12.55 ft**	**Pump Intake From TOC: 24.4 ft** **Estimated Total Volume Pumped: 3500 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 0.53 ft**	**Casing Type: PVC** **Pump Type: Peristaltic Pump** **Tubing Type: LDPE** **Tubing Inner Diameter: 0.17 in** **Tubing Length: 28 ft** **Serial Number: 728623** **Instrument Used: Aqua TROLL 400**

Test Notes:

Weather Conditions:
Overcast 84 F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/6/2022 1:56 PM	00:00	6.42 pH	23.59 °C	490.25 µS/cm	0.39 mg/L	2.87 NTU	164.1 mV	12.60 ft	100.00 ml/min
9/6/2022 2:01 PM	05:00	6.42 pH	23.37 °C	481.36 µS/cm	0.30 mg/L	2.31 NTU	153.5 mV	12.81 ft	100.00 ml/min
9/6/2022 2:06 PM	10:00	6.42 pH	23.20 °C	484.00 µS/cm	0.24 mg/L	2.00 NTU	144.6 mV	12.92 ft	100.00 ml/min
9/6/2022 2:11 PM	15:00	6.41 pH	23.34 °C	482.50 µS/cm	0.21 mg/L	1.42 NTU	144.6 mV	12.98 ft	100.00 ml/min
9/6/2022 2:16 PM	20:00	6.41 pH	23.22 °C	484.95 µS/cm	0.19 mg/L	1.84 NTU	173.5 mV	13.02 ft	100.00 ml/min
9/6/2022 2:21 PM	25:00	6.41 pH	23.25 °C	481.84 µS/cm	0.18 mg/L	0.49 NTU	141.1 mV	13.05 ft	100.00 ml/min
9/6/2022 2:26 PM	30:00	6.41 pH	22.85 °C	486.41 µS/cm	0.17 mg/L	0.92 NTU	167.4 mV	13.08 ft	100.00 ml/min
9/6/2022 2:31 PM	35:00	6.41 pH	23.16 °C	483.73 µS/cm	0.16 mg/L	1.14 NTU	134.8 mV	13.08 ft	100.00 ml/min

Samples

Sample ID:	Description:
ARGWC-23	Sample collected at 14:40
DUP-01	

Low-Flow Test Report:

Test Date / Time: 10/20/2022 10:54:10 AM
Project: GPC- Plant Arkwright
Operator Name: Jackson Bankston

Location Name: Plant Arkwright ARAMW9 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 92.9 ft** **Total Depth: 102.9 ft** **Initial Depth to Water: 24.62 ft**	**Pump Type: Bladder** **Tubing Type: Poly** **Pump Intake From TOC: 98 ft** **Estimated Total Volume Pumped: 3500 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 4.42 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 851413**

Test Notes:

Weather Conditions:
Sunny 55-75

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
10/20/2022 10:54 AM	00:00	7.55 pH	16.03 °C	1,195.4 µS/cm	2.81 mg/L	7.85 NTU	-123.3 mV	23.43 ft	100.00 ml/min
10/20/2022 10:59 AM	05:00	7.65 pH	17.10 °C	1,365.4 µS/cm	1.84 mg/L	6.16 NTU	-195.3 mV	24.36 ft	100.00 ml/min
10/20/2022 11:04 AM	10:00	7.73 pH	17.31 °C	1,316.1 µS/cm	1.93 mg/L	6.91 NTU	-216.0 mV	25.30 ft	100.00 ml/min
10/20/2022 11:09 AM	15:00	7.76 pH	17.44 °C	1,284.2 µS/cm	2.21 mg/L	4.35 NTU	-204.0 mV	25.81 ft	100.00 ml/min
10/20/2022 11:14 AM	20:00	7.78 pH	17.52 °C	1,328.4 µS/cm	2.68 mg/L	4.45 NTU	-158.0 mV	26.85 ft	100.00 ml/min
10/20/2022 11:19 AM	25:00	7.80 pH	17.48 °C	1,296.8 µS/cm	2.92 mg/L	4.25 NTU	-200.8 mV	26.85 ft	100.00 ml/min
10/20/2022 11:24 AM	30:00	7.80 pH	17.59 °C	1,302.7 µS/cm	3.16 mg/L	4.54 NTU	-172.8 mV	28.30 ft	100.00 ml/min
10/20/2022 11:29 AM	35:00	7.80 pH	17.63 °C	1,308.4 µS/cm	3.09 mg/L	4.76 NTU	-168.4 mV	29.04 ft	100.00 ml/min

Samples

Sample ID:	Description:
ARAMW-9	1135
FB-01	1145

EB-01	1200

C.2 Calibration Data

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Date: 8/30/2022
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Page 1 **of** 1
Goal/Task: Groundwater Sampling

Morning (AM) Calibration			**Calibrated By:** John Myer		
Weather:	Sunny 87 F				
Time (24hr) Start:	14:15	*Acceptance Criteria*	**Time (24hr) Finish:**	14:50	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	28.1	*+/- 4°C*	*Local Weather Station:*	1015.1	
Aqua TROLL 400:	31.8		*Aqua TROLL 400:*	1003.7	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.8	100	793	10.2	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4525	*+/- 1 %*	27.5	NA
pH 7 (SU)	7.00	7.00	*+/- .1 (SU)*	26.6	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	27.1	NA
pH 10 (SU)	10.00	10.01	*+/- .1 (SU)*	26.8	NA
D.O. (%)	*N/A*	100.2	*95-105 %*	27.6	NA
ORP (mV)	226.7	222.7	*+/- 10 mV*	26.9	NA

Afternoon (PM) Calibration Verification			**Verification By:** John Myer		
Weather:	Clear 76 F				
Time (24hr) Start:	22:30	*Acceptance Criteria*	**Time (24hr) Finish:**	23:10	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	21.5	*+/- 4°C*	*Local Weather Station:*	1015.6	
Aqua TROLL 400:	22.0		*Aqua TROLL 400:*	1004.5	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.9	102	785	10.2	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4526.6	*+/- 1 %*	23.1	NA
pH 7 (SU)	7.00	7.01	*+/- .1 (SU)*	23.4	NA
pH 4 (SU)	4.00	4.02	*+/- .1 (SU)*	23.3	NA
pH 10 (SU)	10.00	10.05	*+/- .1 (SU)*	23.4	NA
D.O. (%)	*N/A*	96.1	*95-105 %*	22.5	NA
ORP (mV)	231.7	231.2	*+/- 10 mV*	23.0	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/30/2023
ORP (mV)	228.0	AIR	21140143	4/30/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/31/2023
Turbidity - 100 NTU	100	Hach	A1027	1/31/2023
Turbidity - 800 NTU	800	Hach	A1103	4/30/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/31/2023

	Manufacturer	**Instruments Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850724	Yes
Turbidity Meter	Hach	2100Q	19010C073360	Yes
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620133	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: John Myer *Date:* 8/30/2022 *Signature:* John Myer

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 8/30/2022

Morning (AM) Calibration			**Calibrated By:**	Emily Scheiben	
Weather:	Partly cloudy				
Time (24hr) Start:	14:07	*Acceptance Criteria*	**Time (24hr) Finish:**	14:52	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	28.8	*+/- 4°C*	*Local Weather Station:*	1015.1	
Aqua TROLL 400:	28.5		*Aqua TROLL 400:*	1002.0	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.4	99.7	789	10.1	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4489.2	*+/- 1 %*	29.7	NA
pH 7 (SU)	7.00	6.98	*+/- .1 (SU)*	28.7	NA
pH 4 (SU)	4.00	4.02	*+/- .1 (SU)*	29.7	NA
pH 10 (SU)	10.00	9.94	*+/- .1 (SU)*	30.0	NA
D.O. (%)	*N/A*	100.0	*95-105 %*	29.3	NA
ORP (mV)	228.0	223.8	*+/- 10 mV*	29.2	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Emily Scheiben	
Weather:	Clear				
Time (24hr) Start:	21:45	*Acceptance Criteria*	**Time (24hr) Finish:**	22:05	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	33.30	*+/- 4°C*	*Local Weather Station:*	1013.7	
Aqua TROLL 400:	32.48		*Aqua TROLL 400:*	1003.3	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.1	99	798	9.72	*+/- 3 %*
	Calibration Value	**Verification**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4529.3	*+/- 1 %*	32.37	NA
pH 7 (SU)	7.00	6.98	*+/- .1 (SU)*	33.21	NA
pH 4 (SU)	4.00	4.05	*+/- .1 (SU)*	32.37	NA
pH 10 (SU)	10.00	9.95	*+/- .1 (SU)*	31.70	NA
D.O. (%)	*N/A*	97.2	*95-105 %*	31.68	NA
ORP (mV)	228	218.7	*+/- 10 mV*	31.18	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	22200085	8/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023 (JM 9/22/22)
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023 (JM 9/22/22)
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023 (JM 9/22/22)
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023 (JM 9/22/22)

Instruments	**Manufacturer**	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850033	yes
Turbidity Meter	Hach	2100Q	21030D000600	yes
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/24/2024
Explanations:	NA (JM 9/22/22)			

Prepared By: Emily Scheiben *Date:* 8/30/2022 *Signature:* Emily Scheiben

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Date: 8/30/2022
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Page 1 **of** 1
Goal/Task: Groundwater Sampling

Morning (AM) Calibration			**Calibrated By:**	Bryan Pennell	
Weather:			Partly cloudy, 29 C		
Time (24hr) Start:	14:13	*Acceptance Criteria*	**Time (24hr) Finish:**	14:52	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	27.7	*+/- 4°C*	*Local Weather Station:*	1015.1	
Aqua TROLL 400:	27.3		*Aqua TROLL 400:*	1003.5	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.6	98.9	786	9.73	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4,490	4,493.30	*+/- 1 %*	27.3	NA
pH 7 (SU)	7.00	6.98	*+/- .1 (SU)*	27.1	NA
pH 4 (SU)	4.00	3.99	*+/- .1 (SU)*	27.0	NA
pH 10 (SU)	10.00	9.99	*+/- .1 (SU)*	26.9	NA
D.O. (%)	*N/A*	100.0	*95-105 %*	27.1	NA
ORP (mV)	226.4	226.0	*+/- 10 mV*	27.1	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Bryan Pennell	
Weather:			Mostly sunny, 32 C		
Time (24hr) Start:	18:07	*Acceptance Criteria*	**Time (24hr) Finish:**	18:36	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	29.2	*+/- 4°C*	*Local Weather Station:*	1012.8	
Aqua TROLL 400:	29.7		*Aqua TROLL 400:*	1003.5	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.4	98.2	796	10.2	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4506.5	*+/- 1 %*	29.7	NA
pH 7 (SU)	7.00	7.00	*+/- .1 (SU)*	28.2	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	29.7	NA
pH 10 (SU)	10.00	10.05	*+/- .1 (SU)*	27.3	NA
D.O. (%)	*N/A*	101.8	*95-105 %*	26.7	NA
ORP (mV)	222.8	222.8	*+/- 10 mV*	27.5	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	21140143	4/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023

	Manufacturer	**Instruments Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	728623	Y
Turbidity Meter	Hach	2100Q	15030C039370	Y
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620123	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: Bryan Pennell *Date:* 8/30/2022 *Signature:* Bryan Pennell

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 8/31/2022

Morning (AM) Calibration			**Calibrated By:** John Myer		
Weather:	Overcast 70 F				
Time (24hr) Start:	7:50	*Acceptance Criteria*	**Time (24hr) Finish:**	8:15	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	22.4	*+/- 4°C*	*Local Weather Station:*	1015.6	
Aqua TROLL 400:	22.4		*Aqua TROLL 400:*	1004.6	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.4	99.8	802	10.3	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4490.3	*+/- 1 %*	22.5	NA
pH 7 (SU)	7.00	7.04	*+/- .1 (SU)*	22.6	NA
pH 4 (SU)	4.00	4.04	*+/- .1 (SU)*	22.7	NA
pH 10 (SU)	10.00	10.00	*+/- .1 (SU)*	22.7	NA
D.O. (%)	*N/A*	99.9	*95-105 %*	22.8	NA
ORP (mV)	232.1	232.8	*+/- 10 mV*	22.7	NA

Afternoon (PM) Calibration Verification			**Verification By:** John Myer		
Weather:	Clear 80 F				
Time (24hr) Start:	21:20	*Acceptance Criteria*	**Time (24hr) Finish:**	21:45	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	23.4	*+/- 4°C*	*Local Weather Station:*	1014.2	
Aqua TROLL 400:	23.8		*Aqua TROLL 400:*	1003.4	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.6	100	812	10.3	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4509	*+/- 1 %*	24.6	NA
pH 7 (SU)	7.00	6.98	*+/- .1 (SU)*	23.5	NA
pH 4 (SU)	4.00	3.99	*+/- .1 (SU)*	24.3	NA
pH 10 (SU)	10.00	9.97	*+/- .1 (SU)*	23.9	NA
D.O. (%)	*N/A*	97.1	*95-105 %*	23.6	NA
ORP (mV)	228.0	227.8	*+/- 10 mV*	24.0	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/30/2023
ORP (mV)	228.0	AIR	21140143	4/30/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/31/2023
Turbidity - 100 NTU	100	Hach	A1027	1/31/2023
Turbidity - 800 NTU	800	Hach	A1103	4/30/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/31/2023

	Manufacturer	**Instruments Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850724	Yes
Turbidity Meter	Hach	2100Q	19010C073360	Yes
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620133	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: John Myer *Date:* 8/31/2022 *Signature:* John Myer

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 8/31/2022

Morning (AM) Calibration			**Calibrated By:**	Emily Scheiben	
Weather:	overcast				
Time (24hr) Start:	8:00	*Acceptance Criteria*	**Time (24hr) Finish:**	8:38	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	24.0	*+/- 4°C*	*Local Weather Station:*	1015.0	
Aqua TROLL 400:	23.6		*Aqua TROLL 400:*	1003.1	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.6	100	795	10.3	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4486.5	*+/- 1 %*	23.7	NA
pH 7 (SU)	7.00	7.04	*+/- .1 (SU)*	24.0	NA
pH 4 (SU)	4.00	3.97	*+/- .1 (SU)*	23.7	NA
pH 10 (SU)	10.00	10.01	*+/- .1 (SU)*	24.0	NA
D.O. (%)	*N/A*	96.3	*95-105 %*	23.7	NA
ORP (mV)	228.0	228.4	*+/- 10 mV*	23.6	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Emily Scheiben	
Weather:	Sunny				
Time (24hr) Start:	15:55	*Acceptance Criteria*	**Time (24hr) Finish:**	16:15	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	32.3	*+/- 4°C*	*Local Weather Station:*	1014.4	
Aqua TROLL 400:	33.5		*Aqua TROLL 400:*	1001.3	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.2	101	798	10.1	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4484.5	*+/- 1 %*	26.5	NA
pH 7 (SU)	7.00	7.08	*+/- .1 (SU)*	26.0	NA
pH 4 (SU)	4.00	4.08	*+/- .1 (SU)*	26.5	NA
pH 10 (SU)	10.00	9.98	*+/- .1 (SU)*	26.2	NA
D.O. (%)	*N/A*	98.1	*95-105 %*	27.5	NA
ORP (mV)	228.0	227.8	*+/- 10 mV*	26.7	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	22200085	8/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023 (JM 9/22/22)
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023 (JM 9/22/22)
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023 (JM 9/22/22)
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023 (JM 9/22/22)

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850033	yes
Turbidity Meter	Hach	2100Q	21030D000600	yes
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/24/2024
Explanations:	NA (JM 9/22/22)			

Prepared By: Emily Scheiben *Date:* 8/31/2022 *Signature:* Emily Scheiben

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Date: 8/31/2022
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Page 1 **of** 1
Goal/Task: Groundwater Sampling

Morning (AM) Calibration			**Calibrated By:**	Bryan Pennell	
Weather:	Mostly sunny, 22 C				
Time (24hr) Start:	7:40	*Acceptance Criteria*	**Time (24hr) Finish:**	8:10	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	19.2	*+/- 4°C*	*Local Weather Station:*	1014.6	
Aqua TROLL 400:	20.1		*Aqua TROLL 400:*	1004.3	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.4	101	812	9.90	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4,490	4,491.50	*+/- 1 %*	20.1	NA
pH 7 (SU)	7.00	6.97	*+/- .1 (SU)*	18.9	NA
pH 4 (SU)	4.00	3.99	*+/- .1 (SU)*	20.1	NA
pH 10 (SU)	10.00	9.99	*+/- .1 (SU)*	19.3	NA
D.O. (%)	*N/A*	104.1	*95-105 %*	20.0	NA
ORP (mV)	235.9	235.7	*+/- 10 mV*	19.8	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Bryan Pennell	
Weather:	Sunny, 32 C				
Time (24hr) Start:	18:50	*Acceptance Criteria*	**Time (24hr) Finish:**	19:32	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	26.2	*+/- 4°C*	*Local Weather Station:*	1012.7	
Aqua TROLL 400:	25.1		*Aqua TROLL 400:*	1003.2	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.4	100	803	9.93	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4,490	4,487.60	*+/- 1 %*	25.1	NA
pH 7 (SU)	7.00	7.01	*+/- .1 (SU)*	25.6	NA
pH 4 (SU)	4.00	4.01	*+/- .1 (SU)*	26.1	NA
pH 10 (SU)	10.00	10.00	*+/- .1 (SU)*	25.5	NA
D.O. (%)	*N/A*	100.4	*95-105 %*	25.5	NA
ORP (mV)	221.9	221.7	*+/- 10 mV*	25.5	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	21140143	4/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023

	Manufacturer	**Instruments Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	728623	Y
Turbidity Meter	Hach	2100Q	20030C083517	Y
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620123	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: Bryan Pennell *Date:* 8/31/2022 *Signature:* Bryan Pennell

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/1/2022

Page 1 **of** 1

Morning (AM) Calibration				**Calibrated By:** John Myer	
Weather:	Sunny 70 F				
Time (24hr) Start:	8:25	*Acceptance Criteria*	**Time (24hr) Finish:**	8:55	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	21.7	*+/- 4°C*	*Local Weather Station:*	1016.3	
Aqua TROLL 400:	21.9		*Aqua TROLL 400:*	1005.3	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.0	101	798	10.3	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4484.3	*+/- 1 %*	22.1	NA
pH 7 (SU)	7.00	6.96	*+/- .1 (SU)*	22.3	NA
pH 4 (SU)	4.00	4.03	*+/- .1 (SU)*	22.5	NA
pH 10 (SU)	10.00	9.93	*+/- .1 (SU)*	22.5	NA
D.O. (%)	*N/A*	102.0	*95-105 %*	22.5	NA
ORP (mV)	232.5	231.4	*+/- 10 mV*	22.4	NA

Afternoon (PM) Calibration Verification				**Verification By:** John Myer	
Weather:	Clear 78 F				
Time (24hr) Start:	20:30	*Acceptance Criteria*	**Time (24hr) Finish:**	21:00	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	23.3	*+/- 4°C*	*Local Weather Station:*	1014.9	
Aqua TROLL 400:	23.7		*Aqua TROLL 400:*	1005.3	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.1	102	797	10.3	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4505	*+/- 1 %*	24.8	NA
pH 7 (SU)	7.00	7.05	*+/- .1 (SU)*	25.1	NA
pH 4 (SU)	4.00	4.01	*+/- .1 (SU)*	24.8	NA
pH 10 (SU)	10.00	10.03	*+/- .1 (SU)*	25.4	NA
D.O. (%)	*N/A*	95.9	*95-105 %*	25.2	NA
ORP (mV)	228.0	226.1	*+/- 10 mV*	25.4	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/30/2023
ORP (mV)	228.0	AIR	21140143	4/30/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/31/2023
Turbidity - 100 NTU	100	Hach	A1027	1/31/2023
Turbidity - 800 NTU	800	Hach	A1103	4/30/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/31/2023

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850724	
Turbidity Meter	Hach	2100Q	19010C073360	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620133	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: John Myer *Date:* 9/1/2022 *Signature:* John Myer

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/1/2022

Page 1 **of** 1

Morning (AM) Calibration			**Calibrated By:**	Emily Scheiben	
Weather:	Sunny, 23				
Time (24hr) Start:	8:15	*Acceptance Criteria*	**Time (24hr) Finish:**	8:55	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	25.7	*+/- 4°C*	*Local Weather Station:*	1015.2	
Aqua TROLL 400:	24.7		*Aqua TROLL 400:*	1003.3	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.0	100	778	10.3	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4483.1	*+/- 1 %*	25.87	NA
pH 7 (SU)	7.00	6.98	*+/- .1 (SU)*	25.47	NA
pH 4 (SU)	4.00	4.04	*+/- .1 (SU)*	25.88	NA
pH 10 (SU)	10.00	9.97	*+/- .1 (SU)*	25.67	NA
D.O. (%)	*N/A*	97.0	*95-105 %*	25.87	NA
ORP (mV)	228.0	227.6	*+/- 10 mV*	25.96	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Emily Scheiben	
Weather:	Overcast, 29				
Time (24hr) Start:	17:35	*Acceptance Criteria*	**Time (24hr) Finish:**	17:55	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	24.4	*+/- 4°C*	*Local Weather Station:*	1015.1	
Aqua TROLL 400:	25.4		*Aqua TROLL 400:*	1003.8	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.8	100	783	10.3	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4472.4	*+/- 1 %*	25.19	NA
pH 7 (SU)	7.00	7.07	*+/- .1 (SU)*	25.31	NA
pH 4 (SU)	4.00	4.06	*+/- .1 (SU)*	26.12	NA
pH 10 (SU)	10.00	9.99	*+/- .1 (SU)*	25.26	NA
D.O. (%)	*N/A*	98.4	*95-105 %*	25.59	NA
ORP (mV)	228.0	229.8	*+/- 10 mV*	25.16	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	22200085	8/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023 (JM 9/22/22)
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023 (JM 9/22/22)
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023 (JM 9/22/22)
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023 (JM 9/22/22)

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850033	yes
Turbidity Meter	Hach	2100Q	21030D000600	yes
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/24/2024
Explanations:	NA (JM 9/22/22)			

Prepared By: Emily Scheiben *Date:* 9/1/2022 *Signature:*

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/1/2022

Morning (AM) Calibration			**Calibrated By:**	Bryan Pennell	
Weather:			Sunny, 21 C		
Time (24hr) Start:	8:10	*Acceptance Criteria*	**Time (24hr) Finish:**	8:40	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	17.8	*+/- 4°C*	*Local Weather Station:*	1015.2	
Aqua TROLL 400:	17.9		*Aqua TROLL 400:*	1004.6	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.1	102	809	10.1	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4,490	4,486.80	*+/- 1 %*	18.0	NA
pH 7 (SU)	7.00	7.01	*+/- .1 (SU)*	17.5	NA
pH 4 (SU)	4.00	3.98	*+/- .1 (SU)*	17.9	NA
pH 10 (SU)	10.00	10.02	*+/- .1 (SU)*	17.6	NA
D.O. (%)	*N/A*	104.2	*95-105 %*	18.7	NA
ORP (mV)	237.9	237.6	*+/- 10 mV*	18.3	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Bryan Pennell	
Weather:			Partly cloudy, 26 C		
Time (24hr) Start:	18:33	*Acceptance Criteria*	**Time (24hr) Finish:**	18:53	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	22.2	*+/- 4°C*	*Local Weather Station:*	1014.8	
Aqua TROLL 400:	21.4		*Aqua TROLL 400:*	1005.2	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.3	98.5	798	10.3	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4,490	4451.1	*+/- 1 %*	21.4	NA
pH 7 (SU)	7.00	7.03	*+/- .1 (SU)*	22.3	NA
pH 4 (SU)	4.00	4.01	*+/- .1 (SU)*	21.2	NA
pH 10 (SU)	10.00	10.03	*+/- .1 (SU)*	22.3	NA
D.O. (%)	*N/A*	101.9	*95-105 %*	22.5	NA
ORP (mV)	229.2	229.3	*+/- 10 mV*	23.1	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	21140143	4/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023

	Manufacturer	**Instruments Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	728623	Y
Turbidity Meter	Hach	2100Q	20030C083517	Y
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620123	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: Bryan Pennell *Date:* 9/1/2022 *Signature:* Bryan Pennell

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/2/2022

Morning (AM) Calibration			**Calibrated By:**	John Myer	
Weather:	Sunny 70 F				
Time (24hr) Start:	7:30	*Acceptance Criteria*	**Time (24hr) Finish:**	7:55	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	21.6	*+/- 4°C*	*Local Weather Station:*	1017.7	
Aqua TROLL 400:	21.9		*Aqua TROLL 400:*	1007.8	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.4	102	814	10.3	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4471.5	*+/- 1 %*	22.4	NA
pH 7 (SU)	7.00	7.00	*+/- .1 (SU)*	22.9	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	22.9	NA
pH 10 (SU)	10.00	10.00	*+/- .1 (SU)*	22.9	NA
D.O. (%)	*N/A*	98.2	*95-105 %*	22.5	NA
ORP (mV)	232.4	230.8	*+/- 10 mV*	22.5	NA

Afternoon (PM) Calibration Verification			**Verification By:**	John Myer	
Weather:	Sunny 85 F				
Time (24hr) Start:	16:35	*Acceptance Criteria*	**Time (24hr) Finish:**	16:55	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	31.1	*+/- 4°C*	*Local Weather Station:*	1017.6	
Aqua TROLL 400:	30.0		*Aqua TROLL 400:*	1006.7	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.7	103	779	10.1	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4454	*+/- 1 %*	30.2	NA
pH 7 (SU)	7.00	6.98	*+/- .1 (SU)*	29.8	NA
pH 4 (SU)	4.00	3.97	*+/- .1 (SU)*	30.2	NA
pH 10 (SU)	10.00	9.92	*+/- .1 (SU)*	29.5	NA
D.O. (%)	*N/A*	98.2	*95-105 %*	29.9	NA
ORP (mV)	228.0	221.6	*+/- 10 mV*	29.4	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/30/2023
ORP (mV)	228.0	AIR	21140143	4/30/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/31/2023
Turbidity - 100 NTU	100	Hach	A1027	1/31/2023
Turbidity - 800 NTU	800	Hach	A1103	4/30/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/31/2023

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850724	
Turbidity Meter	Hach	2100Q	19010C073360	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620133	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: John Myer *Date:* 9/2/2022 *Signature:* John Myer

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/2/2022

Page 1 **of** 1

Morning (AM) Calibration			**Calibrated By:**	Emily Scheiben	
Weather:	Clear, 23 C				
Time (24hr) Start:	7:20	*Acceptance Criteria*	**Time (24hr) Finish:**	7:40	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	24.4	*+/- 4°C*	*Local Weather Station:*	1017.7	
Aqua TROLL 400:	23.5		*Aqua TROLL 400:*	1006.2	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.4	98.3	787	10.2	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4496.4	*+/- 1 %*	23.4	NA
pH 7 (SU)	7.00	6.99	*+/- .1 (SU)*	23.4	NA
pH 4 (SU)	4.00	4.02	*+/- .1 (SU)*	23.5	NA
pH 10 (SU)	10.00	10.00	*+/- .1 (SU)*	23.5	NA
D.O. (%)	*N/A*	100.1	*95-105 %*	23.4	NA
ORP (mV)	228.0	227.7	*+/- 10 mV*	23.7	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Emily Scheiben	
Weather:	Overcast, 26 C				
Time (24hr) Start:	13:40	*Acceptance Criteria*	**Time (24hr) Finish:**	13:55	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	26.1	*+/- 4°C*	*Local Weather Station:*	1018.9	
Aqua TROLL 400:	26.3		*Aqua TROLL 400:*	1006.3	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.6	99.5	803	10.3	*+/- 3 %*
	Calibration Value	**Verification**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4464.1	*+/- 1 %*	27.3	NA
pH 7 (SU)	7.00	7.02	*+/- .1 (SU)*	26.6	NA
pH 4 (SU)	4.00	4.04	*+/- .1 (SU)*	27.1	NA
pH 10 (SU)	10.00	9.93	*+/- .1 (SU)*	26.4	NA
D.O. (%)	*N/A*	101.0	*95-105 %*	27.6	NA
ORP (mV)	228.0	225.8	*+/- 10 mV*	27.6	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	22200085	8/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023 (JM 9/22/22)
Turbidity - 100 NTU	100	Hach	A1027	1/31/2023 (JM 9/22/22)
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023 (JM 9/22/22)
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023 (JM 9/22/22)

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850033	yes
Turbidity Meter	Hach	2100Q	21030D000600	yes
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/24/2024
Explanations:	NA (JM 9/22/22)			

Prepared By: Emily Scheiben *Date:* 9/2/2022 *Signature:*

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/2/2022

Morning (AM) Calibration			**Calibrated By:**	Bryan Pennell	
Weather:	Mostly cloudy, 21 C				
Time (24hr) Start:	7:23	*Acceptance Criteria*	**Time (24hr) Finish:**	7:49	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	16.5	*+/- 4°C*	*Local Weather Station:*	1017.7	
Aqua TROLL 400:	17.5		*Aqua TROLL 400:*	1007.1	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.3	102	790	10.2	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4,490	4,492.21	*+/- 1 %*	17.4	NA
pH 7 (SU)	7.00	6.97	*+/- .1 (SU)*	16.1	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	17.5	NA
pH 10 (SU)	10.00	10.03	*+/- .1 (SU)*	16.6	NA
D.O. (%)	*N/A*	103.4	*95-105 %*	17.8	NA
ORP (mV)	239.1	238.7	*+/- 10 mV*	17.3	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Bryan Pennell	
Weather:	Cloudy, 29 C				
Time (24hr) Start:	14:41	*Acceptance Criteria*	**Time (24hr) Finish:**	15:21	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	23.4	*+/- 4°C*	*Local Weather Station:*	1018.7	
Aqua TROLL 400:	25.4		*Aqua TROLL 400:*	1006.9	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.1	98.5	782	9.98	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4,490	4471.2	*+/- 1 %*	27.5	NA
pH 7 (SU)	7.00	6.99	*+/- .1 (SU)*	26.2	NA
pH 4 (SU)	4.00	4.03	*+/- .1 (SU)*	26.0	NA
pH 10 (SU)	10.00	10.00	*+/- .1 (SU)*	25.6	NA
D.O. (%)	*N/A*	103.3	*95-105 %*	26.2	NA
ORP (mV)	217.8	217.2	*+/- 10 mV*	27.2	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	21140143	4/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	728623	Y
Turbidity Meter	Hach	2100Q	20030C083517	Y
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620123	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: Bryan Pennell *Date:* 9/1/2022 *Signature:* Bryan Pennell

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/6/2022

Morning (AM) Calibration			**Calibrated By:**	Emily Scheiben	
Weather:	Sunny				
Time (24hr) Start:	11:30	*Acceptance Criteria*	**Time (24hr) Finish:**	12:05	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	25.6	*+/- 4°C*	*Local Weather Station:*	1018.1	
Aqua TROLL 400:	25.4		*Aqua TROLL 400:*	1005.8	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.2	98.6	797	10.3	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4510	*+/- 1 %*	25.4	NA
pH 7 (SU)	7.00	6.98	*+/- .1 (SU)*	25.6	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	25.4	NA
pH 10 (SU)	10.00	9.99	*+/- .1 (SU)*	25.4	NA
D.O. (%)	*N/A*	99.1	*95-105 %*	26.7	NA
ORP (mV)	228.0	227.5	*+/- 10 mV*	26.0	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Emily Scheiben	
Weather:	partly cloudy				
Time (24hr) Start:	19:00	*Acceptance Criteria*	**Time (24hr) Finish:**	19:30	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	29.0	*+/- 4°C*	*Local Weather Station:*	1015.5	
Aqua TROLL 400:	29.3		*Aqua TROLL 400:*	1004.8	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.6	99.8	788	10.2	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4522.8	*+/- 1 %*	29.3	NA
pH 7 (SU)	7.00	7.03	*+/- .1 (SU)*	29.2	NA
pH 4 (SU)	4.00	4.04	*+/- .1 (SU)*	29.3	NA
pH 10 (SU)	10.00	9.98	*+/- .1 (SU)*	29.0	NA
D.O. (%)	*N/A*	100.3	*95-105 %*	28.9	NA
ORP (mV)	228.0	219.8	*+/- 10 mV*	29.1	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	22200085	8/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023 (JM 9/22/22)
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023 (JM 9/22/22)
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023 (JM 9/22/22)
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023 (JM 9/22/22)

	Manufacturer	**Instruments Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850033	yes
Turbidity Meter	Hach	2100Q	19010C073360	yes
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/24/2024
Explanations:	NA (JM 9/22/2022)			

Prepared By: Emily Scheiben *Date:* 9/6/2022 *Signature:* Emily Scheiben

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/7/2022

Page 1 **of** 1

Morning (AM) Calibration			**Calibrated By:** John Myer		
Weather:	Overcast 73 F				
Time (24hr) Start:	7:40	*Acceptance Criteria*	**Time (24hr) Finish:**	8:05	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	22.1	*+/- 4°C*	*Local Weather Station:*	1015.2	
Aqua TROLL 400:	21.1		*Aqua TROLL 400:*	1004.2	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.8	97.3	821	9.74	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4490	*+/- 1 %*	21.4	NA
pH 7 (SU)	7.00	7.02	*+/- .1 (SU)*	21.3	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	21.5	NA
pH 10 (SU)	10.00	10.05	*+/- .1 (SU)*	21.4	NA
D.O. (%)	*N/A*	98.7	*95-105 %*	22.0	NA
ORP (mV)	233.3	236.6	*+/- 10 mV*	21.7	NA

Afternoon (PM) Calibration Verification			**Verification By:** John Myer		
Weather:	Clear 78 F				
Time (24hr) Start:	22:00	*Acceptance Criteria*	**Time (24hr) Finish:**	22:35	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	20.3	*+/- 4°C*	*Local Weather Station:*	1014.4	
Aqua TROLL 400:	18.9		*Aqua TROLL 400:*	999.9	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.9	103	800	10.3	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4508	*+/- 1 %*	20.1	NA
pH 7 (SU)	7.00	7.10	*+/- .1 (SU)*	20.7	NA
pH 4 (SU)	4.00	4.09	*+/- .1 (SU)*	20.4	NA
pH 10 (SU)	10.00	10.06	*+/- .1 (SU)*	20.8	NA
D.O. (%)	*N/A*	96.0	*95-105 %*	20.2	NA
ORP (mV)	228.0	231.2	*+/- 10 mV*	20.5	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/30/2023
ORP (mV)	228.0	AIR	21140143	4/30/2023
Turbidity - 20 NTU	20.0	Hach	A2126	8/31/2023
Turbidity - 100 NTU	100	Hach	A2026	4/30/2023
Turbidity - 800 NTU	800	Hach	A2025	4/30/2023
Turbidity - 10 NTU	10.0	Hach	A2026	4/30/2023

Instruments	**Manufacturer**	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	728623	
Turbidity Meter	Hach	2100Q	15030C039579	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620123	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: John Myer *Date:* 9/7/2022 *Signature:* John Myer

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/7/2022

Morning (AM) Calibration			**Calibrated By:**	Emily Scheiben	
Weather:	overcast				
Time (24hr) Start:	7:30	*Acceptance Criteria*	**Time (24hr) Finish:**	8:30	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	24.5	*+/- 4°C*	*Local Weather Station:*	1014.7	
Aqua TROLL 400:	24.2		*Aqua TROLL 400:*	1002.7	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	19.5	98.6	786	9.89	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4496.7	*+/- 1 %*	24.2	NA
pH 7 (SU)	7.00	7.00	*+/- .1 (SU)*	24.3	NA
pH 4 (SU)	4.00	4.03	*+/- .1 (SU)*	24.2	NA
pH 10 (SU)	10.00	9.96	*+/- .1 (SU)*	24.3	NA
D.O. (%)	*N/A*	97.2	*95-105 %*	23.5	NA
ORP (mV)	228.0	230.2	*+/- 10 mV*	24.0	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Emily Scheiben	
Weather:	Partly cloudy				
Time (24hr) Start:	18:10	*Acceptance Criteria*	**Time (24hr) Finish:**	18:40	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	29.1	*+/- 4°C*	*Local Weather Station:*	1010.2	
Aqua TROLL 400:	29.3		*Aqua TROLL 400:*	997.9	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.0	101	782	9.99	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4475.6	*+/- 1 %*	30.8	NA
pH 7 (SU)	7.00	7.03	*+/- .1 (SU)*	29.3	NA
pH 4 (SU)	4.00	4.04	*+/- .1 (SU)*	30.8	NA
pH 10 (SU)	10.00	9.99	*+/- .1 (SU)*	28.7	NA
D.O. (%)	*N/A*	95.5	*95-105 %*	29.3	NA
ORP (mV)	228.0	219.0	*+/- 10 mV*	29.2	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/1/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/1/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/1/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/2023
ORP (mV)	228.0	AIR	22200085	8/1/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023 (JM 9/22/22)
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023 (JM 9/22/22)
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023 (JM 9/22/22)
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023 (JM 9/22/22)

Instruments	**Manufacturer**	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850033	yes
Turbidity Meter	Hach	2100Q	19010C073360	yes
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/24/2024
Explanations:	NA (JM 9/22/22)			

Prepared By: Emily Scheiben *Date:* 9/7/2022 *Signature:* Emily Scheiben

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright **Date:** 9/7/2022
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434 **Page** 1 **of** 1
Goal/Task: Groundwater Sampling

Morning (AM) Calibration			**Calibrated By:**	Jackson Bankston	
Weather:	Overcast 75 F				
Time (24hr) Start:	11:30	*Acceptance Criteria*	**Time (24hr) Finish:**	12:00	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	25.5	*+/- 4°C*	*Local Weather Station:*	1017.7	
Aqua TROLL 400:	26.2		*Aqua TROLL 400:*	1007.8	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.3	100	792	10.2	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4490	*+/- 1 %*	21.4	NA
pH 7 (SU)	7.00	7.01	*+/- .1 (SU)*	25.8	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	25.6	NA
pH 10 (SU)	10.00	10.00	*+/- .1 (SU)*	25.7	NA
D.O. (%)	*N/A*	104.2	*95-105 %*	28.1	NA
ORP (mV)	228.0	228.2	*+/- 10 mV*	26.0	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Jackson Bankston	
Weather:	Sunny 85 F				
Time (24hr) Start:	18:45	*Acceptance Criteria*	**Time (24hr) Finish:**	19:00	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	25.4	*+/- 4°C*	*Local Weather Station:*	1017.6	
Aqua TROLL 400:	25.6		*Aqua TROLL 400:*	1006.7	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.6	100	812	10.2	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4470	*+/- 1 %*	25.2	NA
pH 7 (SU)	7.00	7.00	*+/- .1 (SU)*	24.9	NA
pH 4 (SU)	4.00	4.01	*+/- .1 (SU)*	25.2	NA
pH 10 (SU)	10.00	10.00	*+/- .1 (SU)*	25.2	NA
D.O. (%)	*N/A*	102.1	*95-105 %*	24.9	NA
ORP (mV)	228.0	226.9	*+/- 10 mV*	25.4	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/30/2023
ORP (mV)	228.0	AIR	21140143	4/30/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/31/2023
Turbidity - 100 NTU	100	Hach	A1027	1/31/2023
Turbidity - 800 NTU	800	Hach	A1103	4/30/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/31/2023

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	850724	
Turbidity Meter	Hach	2100Q	19010C073360	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620133	Expiration Date: 6/28/2024
Explanations:	NA			

Prepared By: Jackson Bankston *Date:* 9/7/2022 *Signature:*

Review By: Edgar Smith *Date:* 9/15/2022 *Signature:*

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 9/8/2022

Morning (AM) Calibration			**Calibrated By:**	John Myer	
Weather:	Sunny 69 F				
Time (24hr) Start:	8:25	*Acceptance Criteria*	**Time (24hr) Finish:**	8:45	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	20.4	*+/- 4°C*	*Local Weather Station:*	1009.8	
Aqua TROLL 400:	20.6		*Aqua TROLL 400:*	999.6	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.1	100	808	10.0	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4480	*+/- 1 %*	20.8	NA
pH 7 (SU)	7.00	7.02	*+/- .1 (SU)*	21.0	NA
pH 4 (SU)	4.00	4.00	*+/- .1 (SU)*	21.2	NA
pH 10 (SU)	10.00	10.06	*+/- .1 (SU)*	21.1	NA
D.O. (%)	*N/A*	100.6	*95-105 %*	21.1	NA
ORP (mV)	234.3	232.8	*+/- 10 mV*	21.0	NA

Afternoon (PM) Calibration Verification			**Verification By:**	John Myer	
Weather:	Overcast 83 F				
Time (24hr) Start:	14:00	*Acceptance Criteria*	**Time (24hr) Finish:**	14:25	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	34.5	*+/- 4°C*	*Local Weather Station:*	1009.8	
Aqua TROLL 400:	36.7		*Aqua TROLL 400:*	998.4	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.1	99.5	782	10.0	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4458	*+/- 1 %*	34.0	NA
pH 7 (SU)	7.00	7.05	*+/- .1 (SU)*	33.1	NA
pH 4 (SU)	4.00	4.09	*+/- .1 (SU)*	34.1	NA
pH 10 (SU)	10.00	10.02	*+/- .1 (SU)*	32.9	NA
D.O. (%)	*N/A*	98.7	*95-105 %*	32.1	NA
ORP (mV)	228.0	232.4	*+/- 10 mV*	33.4	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/30/2023
ORP (mV)	228.0	AIR	21140143	4/30/2023
Turbidity - 20 NTU	20.0	Hach	A1168	5/31/2023
Turbidity - 100 NTU	100	Hach	A1027	1/31/2023
Turbidity - 800 NTU	800	Hach	A1103	4/30/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/31/2023

	Manufacturer	**Instruments Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	728623	
Turbidity Meter	Hach	2100Q	20030C083517	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620123	Expiration Date: 6/28/2024

Explanations: NA

Prepared By: John Myer *Date:* 9/8/2022 *Signature:* John Myer

Review By: John Myer *Date:* 9/22/2022 *Signature:* John Myer

EQUIPMENT CALIBRATION FORM

Project Name: Arkwright Groundwater Sampling
Plant Name: Plant Arkwright
Plant Address: 5001 Arkwright Road, Macon, GA 31210
Project Number: 175569434
Goal/Task: Groundwater Sampling

Date: 10/20/2022

Page 1 **of** 1

Morning (AM) Calibration			**Calibrated By:**	Jackson Bankston	
Weather:	Clear 36 F				
Time (24hr) Start:	8:15	*Acceptance Criteria*	**Time (24hr) Finish:**	9:15	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	2.6	*+/- 4°C*	*Local Weather Station:*	1020.7	
Aqua TROLL 400:	5.3		*Aqua TROLL 400:*	1009.9	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.6	99.4	815	9.91	*+/- 3 %*
	Calibration Value	**Post Calibration**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4,490 (µS/cm)	4490	4492	*+/- 1 %*	10.0	NA
pH 7 (SU)	7.00	7.02	*+/- .1 (SU)*	9.7	NA
pH 4 (SU)	4.00	4.06	*+/- .1 (SU)*	9.2	NA
pH 10 (SU)	10.00	10.10	*+/- .1 (SU)*	9.7	NA
D.O. (%)	*N/A*	97.3	*95-105 %*	4.8	NA
ORP (mV)	250.8	250.4	*+/- 10 mV*	8.6	NA

Afternoon (PM) Calibration Verification			**Verification By:**	Jackson Bankston	
Weather:	Clear 73 F				
Time (24hr) Start:	13:21	*Acceptance Criteria*	**Time (24hr) Finish:**	14:00	
Temperature (°C):			**Barometric Pressure (mbar):**		
NIST Thermometer:	21.7	*+/- 4°C*	*Local Weather Station:*	0.6	
Aqua TROLL 400:	21.5		*Aqua TROLL 400:*	1008.2	
Turbidity (NTUs):	*20 NTU Standard*	*100 NTU Standard*	*800 NTU Standard*	*10 NTU Verification*	*Acceptance Criteria*
	20.0	100	784	10.0	*+/- 3 %*
	Calibration Value	**Verificatioin**	*Acceptance Criteria*	**Cal Sol Temp (ºC)**	**Notes:**
Specific Conductance 4490 (µS/cm)	4490	4207	*+/- 1 %*	15.7	NA
pH 7 (SU)	7.00	7.01	*+/- .1 (SU)*	15.5	NA
pH 4 (SU)	4.00	4.03	*+/- .1 (SU)*	15.7	NA
pH 10 (SU)	10.00	10.03	*+/- .1 (SU)*	14.2	NA
D.O. (%)	*N/A*	100.3	*95-105 %*	21.3	NA
ORP (mV)	250.8	247.8	*+/- 10 mV*	19.4	NA

Calibration Standards Information

Standard (@ 25°C)	**Certified Value**	**Brand**	**Lot Number**	**Expiration Date**
AM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
AM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
AM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
PM pH 4 (SU)	4.00	AIR	21470032	4/30/2023
PM pH 7 (SU)	7.00	AIR	21380102	4/30/2023
PM pH 10 (SU)	10.00	AIR	20080056	4/30/2023
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/30/2023
ORP (mV)	228.0	AIR	21140143	4/30/2023
Turbidity - 20 NTU	20.0	Hach	A1168	6/30/2023
Turbidity - 100 NTU	100	Hach	A1027	1/31/2023
Turbidity - 800 NTU	800	Hach	A1103	4/30/2023
Turbidity - 10 NTU	10.0	Hach	A1071	3/31/2023

	Instruments			
	Manufacturer	**Model**	**Serial Number**	**Calibrated Within Acceptance Criteria:**
Water Quality Meter	InSitu	AquaTroll 400	851413	
Turbidity Meter	Hach	2100Q	13110C029655	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/28/2024

Explanations: Specific Conductivity drifted out of calibration by EOD.

Prepared By: Jackson Bankston *Date:* 10/20/2022 *Signature:* Jackson Bankston

Review By: Brian Steele *Date:* 12/12/2022 *Signature:*

C.3 Groundwater and Surface Water Laboratory Analytical Reports

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September 22, 2022

Joju Abraham
Georgia Power Company, Southern Company
241 Ralph McGill Blvd NE, Bin 10160
Atlanta, Georgia 30308

Re: Arkwright CCR Groundwater Compliance AP2
Work Orders: 592013 and 592398

Dear Joju Abraham:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on September 03, 2022 and September 08, 2022. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. The data package is being revised to correct the reporting units for Metals. The data package is being revised to correct the reporting units for Metals.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Erin Trent
Project Manager

Purchase Order: GPC82177-0002
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GPCC001 Georgia Power Company

Client SDG: 592398 GEL Work Order: 592398

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

J See case narrative for an explanation

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Reviewed by Erin B Trent

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Certificate of Analysis Report
for

GPCC001 Georgia Power Company

Client SDG: 592013 GEL Work Order: 592013

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

J See case narrative for an explanation

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Reviewed by Erin B Trent

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARGWC-22	Project:	GPCC00100
Sample ID:	592398001	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	06-SEP-22 14:25		
Receive Date:	08-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Field Data												
Client collected Field pH "As Received"												
Field pH		5.88			SU			EOS1	09/06/22	1425	2314110	1
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		8.34	0.0670	0.200	mg/L		1	JLD1	09/09/22	1736	2314387	2
Fluoride	J	0.0560	0.0330	0.100	mg/L		1					
Sulfate		667	6.65	20.0	mg/L		50	JLD1	09/10/22	0234	2314387	3
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1144	2314311	4
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Aluminum	U	ND	0.0193	0.0500	mg/L	1.00	1	PRB	09/18/22	1403	2314178	5
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0226	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00198	0.000300	0.00100	mg/L	1.00	1					
Iron		10.1	0.0330	0.100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.0136	0.00300	0.0100	mg/L	1.00	1					
Molybdenum	J	0.000203	0.000200	0.00100	mg/L	1.00	1					
Potassium		3.93	0.0800	0.300	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Sodium		23.9	0.0800	0.250	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Boron		2.78	0.260	0.750	mg/L	1.00	50	PRB	09/18/22	1723	2314178	6
Calcium		162	4.00	10.0	mg/L	1.00	50					
Magnesium		75.0	0.500	1.50	mg/L	1.00	50					
Manganese		19.5	0.0500	0.250	mg/L	1.00	50					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWC-22 Project: GPCC00100
Sample ID: 592398001 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		1180	2.38	10.0	mg/L			CH6	09/09/22	1638	2314703	7
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												
Alkalinity, Total as CaCO3		162	1.45	4.00	mg/L			HH2	09/16/22	1611	2314690	8
Bicarbonate alkalinity (CaCO3)		162	1.45	4.00	mg/L							
Carbonate alkalinity (CaCO3)	U	ND	1.45	4.00	mg/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/09/22	1620	2314177
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/09/22	1216	2314310

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SM 4500-H B/SW846 9040C, SM 2550B	
2	EPA 300.0	
3	EPA 300.0	
4	SW846 7470A	
5	SW846 3005A/6020B	
6	SW846 3005A/6020B	
7	SM 2540C	
8	SM 2320B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARGWC-23	Project:	GPCC00100
Sample ID:	592398002	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	06-SEP-22 14:40		
Receive Date:	08-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Field Data												
Client collected Field pH "As Received"												
Field pH		6.41			SU			EOS1	09/06/22	1440	2314110	1
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		3.73	0.0670	0.200	mg/L		1	JLD1	09/09/22	1806	2314387	2
Fluoride		0.362	0.0330	0.100	mg/L		1					
Sulfate		65.3	0.665	2.00	mg/L		5	JLD1	09/10/22	0403	2314387	3
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1145	2314311	4
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Aluminum	U	ND	0.0193	0.0500	mg/L	1.00	1	PRB	09/18/22	1406	2314178	5
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0939	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt	J	0.000588	0.000300	0.00100	mg/L	1.00	1					
Iron	U	ND	0.0330	0.100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.0578	0.00300	0.0100	mg/L	1.00	1					
Magnesium		11.6	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.417	0.00100	0.00500	mg/L	1.00	1					
Molybdenum		0.0670	0.000200	0.00100	mg/L	1.00	1					
Potassium		1.79	0.0800	0.300	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Sodium		14.3	0.0800	0.250	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Boron		0.458	0.0520	0.150	mg/L	1.00	10	PRB	09/18/22	1727	2314178	6
Calcium		65.2	0.800	2.00	mg/L	1.00	10					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWC-23 Project: GPCC00100
Sample ID: 592398002 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		305	2.38	10.0	mg/L			CH6	09/09/22	1638	2314703	7
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												
Alkalinity, Total as CaCO3		180	1.45	4.00	mg/L			HH2	09/16/22	1613	2314690	8
Bicarbonate alkalinity (CaCO3)		180	1.45	4.00	mg/L							
Carbonate alkalinity (CaCO3)	U	ND	1.45	4.00	mg/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/09/22	1620	2314177
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/09/22	1216	2314310

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SM 4500-H B/SW846 9040C, SM 2550B	
2	EPA 300.0	
3	EPA 300.0	
4	SW846 7470A	
5	SW846 3005A/6020B	
6	SW846 3005A/6020B	
7	SM 2540C	
8	SM 2320B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: DUP-01
Sample ID: 592398003
Matrix: WG
Collect Date: 06-SEP-22 12:00
Receive Date: 08-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		3.66	0.0670	0.200	mg/L		1	JLD1	09/09/22	1835	2314387	1
Fluoride		0.358	0.0330	0.100	mg/L		1					
Sulfate		66.9	0.665	2.00	mg/L		5	JLD1	09/10/22	0433	2314387	2
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1147	2314311	3
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1410	2314178	4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0899	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt	J	0.000587	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.0573	0.00300	0.0100	mg/L	1.00	1					
Molybdenum		0.0677	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Boron		0.426	0.0520	0.150	mg/L	1.00	10	PRB	09/18/22	1730	2314178	5
Calcium		68.4	0.800	2.00	mg/L	1.00	10					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		294	2.38	10.0	mg/L			CH6	09/12/22	1120	2315106	6

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/09/22	1620	2314177
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/09/22	1216	2314310

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	DUP-01	Project:	GPCC00100
Sample ID:	592398003	Client ID:	GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 300.0	
3	SW846 7470A	
4	SW846 3005A/6020B	
5	SW846 3005A/6020B	
6	SM 2540C	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARAMW-7	Project:	GPCC00100
Sample ID:	592398004	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	07-SEP-22 10:20		
Receive Date:	08-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Field Data												
Client collected Field pH "As Received"												
Field pH		5.57			SU			EOS1	09/07/22	1020	2314110	1
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		5.78	0.0670	0.200	mg/L		1	JLD1	09/09/22	1905	2314387	2
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate		1050	13.3	40.0	mg/L		100	JLD1	09/10/22	0503	2314387	3
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1149	2314311	4
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Aluminum	J	0.0327	0.0193	0.0500	mg/L	1.00	1	PRB	09/18/22	1414	2314178	5
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0263	0.000670	0.00400	mg/L	1.00	1					
Beryllium	J	0.000236	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.0737	0.000300	0.00100	mg/L	1.00	1					
Iron		3.34	0.0330	0.100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.0634	0.00300	0.0100	mg/L	1.00	1					
Molybdenum	J	0.000379	0.000200	0.00100	mg/L	1.00	1					
Potassium		9.26	0.0800	0.300	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Sodium		28.1	0.0800	0.250	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Boron		2.33	0.260	0.750	mg/L	1.00	50	PRB	09/18/22	1734	2314178	6
Calcium		264	4.00	10.0	mg/L	1.00	50					
Magnesium		75.0	0.500	1.50	mg/L	1.00	50					
Manganese		14.8	0.0500	0.250	mg/L	1.00	50					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARAMW-7 Project: GPCC00100
Sample ID: 592398004 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		1610	2.38	10.0	mg/L			CH6	09/12/22	1120	2315106	7
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												
Alkalinity, Total as CaCO3		60.2	1.45	4.00	mg/L			HH2	09/16/22	1622	2314690	8
Bicarbonate alkalinity (CaCO3)		60.2	1.45	4.00	mg/L							
Carbonate alkalinity (CaCO3)	U	ND	1.45	4.00	mg/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/09/22	1620	2314177
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/09/22	1216	2314310

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SM 4500-H B/SW846 9040C, SM 2550B	
2	EPA 300.0	
3	EPA 300.0	
4	SW846 7470A	
5	SW846 3005A/6020B	
6	SW846 3005A/6020B	
7	SM 2540C	
8	SM 2320B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARGWA-19	Project:	GPCC00100
Sample ID:	592013001	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	01-SEP-22 10:30		
Receive Date:	03-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Field Data												
Client collected Field pH "As Received"												
Field pH		5.88			SU			EOS1	09/01/22	1030	2312814	1
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		6.27	0.0670	0.200	mg/L		1	HXC1	09/06/22	1536	2312949	2
Fluoride		0.148	0.0330	0.100	mg/L		1					
Sulfate		8.38	0.133	0.400	mg/L		1					
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/08/22	1223	2313273	3
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	BAJ	09/15/22	0108	2312858	4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0303	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Boron		0.0238	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Calcium		8.52	0.0800	0.200	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt	U	ND	0.000300	0.00100	mg/L	1.00	1					
Iron	U	ND	0.0330	0.100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	J	0.00359	0.00300	0.0100	mg/L	1.00	1					
Magnesium		3.32	0.0100	0.0300	mg/L	1.00	1					
Manganese	U	ND	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	J	0.000501	0.000200	0.00100	mg/L	1.00	1					
Potassium		1.99	0.0800	0.300	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Sodium		9.76	0.0800	0.250	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		81.0	2.38	10.0	mg/L			CH6	09/08/22	1457	2313724	6

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWA-19 Project: GPCC00100
Sample ID: 592013001 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												
Alkalinity, Total as CaCO3		37.8	1.45	4.00	mg/L			HH2	09/13/22	1508	2313370	7
Bicarbonate alkalinity (CaCO3)		37.8	1.45	4.00	mg/L							
Carbonate alkalinity (CaCO3)	U	ND	1.45	4.00	mg/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/06/22	1640	2312855
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/07/22	1250	2313271

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SM 4500-H B/SW846 9040C, SM 2550B	
2	EPA 300.0	
3	SW846 7470A	
4	SW846 3005A/6020B	
5	SW846 3005A/6020B	
6	SM 2540C	
7	SM 2320B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARGWC-21	Project:	GPCC00100
Sample ID:	592013002	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	01-SEP-22 13:15		
Receive Date:	03-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Field Data												
Client collected Field pH "As Received"												
Field pH		5.97			SU			EOS1	09/01/22	1315	2312814	1
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		3.34	0.0670	0.200	mg/L		1	HXC1	09/06/22	1607	2312949	2
Fluoride		0.161	0.0330	0.100	mg/L		1					
Sulfate		221	2.66	8.00	mg/L		20	HXC1	09/07/22	0255	2312949	3
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/08/22	1228	2313273	4
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	BAJ	09/15/22	0209	2312858	5
Arsenic	J	0.00207	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0425	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt	J	0.000690	0.000300	0.00100	mg/L	1.00	1					
Iron		0.887	0.0330	0.100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.0116	0.00300	0.0100	mg/L	1.00	1					
Magnesium		36.0	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.326	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	ND	0.000200	0.00100	mg/L	1.00	1					
Potassium		5.51	0.0800	0.300	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Sodium		18.2	0.0800	0.250	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		537	2.38	10.0	mg/L			CH6	09/08/22	1457	2313724	8
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWC-21 Project: GPCC00100
Sample ID: 592013002 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												
Alkalinity, Total as CaCO3		162	1.45	4.00	mg/L			HH2	09/13/22	1510	2313370	9
Bicarbonate alkalinity (CaCO3)		162	1.45	4.00	mg/L							
Carbonate alkalinity (CaCO3)	U	ND	1.45	4.00	mg/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/06/22	1640	2312855
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/07/22	1250	2313271

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SM 4500-H B/SW846 9040C, SM 2550B	
2	EPA 300.0	
3	EPA 300.0	
4	SW846 7470A	
5	SW846 3005A/6020B	
6	SW846 3005A/6020B	
7	SW846 3005A/6020B	
8	SM 2540C	
9	SM 2320B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARAMW-1	Project:	GPCC00100
Sample ID:	592013003	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	02-SEP-22 10:00		
Receive Date:	03-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Field Data												
Client collected Field pH "As Received"												
Field pH		6.04			SU			EOS1	09/02/22	1200	2312814	1
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		3.50	0.0670	0.200	mg/L		1	HXC1	09/06/22	1638	2312949	2
Fluoride		0.180	0.0330	0.100	mg/L		1					
Sulfate		223	2.66	8.00	mg/L		20	HXC1	09/07/22	0326	2312949	3
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/08/22	1230	2313273	4
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	BAJ	09/15/22	0213	2312858	5
Arsenic	J	0.00233	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0445	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt	J	0.000449	0.000300	0.00100	mg/L	1.00	1					
Iron		0.204	0.0330	0.100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	J	0.00970	0.00300	0.0100	mg/L	1.00	1					
Magnesium		38.2	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.162	0.00100	0.00500	mg/L	1.00	1					
Molybdenum		0.00785	0.000200	0.00100	mg/L	1.00	1					
Potassium		5.32	0.0800	0.300	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Sodium		19.5	0.0800	0.250	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		546	2.38	10.0	mg/L			CH6	09/08/22	1457	2313724	8
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												

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Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARAMW-1 Project: GPCC00100
Sample ID: 592013003 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												
Alkalinity, Total as CaCO3		187	1.45	4.00	mg/L			HH2	09/13/22	1513	2313370	9
Bicarbonate alkalinity (CaCO3)		187	1.45	4.00	mg/L							
Carbonate alkalinity (CaCO3)	U	ND	1.45	4.00	mg/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/06/22	1640	2312855
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/07/22	1250	2313271

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SM 4500-H B/SW846 9040C, SM 2550B	
2	EPA 300.0	
3	EPA 300.0	
4	SW846 7470A	
5	SW846 3005A/6020B	
6	SW846 3005A/6020B	
7	SW846 3005A/6020B	
8	SM 2540C	
9	SM 2320B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: FB-01
Sample ID: 592013004
Matrix: WQ
Collect Date: 02-SEP-22 10:45
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride	U	ND	0.0670	0.200	mg/L		1	HXC1	09/06/22	1709	2312949	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/08/22	1231	2313273	2
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	BAJ	09/15/22	0133	2312858	3
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium	U	ND	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Boron	U	ND	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Calcium	U	ND	0.0800	0.200	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt	U	ND	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Molybdenum	U	ND	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	09/08/22	1531	2313725	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/06/22	1640	2312855
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/07/22	1250	2313271

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	FB-01	Project:	GPCC00100
Sample ID:	592013004	Client ID:	GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SW846 7470A	
3	SW846 3005A/6020B	
4	SM 2540C	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARGWA-20	Project:	GPCC00100
Sample ID:	592013005	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	02-SEP-22 10:14		
Receive Date:	03-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Field Data												
Client collected Field pH "As Received"												
Field pH		5.68			SU			EOS1	09/02/22	1014	2312814	1
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		5.44	0.0670	0.200	mg/L		1	HXC1	09/06/22	1740	2312949	2
Fluoride		0.122	0.0330	0.100	mg/L		1					
Sulfate		18.5	0.133	0.400	mg/L		1					
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/08/22	1233	2313273	3
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	BAJ	09/15/22	0137	2312858	4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0806	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Boron		0.0597	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Calcium		9.48	0.0800	0.200	mg/L	1.00	1					
Chromium	J	0.00578	0.00300	0.0100	mg/L	1.00	1					
Cobalt	U	ND	0.000300	0.00100	mg/L	1.00	1					
Iron		0.204	0.0330	0.100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Magnesium		4.90	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.00519	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	ND	0.000200	0.00100	mg/L	1.00	1					
Potassium		1.33	0.0800	0.300	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Sodium		10.0	0.0800	0.250	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		101	2.38	10.0	mg/L			CH6	09/08/22	1531	2313725	6

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWA-20 Project: GPCC00100
Sample ID: 592013005 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												
Alkalinity, Total as CaCO3		42.6	1.45	4.00	mg/L			HH2	09/13/22	1514	2313370	7
Bicarbonate alkalinity (CaCO3)		42.6	1.45	4.00	mg/L							
Carbonate alkalinity (CaCO3)	U	ND	1.45	4.00	mg/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/06/22	1640	2312855
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/07/22	1250	2313271

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SM 4500-H B/SW846 9040C, SM 2550B	
2	EPA 300.0	
3	SW846 7470A	
4	SW846 3005A/6020B	
5	SW846 3005A/6020B	
6	SM 2540C	
7	SM 2320B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: EB-01
Sample ID: 592013006
Matrix: WQ
Collect Date: 02-SEP-22 11:00
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		0.216	0.0670	0.200	mg/L		1	HXC1	09/06/22	1912	2312949	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/08/22	1235	2313273	2
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	BAJ	09/15/22	0140	2312858	3
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium	U	ND	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Boron	U	ND	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Calcium	U	ND	0.0800	0.200	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt	U	ND	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Molybdenum	U	ND	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	09/08/22	1531	2313725	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/06/22	1640	2312855
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/07/22	1250	2313271

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	EB-01	Project:	GPCC00100
Sample ID:	592013006	Client ID:	GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	SW846 7470A	
3	SW846 3005A/6020B	
4	SM 2540C	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARAMW-8	Project:	GPCC00100
Sample ID:	592013007	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	02-SEP-22 12:55		
Receive Date:	03-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Field Data												
Client collected Field pH "As Received"												
Field pH		6.44			SU			EOS1	09/02/22	1255	2312814	1
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		5.31	0.0670	0.200	mg/L		1	HXC1	09/06/22	1943	2312949	2
Fluoride		0.206	0.0330	0.100	mg/L		1					
Sulfate		108	1.33	4.00	mg/L		10	HXC1	09/07/22	0357	2312949	3
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/08/22	1237	2313273	4
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	BAJ	09/15/22	0216	2312858	5
Arsenic	J	0.00206	0.00200	0.00500	mg/L	1.00	1					
Barium		0.116	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00292	0.000300	0.00100	mg/L	1.00	1					
Iron		2.60	0.0330	0.100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	J	0.00654	0.00300	0.0100	mg/L	1.00	1					
Magnesium		27.7	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.374	0.00100	0.00500	mg/L	1.00	1					
Molybdenum		0.175	0.000200	0.00100	mg/L	1.00	1					
Potassium		6.07	0.0800	0.300	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Sodium		15.5	0.0800	0.250	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		385	2.38	10.0	mg/L			CH6	09/08/22	1531	2313725	8
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARAMW-8 Project: GPCC00100
Sample ID: 592013007 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												
Alkalinity, Total as CaCO3		214	1.45	4.00	mg/L			HH2	09/13/22	1516	2313370	9
Bicarbonate alkalinity (CaCO3)		214	1.45	4.00	mg/L							
Carbonate alkalinity (CaCO3)	U	ND	1.45	4.00	mg/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/06/22	1640	2312855
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/07/22	1250	2313271

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SM 4500-H B/SW846 9040C, SM 2550B	
2	EPA 300.0	
3	EPA 300.0	
4	SW846 7470A	
5	SW846 3005A/6020B	
6	SW846 3005A/6020B	
7	SW846 3005A/6020B	
8	SM 2540C	
9	SM 2320B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARAMW-2	Project:	GPCC00100
Sample ID:	592013008	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	02-SEP-22 15:10		
Receive Date:	03-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Field Data												
Client collected Field pH "As Received"												
Field pH		6.00			SU			EOS1	09/02/22	1510	2312814	1
Ion Chromatography												
EPA 300.0 Anions Liquid "As Received"												
Chloride		3.54	0.0670	0.200	mg/L		1	HXC1	09/06/22	2014	2312949	2
Fluoride		0.146	0.0330	0.100	mg/L		1					
Sulfate		315	5.32	16.0	mg/L		40	HXC1	09/07/22	0427	2312949	3
Mercury Analysis-CVAA												
7470 Cold Vapor Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/08/22	1238	2313273	4
Metals Analysis-ICP-MS												
SW846 3005A/6020B "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	BAJ	09/15/22	0220	2312858	5
Arsenic		0.0158	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0792	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00200	0.000300	0.00100	mg/L	1.00	1					
Iron		9.93	0.0330	0.100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.0232	0.00300	0.0100	mg/L	1.00	1					
Magnesium		40.2	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.866	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	J	0.000603	0.000200	0.00100	mg/L	1.00	1					
Potassium		7.01	0.0800	0.300	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Sodium		18.9	0.0800	0.250	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved Solids "As Received"												
Total Dissolved Solids		664	2.38	10.0	mg/L			CH6	09/08/22	1531	2313725	8
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARAMW-2 Project: GPCC00100
Sample ID: 592013008 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Titration and Ion Analysis												
SM 2320B Total Alkalinity "As Received"												
Alkalinity, Total as CaCO3		166	1.45	4.00	mg/L			HH2	09/13/22	1517	2313370	9
Bicarbonate alkalinity (CaCO3)		166	1.45	4.00	mg/L							
Carbonate alkalinity (CaCO3)	U	ND	1.45	4.00	mg/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/06/22	1640	2312855
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/07/22	1250	2313271

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SM 4500-H B/SW846 9040C, SM 2550B	
2	EPA 300.0	
3	EPA 300.0	
4	SW846 7470A	
5	SW846 3005A/6020B	
6	SW846 3005A/6020B	
7	SW846 3005A/6020B	
8	SM 2540C	
9	SM 2320B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 22, 2022

Company : Georgia Power Company, Southern Company
Address : 241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308
Contact: Joju Abraham
Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARGWA-20	Project:	GPCC00100
Sample ID:	592013009	Client ID:	GPCC001
Matrix:	WG		
Collect Date:	02-SEP-22 10:14		
Receive Date:	03-SEP-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Mercury Analysis-CVAA												
7470 Cold Vapor Dissolved Mercury, Liquid "As Received"												
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/08/22	1240	2313273	1
Metals Analysis-ICP-MS												
SW846 3005A/6020B Dissolved Ag "As Received"												
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	BAJ	09/15/22	0144	2312858	2
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0826	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Boron		0.0596	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Calcium		9.68	0.0800	0.200	mg/L	1.00	1					
Chromium	J	0.00606	0.00300	0.0100	mg/L	1.00	1					
Cobalt	U	ND	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Molybdenum	U	ND	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Silver	U	ND	0.000300	0.00100	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	CD3	09/06/22	1640	2312855
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	09/07/22	1250	2313271

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005A/6020B	

Notes:

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Certificate of Analysis

Report Date: September 22, 2022

Company :	Georgia Power Company, Southern Company
Address :	241 Ralph McGill Blvd NE, Bin 10160
	Atlanta, Georgia 30308
Contact:	Joju Abraham
Project:	Arkwright CCR Groundwater ComplianceAP2

Client Sample ID:	ARGWA-20	Project:	GPCC00100
Sample ID:	592013009	Client ID:	GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

QC Summary

Report Date: September 22, 2022

Georgia Power Company, Southern Company
241 Ralph McGill Blvd NE, Bin 10160
Atlanta, Georgia

Contact: **Joju Abraham**

Workorder: **592398**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Ion Chromatography												
Batch 2314387												
QC1205186796 592398004 DUP												
Chloride			5.78		5.64	mg/L	2.45		(0%-20%)	JLD1	09/09/22	19:35
Fluoride		U	ND	U	ND	mg/L	N/A					
Sulfate			1050		1040	mg/L	0.589		(0%-20%)		09/10/22	05:33
QC1205186793 LCS												
Chloride	5.00				4.77	mg/L		95.5	(90%-110%)		09/09/22	10:37
Fluoride	2.50				2.30	mg/L		91.9	(90%-110%)			
Sulfate	10.0				9.90	mg/L		99	(90%-110%)			
QC1205186792 MB												
Chloride				U	ND	mg/L					09/09/22	10:08
Fluoride				U	ND	mg/L						
Sulfate				U	ND	mg/L						
QC1205186797 592398004 PS												
Chloride	5.00		5.78		11.1	mg/L		107	(90%-110%)		09/09/22	20:05
Fluoride	2.50	U	ND		2.29	mg/L		91.4	(90%-110%)			
Sulfate	10.0		10.5		21.2	mg/L		107	(90%-110%)		09/10/22	06:03

QC Summary

Workorder: **592398**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch 2314178											
QC1205186327 LCS											
Aluminum	2.00			2.00	mg/L		100	(80%-120%)	PRB	09/18/22	12:22
Antimony	0.0500			0.0504	mg/L		101	(80%-120%)			
Arsenic	0.0500			0.0483	mg/L		96.6	(80%-120%)			
Barium	0.0500			0.0505	mg/L		101	(80%-120%)			
Beryllium	0.0500			0.0565	mg/L		113	(80%-120%)			
Boron	0.100			0.107	mg/L		107	(80%-120%)			
Cadmium	0.0500			0.0505	mg/L		101	(80%-120%)			
Calcium	2.00			2.15	mg/L		107	(80%-120%)			
Chromium	0.0500			0.0487	mg/L		97.4	(80%-120%)			
Cobalt	0.0500			0.0490	mg/L		98	(80%-120%)			
Iron	2.00			2.00	mg/L		99.9	(80%-120%)			
Lead	0.0500			0.0511	mg/L		102	(80%-120%)			
Lithium	0.0500			0.0525	mg/L		105	(80%-120%)			
Magnesium	2.00			2.07	mg/L		103	(80%-120%)			
Manganese	0.0500			0.0489	mg/L		97.8	(80%-120%)			

QC Summary

Workorder: **592398**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 2314178										
Molybdenum	0.0500			0.0500	mg/L		99.9	(80%-120%)	PRB	09/18/22 12:22
Potassium	2.00			2.04	mg/L		102	(80%-120%)		
Selenium	0.0500			0.0483	mg/L		96.5	(80%-120%)		
Silver	0.0500			0.0514	mg/L		103	(80%-120%)		
Sodium	2.00			1.95	mg/L		97.4	(80%-120%)		
Thallium	0.0500			0.0497	mg/L		99.4	(80%-120%)		
QC1205186326 MB										
Aluminum			U	ND	mg/L					09/18/22 12:18
Antimony			U	ND	mg/L					
Arsenic			U	ND	mg/L					
Barium			U	ND	mg/L					
Beryllium			U	ND	mg/L					
Boron			U	ND	mg/L					
Cadmium			U	ND	mg/L					
Calcium			U	ND	mg/L					
Chromium			U	ND	mg/L					

QC Summary

Workorder: **592398**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 2314178											
Cobalt				U	ND	mg/L				PRB	09/18/22 12:18
Iron				U	ND	mg/L					
Lead				U	ND	mg/L					
Lithium				U	ND	mg/L					
Magnesium				U	ND	mg/L					
Manganese				U	ND	mg/L					
Molybdenum				U	ND	mg/L					
Potassium				U	ND	mg/L					
Selenium				U	ND	mg/L					
Silver				U	ND	mg/L					
Sodium				U	ND	mg/L					
Thallium				U	ND	mg/L					
QC1205186328 592388002 MS											
Aluminum	2.00		0.246		2.10	mg/L		92.5	(75%-125%)		09/19/22 11:41
Antimony	0.0500	U	ND		0.0500	mg/L		100	(75%-125%)		09/19/22 12:37
Arsenic	0.0500	U	ND		0.0488	mg/L		95.8	(75%-125%)		09/19/22 11:41

QC Summary

Workorder: **592398**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS												
Batch 2314178												
Barium	0.0500		0.0523		0.0516	mg/L		0 *	(75%-125%)	PRB	09/19/22	11:41
Beryllium	0.0500		0.00131		0.0578	mg/L		113	(75%-125%)			
Boron	0.100		0.109		0.117	mg/L		8.15 *	(75%-125%)			
Cadmium	0.0500	J	0.000317		0.0519	mg/L		103	(75%-125%)			
Calcium	2.00		18.8		2.21	mg/L		N/A	(75%-125%)			
Chromium	0.0500	J	0.00417		0.0500	mg/L		91.7	(75%-125%)			
Cobalt	0.0500		0.00406		0.0499	mg/L		91.6	(75%-125%)			
Iron	2.00	J	0.0403		2.02	mg/L		99	(75%-125%)			
Lead	0.0500	U	ND		0.0538	mg/L		107	(75%-125%)			
Lithium	0.0500	J	0.00757		0.0559	mg/L		96.7	(75%-125%)			
Magnesium	2.00		8.45		2.21	mg/L		N/A	(75%-125%)			
Manganese	0.0500		0.530		0.0504	mg/L		N/A	(75%-125%)			
Molybdenum	0.0500	U	ND		0.0531	mg/L		106	(75%-125%)			
Potassium	2.00		1.91		1.96	mg/L		2.27 *	(75%-125%)			
Selenium	0.0500	J	0.00322		0.0483	mg/L		90.2	(75%-125%)			

QC Summary

Workorder: **592398**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 2314178											
Silver	0.0500	U	ND		0.0531	mg/L		106	(75%-125%)	PRB	09/19/22 11:41
Sodium	2.00		5.44		2.01	mg/L		0 *	(75%-125%)		
Thallium	0.0500	U	ND		0.0525	mg/L		105	(75%-125%)		
QC1205186329 592388002 MSD											
Aluminum	2.00		0.246		2.12	mg/L	1.3	93.9	(0%-20%)		09/19/22 11:45
Antimony	0.0500	U	ND		0.0504	mg/L	0.639	101	(0%-20%)		09/19/22 12:39
Arsenic	0.0500	U	ND		0.0491	mg/L	0.484	96.2	(0%-20%)		09/19/22 11:45
Barium	0.0500		0.0523		0.0517	mg/L	0.153	0 *	(0%-20%)		
Beryllium	0.0500		0.00131		0.0585	mg/L	1.3	114	(0%-20%)		
Boron	0.100		0.109		0.118	mg/L	1.32	9.7 *	(0%-20%)		
Cadmium	0.0500	J	0.000317		0.0535	mg/L	3.02	106	(0%-20%)		
Calcium	2.00		18.8		2.20	mg/L	0.242	N/A	(0%-20%)		
Chromium	0.0500	J	0.00417		0.0512	mg/L	2.45	94.2	(0%-20%)		
Cobalt	0.0500		0.00406		0.0513	mg/L	2.91	94.5	(0%-20%)		
Iron	2.00	J	0.0403		2.07	mg/L	2.34	101	(0%-20%)		
Lead	0.0500	U	ND		0.0538	mg/L	0.0112	107	(0%-20%)		

QC Summary

Workorder: **592398**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 2314178											
Lithium	0.0500	J	0.00757		0.0564	mg/L	0.94	97.7	(0%-20%)	PRB	09/19/22 11:45
Magnesium	2.00		8.45		2.21	mg/L	0.198	N/A	(0%-20%)		
Manganese	0.0500		0.530		0.0513	mg/L	1.72	N/A	(0%-20%)		
Molybdenum	0.0500	U	ND		0.0547	mg/L	2.89	109	(0%-20%)		
Potassium	2.00		1.91		2.00	mg/L	1.94	4.19*	(0%-20%)		
Selenium	0.0500	J	0.00322		0.0492	mg/L	1.86	92	(0%-20%)		
Silver	0.0500	U	ND		0.0548	mg/L	3.11	109	(0%-20%)		
Sodium	2.00		5.44		1.99	mg/L	1.02	0*	(0%-20%)		
Thallium	0.0500	U	ND		0.0529	mg/L	0.822	106	(0%-20%)		
QC1205194585 592388002 PS											
Barium	50.0		52.3		100	ug/L		95.3	(75%-125%)		09/19/22 11:49
Boron	100		109		222	ug/L		114	(75%-125%)		
Potassium	2000		1910		3730	ug/L		90.8	(75%-125%)		
Sodium	2000		5440		7560	ug/L		106	(75%-125%)		
QC1205186330 592388002 SDILT											
Aluminum			246	J	47.4	ug/L	3.76		(0%-20%)		09/19/22 11:52
Antimony		U	ND	U	ND	ug/L	N/A		(0%-20%)		09/19/22 12:43

QC Summary

Workorder: **592398**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch 2314178											
Arsenic	U	ND	U	ND	ug/L	N/A		(0%-20%)	PRB	09/19/22	11:52
Barium		52.3		10.1	ug/L	3.06		(0%-20%)			
Beryllium		1.31	J	0.248	ug/L	5.42		(0%-20%)			
Boron		109		24.9	ug/L	14.5		(0%-20%)			
Cadmium	J	0.317	U	ND	ug/L	N/A		(0%-20%)			
Calcium		18800		3570	ug/L	5.19		(0%-20%)			
Chromium	J	4.17	U	ND	ug/L	N/A		(0%-20%)			
Cobalt		4.06	J	0.819	ug/L	.887		(0%-20%)			
Iron	J	40.3	U	ND	ug/L	N/A		(0%-20%)			
Lead	U	ND	U	ND	ug/L	N/A		(0%-20%)			
Lithium	J	7.57	U	ND	ug/L	N/A		(0%-20%)			
Magnesium		8450		1620	ug/L	4.04		(0%-20%)			
Manganese		530		106	ug/L	.436		(0%-20%)			
Molybdenum	U	ND	U	ND	ug/L	N/A		(0%-20%)			
Potassium		1910		366	ug/L	4.31		(0%-20%)			

QC Summary

Workorder: **592398**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 2314178										
Selenium	J	3.22	U	ND	ug/L	N/A		(0%-20%)	PRB	09/19/22 11:52
Silver	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Sodium		5440		966	ug/L	11.2		(0%-20%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Metals Analysis-Mercury										
Batch 2314311										
QC1205186635 592388003 DUP										
Mercury	U	ND	U	ND	mg/L	N/A			AXS5	09/12/22 11:09
QC1205186634 LCS										
Mercury 0.00200				0.00214	mg/L		107	(80%-120%)		09/12/22 11:02
QC1205186633 MB										
Mercury			U	ND	mg/L					09/12/22 11:01
QC1205186636 592388003 MS										
Mercury 0.00200	U	ND		0.00212	mg/L		106	(75%-125%)		09/12/22 11:11
QC1205186637 592388003 SDILT										
Mercury	U	ND	U	ND	ug/L	N/A		(0%-10%)		09/12/22 11:13
Solids Analysis										
Batch 2314703										
QC1205187425 592388012 DUP										
Total Dissolved Solids		1390		1410	mg/L	1.29		(0%-5%)	CH6	09/09/22 16:38
QC1205187423 LCS										
Total Dissolved Solids 300				301	mg/L		100	(95%-105%)		09/09/22 16:38

QC Summary

Workorder: **592398**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Solids Analysis										
Batch 2314703										
QC1205187422 MB										
Total Dissolved Solids			U	ND	mg/L				CH6	09/09/22 16:38
Batch 2315106										
QC1205188261 592273001 DUP										
Total Dissolved Solids		217		218	mg/L	0.46		(0%-5%)	CH6	09/12/22 11:20
QC1205188259 LCS										
Total Dissolved Solids	300			301	mg/L		100	(95%-105%)		09/12/22 11:20
QC1205188258 MB										
Total Dissolved Solids			U	ND	mg/L					09/12/22 11:20
Titration and Ion Analysis										
Batch 2314690										
QC1205187406 592500002 DUP										
Alkalinity, Total as CaCO3		79.6		79.2	mg/L	0.504		(0%-20%)	HH2	09/16/22 16:29
Carbonate alkalinity (CaCO3)	U	ND	U	ND	mg/L	N/A				
QC1205187405 LCS										
Alkalinity, Total as CaCO3	100			103	mg/L		103	(90%-110%)		09/16/22 16:02
QC1205187407 592500002 MS										
Alkalinity, Total as CaCO3	100	79.6		168	mg/L		88	(80%-120%)		09/16/22 16:30

Notes:

The Qualifiers in this report are defined as follows:

- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies

QC Summary

Workorder: **592398**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
N	Metals--The Matrix spike sample recovery is not within specified control limits
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where the duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

QC Summary

Report Date: September 22, 2022

Georgia Power Company, Southern Company
241 Ralph McGill Blvd NE, Bin 10160
Atlanta, Georgia

Contact: **Joju Abraham**

Workorder: **592013**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography										
Batch 2312949										
QC1205184010 592013005 DUP										
Chloride		5.44		5.48	mg/L	0.689		(0%-20%)	HXC1	09/07/22 13:08
Fluoride		0.122		0.140	mg/L	14.2 ^		(+/-0.100)		
Sulfate		18.5		18.8	mg/L	1.13		(0%-20%)		
QC1205184011 592013001 DUP										
Chloride		6.27		6.19	mg/L	1.27		(0%-20%)		09/06/22 22:48
Fluoride		0.148		0.149	mg/L	0.875 ^		(+/-0.100)		
Sulfate		8.38		8.18	mg/L	2.39		(0%-20%)		
QC1205184009 LCS										
Chloride	5.00			4.74	mg/L		94.7	(90%-110%)		09/06/22 21:16
Fluoride	2.50			2.59	mg/L		104	(90%-110%)		
Sulfate	10.0			9.94	mg/L		99.4	(90%-110%)		
QC1205184008 MB										
Chloride			U	ND	mg/L					09/06/22 20:45
Fluoride			U	ND	mg/L					
Sulfate			U	ND	mg/L					
QC1205184012 592013005 PS										
Chloride	5.00	5.44		10.7	mg/L		105	(90%-110%)		09/07/22 13:38

QC Summary

Workorder: **592013**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography										
Batch 2312949										
Fluoride	2.50	0.122		2.68	mg/L		102	(90%-110%)	HXC1	09/07/22 13:38
Sulfate	10.0	18.5		29.3	mg/L		108	(90%-110%)		
QC1205184013 592013001 PS										
Chloride	5.00	6.27		11.5	mg/L		104	(90%-110%)		09/06/22 23:19
Fluoride	2.50	0.148		2.62	mg/L		98.9	(90%-110%)		
Sulfate	10.0	8.38		18.4	mg/L		99.7	(90%-110%)		
Metals Analysis - ICPMS										
Batch 2312858										
QC1205183813 LCS										
Aluminum	2.00			1.84	mg/L		92.1	(80%-120%)	BAJ	09/15/22 12:06
Antimony	0.0500			0.0495	mg/L		98.9	(80%-120%)		09/15/22 01:04
Arsenic	0.0500			0.0501	mg/L		100	(80%-120%)		
Barium	0.0500			0.0500	mg/L		100	(80%-120%)		
Beryllium	0.0500			0.0524	mg/L		105	(80%-120%)		
Boron	0.100			0.106	mg/L		106	(80%-120%)		
Cadmium	0.0500			0.0502	mg/L		100	(80%-120%)		
Calcium	2.00			2.11	mg/L		106	(80%-120%)		
Chromium	0.0500			0.0495	mg/L		98.9	(80%-120%)		

QC Summary

Workorder: **592013**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 2312858										
Cobalt	0.0500			0.0487	mg/L		97.5	(80%-120%)	BAJ	09/15/22 01:04
Iron	2.00			1.94	mg/L		97.2	(80%-120%)		
Lead	0.0500			0.0504	mg/L		101	(80%-120%)		
Lithium	0.0500			0.0503	mg/L		101	(80%-120%)		
Magnesium	2.00			2.01	mg/L		101	(80%-120%)		
Manganese	0.0500			0.0495	mg/L		98.9	(80%-120%)		
Molybdenum	0.0500			0.0516	mg/L		103	(80%-120%)		
Potassium	2.00			1.97	mg/L		98.3	(80%-120%)		
Selenium	0.0500			0.0490	mg/L		97.9	(80%-120%)		
Silver	0.0500			0.0511	mg/L		102	(80%-120%)		
Sodium	2.00			2.02	mg/L		101	(80%-120%)		
Thallium	0.0500			0.0481	mg/L		96.3	(80%-120%)		
QC1205183812 MB										
Aluminum			U	ND	mg/L					09/15/22 12:04
Antimony			U	ND	mg/L					09/15/22 01:01
Arsenic			U	ND	mg/L					

QC Summary

Workorder: **592013**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS											
Batch 2312858											
Barium			U	ND	mg/L				BAJ	09/15/22	01:01
Beryllium			U	ND	mg/L						
Boron			U	ND	mg/L						
Cadmium			U	ND	mg/L						
Calcium			U	ND	mg/L						
Chromium			U	ND	mg/L						
Cobalt			U	ND	mg/L						
Iron			U	ND	mg/L						
Lead			U	ND	mg/L						
Lithium			U	ND	mg/L						
Magnesium				0.0253	mg/L						
Manganese			U	ND	mg/L						
Molybdenum			U	ND	mg/L						
Potassium			U	ND	mg/L						
Selenium			U	ND	mg/L						

QC Summary

Workorder: **592013**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 2312858											
Silver				U	ND	mg/L				BAJ	09/15/22 01:01
Sodium				J	0.119	mg/L					
Thallium				U	ND	mg/L					
QC1205183814 592013001 MS											
Aluminum	2.00	U	ND		1.72	mg/L		85.6	(75%-125%)		09/15/22 12:09
Antimony	0.0500	U	ND		0.0494	mg/L		98.5	(75%-125%)		09/15/22 01:11
Arsenic	0.0500	U	ND		0.0494	mg/L		97.2	(75%-125%)		
Barium	0.0500		0.0303		0.0798	mg/L		99	(75%-125%)		
Beryllium	0.0500	U	ND		0.0529	mg/L		106	(75%-125%)		
Boron	0.100		0.0238		0.130	mg/L		106	(75%-125%)		
Cadmium	0.0500	U	ND		0.0491	mg/L		98.1	(75%-125%)		
Calcium	2.00		8.52		10.6	mg/L		N/A	(75%-125%)		
Chromium	0.0500	U	ND		0.0516	mg/L		100	(75%-125%)		
Cobalt	0.0500	U	ND		0.0481	mg/L		96	(75%-125%)		
Iron	2.00	U	ND		2.01	mg/L		99.8	(75%-125%)		
Lead	0.0500	U	ND		0.0499	mg/L		99.7	(75%-125%)		

QC Summary

Workorder: **592013**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 2312858											
Lithium	0.0500	J	0.00359		0.0536	mg/L		100	(75%-125%)	BAJ	09/15/22 01:11
Magnesium	2.00		3.32		5.39	mg/L		103	(75%-125%)		
Manganese	0.0500	U	ND		0.0504	mg/L		98.9	(75%-125%)		
Molybdenum	0.0500	J	0.000501		0.0528	mg/L		105	(75%-125%)		
Potassium	2.00		1.99		4.02	mg/L		101	(75%-125%)		
Selenium	0.0500	U	ND		0.0495	mg/L		98.9	(75%-125%)		
Silver	0.0500	U	ND		0.0516	mg/L		103	(75%-125%)		
Sodium	2.00		9.76		11.8	mg/L		N/A	(75%-125%)		
Thallium	0.0500	U	ND		0.0476	mg/L		95	(75%-125%)		
QC1205183815 592013001 MSD											
Aluminum	2.00	U	ND		1.83	mg/L	6.21	91.1	(0%-20%)		09/15/22 12:11
Antimony	0.0500	U	ND		0.0499	mg/L	1.06	99.5	(0%-20%)		09/15/22 01:15
Arsenic	0.0500	U	ND		0.0501	mg/L	1.33	98.5	(0%-20%)		
Barium	0.0500		0.0303		0.0820	mg/L	2.78	104	(0%-20%)		
Beryllium	0.0500	U	ND		0.0522	mg/L	1.31	104	(0%-20%)		
Boron	0.100		0.0238		0.130	mg/L	0.124	107	(0%-20%)		

QC Summary

Workorder: **592013**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS												
Batch 2312858												
Cadmium	0.0500	U	ND		0.0499	mg/L	1.74	99.8	(0%-20%)	BAJ	09/15/22	01:15
Calcium	2.00		8.52		10.5	mg/L	0.902	N/A	(0%-20%)			
Chromium	0.0500	U	ND		0.0514	mg/L	0.313	100	(0%-20%)			
Cobalt	0.0500	U	ND		0.0475	mg/L	1.19	94.8	(0%-20%)			
Iron	2.00	U	ND		1.99	mg/L	1.06	98.7	(0%-20%)			
Lead	0.0500	U	ND		0.0506	mg/L	1.48	101	(0%-20%)			
Lithium	0.0500	J	0.00359		0.0537	mg/L	0.252	100	(0%-20%)			
Magnesium	2.00		3.32		5.34	mg/L	0.948	101	(0%-20%)			
Manganese	0.0500	U	ND		0.0505	mg/L	0.176	99.1	(0%-20%)			
Molybdenum	0.0500	J	0.000501		0.0530	mg/L	0.497	105	(0%-20%)			
Potassium	2.00		1.99		3.98	mg/L	1.2	99.1	(0%-20%)			
Selenium	0.0500	U	ND		0.0501	mg/L	1.2	100	(0%-20%)			
Silver	0.0500	U	ND		0.0512	mg/L	0.658	102	(0%-20%)			
Sodium	2.00		9.76		11.6	mg/L	2.05	N/A	(0%-20%)			
Thallium	0.0500	U	ND		0.0484	mg/L	1.67	96.6	(0%-20%)			

QC Summary

Workorder: **592013**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 2312858										
QC1205183816 592013001 SDILT										
Aluminum	U	ND	U	ND	ug/L	N/A		(0%-20%)	BAJ	09/15/22 12:14
Antimony	U	ND	U	ND	ug/L	N/A		(0%-20%)		09/15/22 01:22
Arsenic	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Barium		30.3		5.96	ug/L	1.63		(0%-20%)		
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Boron		23.8	J	7.77	ug/L	63.3		(0%-20%)		
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Calcium		8520		1680	ug/L	1.48		(0%-20%)		
Chromium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cobalt	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Iron	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Lead	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Lithium	J	3.59	U	ND	ug/L	N/A		(0%-20%)		
Magnesium		3320		664	ug/L	.0529		(0%-20%)		
Manganese	U	ND	U	ND	ug/L	N/A		(0%-20%)		

QC Summary

Workorder: **592013**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 2312858										
Molybdenum	J	0.501	U	ND	ug/L	N/A		(0%-20%)	BAJ	09/15/22 01:22
Potassium		1990		385	ug/L	3.34		(0%-20%)		
Selenium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Silver	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Sodium		9760		1970	ug/L	.891		(0%-20%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Metals Analysis-Mercury										
Batch 2313273										
QC1205184646 591067001 DUP										
Mercury	U	ND	U	ND	mg/L	N/A			JP2	09/08/22 11:59
QC1205184645 LCS										
Mercury 0.00200				0.00195	mg/L		97.3	(80%-120%)		09/08/22 11:55
QC1205184644 MB										
Mercury			U	ND	mg/L					09/08/22 11:53
QC1205184647 591067001 MS										
Mercury 0.00200	U	ND		0.00195	mg/L		97.3	(75%-125%)		09/08/22 12:00
QC1205184648 591067001 SDILT										
Mercury	U	ND	U	ND	ug/L	N/A		(0%-10%)		09/08/22 12:02
Solids Analysis										
Batch 2313724										
QC1205185481 591879005 DUP										
Total Dissolved Solids		388		432	mg/L	10.7*		(0%-5%)	CH6	09/08/22 14:57

QC Summary

Workorder: **592013**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Solids Analysis										
Batch 2313724										
QC1205185480 LCS										
Total Dissolved Solids	300			301	mg/L		100	(95%-105%)	CH6	09/08/22 14:57
QC1205185479 MB										
Total Dissolved Solids			U	ND	mg/L					09/08/22 14:57
Batch 2313725										
QC1205185485 592013008 DUP										
Total Dissolved Solids		664		664	mg/L	0		(0%-5%)	CH6	09/08/22 15:31
QC1205185484 LCS										
Total Dissolved Solids	300			304	mg/L		101	(95%-105%)		09/08/22 15:31
QC1205185483 MB										
Total Dissolved Solids			U	ND	mg/L					09/08/22 15:31
Titration and Ion Analysis										
Batch 2313370										
QC1205184829 591798001 DUP										
Alkalinity, Total as CaCO3		46.2		45.8	mg/L	0.87		(0%-20%)	HH2	09/13/22 14:29
Bicarbonate alkalinity (CaCO3)		46.2		45.8	mg/L	0.87		(0%-20%)		
Carbonate alkalinity (CaCO3)	U	ND	U	ND	mg/L	N/A				
QC1205184831 591798012 DUP										
Alkalinity, Total as CaCO3		158		159	mg/L	0.379		(0%-20%)		09/13/22 14:53
Bicarbonate alkalinity (CaCO3)		158		159	mg/L	0.379		(0%-20%)		
Carbonate alkalinity (CaCO3)	U	ND	U	ND	mg/L	N/A				
QC1205184828 LCS										
Alkalinity, Total as CaCO3	100			103	mg/L		103	(90%-110%)		09/13/22 14:24

QC Summary

Workorder: **592013**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Titration and Ion Analysis											
Batch 2313370											
QC1205184830 591798001 MS											
Alkalinity, Total as CaCO3	100	46.2		146	mg/L		100	(80%-120%)	HH2	09/13/22	14:30
QC1205184832 591798012 MS											
Alkalinity, Total as CaCO3	100	158		259	mg/L		101	(80%-120%)		09/13/22	14:54

Notes:

The Qualifiers in this report are defined as follows:

<	Result is less than value reported
>	Result is greater than value reported
B	The target analyte was detected in the associated blank.
E	%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
FB	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
N	Metals--The Matrix spike sample recovery is not within specified control limits
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
h	Preparation or preservation holding time was exceeded

QC Summary

Workorder: **592013**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where the duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Technical Case Narrative
Georgia Power Company
SDG #: 592398

Metals

Product: **Determination of Metals by ICP-MS**
Analytical Method: SW846 3005A/6020B
Analytical Procedure: GL-MA-E-014 REV# 35
Analytical Batch: 2314178

Preparation Method: SW846 3005A
Preparation Procedure: GL-MA-E-006 REV# 14
Preparation Batch: 2314177

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592398001	ARGWC-22
592398002	ARGWC-23
592398003	DUP-01
592398004	ARAMW-7
1205186326	Method Blank (MB)**ICP-MS**
1205186327	Laboratory Control Sample (LCS)
1205186330	592388002(AP1GWA-1L) Serial Dilution (SD)
1205186328	592388002(AP1GWA-1S) Matrix Spike (MS)
1205186329	592388002(AP1GWA-1SD) Matrix Spike Duplicate (MSD)
1205194585	592388002(AP1GWA-1PS) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

ICSA/ICSAB Statement
For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Quality Control (QC) Information

Matrix Spike (MS/MSD) Recovery Statement
The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analytes. The post spike recoveries were within the required control limits. This verifies the absence of a matrix interference in the post-spike digested sample. The recoveries may be attributed to possible sample matrix

interference and/or non-homogeneity.

Sample	Analyte	Value
1205186328 (AP1GWA-1MS)	Barium	-1.38* (75%-125%)
	Boron	8.15* (75%-125%)
	Potassium	2.27* (75%-125%)
	Sodium	-172* (75%-125%)
1205186329 (AP1GWA-1MSD)	Barium	-1.22* (75%-125%)
	Boron	9.7* (75%-125%)
	Potassium	4.19* (75%-125%)
	Sodium	-173* (75%-125%)

Technical Information

Sample Dilutions
Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range. Samples 592398001 (ARGWC-22), 592398002 (ARGWC-23), 592398003 (DUP-01) and 592398004 (ARAMW-7) were diluted to ensure that the analyte concentrations were within the linear calibration range of the instrument.

Analyte	592398			
	001	002	003	004
Boron	50X	10X	10X	50X
Calcium	50X	10X	10X	50X
Magnesium	50X	1X		50X
Manganese	50X	1X		50X

Product: **Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer**
Analytical Method: SW846 7470A
Analytical Procedure: GL-MA-E-010 REV# 38
Analytical Batch: 2314311

Preparation Method: SW846 7470A Prep
Preparation Procedure: GL-MA-E-010 REV# 38
Preparation Batch: 2314310

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592398001	ARGWC-22
592398002	ARGWC-23
592398003	DUP-01
592398004	ARAMW-7
1205186633	Method Blank (MB)**CVAA**
1205186634	Laboratory Control Sample (LCS)
1205186637	592388003(AP1GWA-2L) Serial Dilution (SD)

1205186635	592388003(AP1GWA-2D) Sample Duplicate (DUP)
1205186636	592388003(AP1GWA-2S) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

General Chemistry

Product: **Ion Chromatography**
Analytical Method: EPA 300.0
Analytical Procedure: GL-GC-E-086 REV# 30
Analytical Batch: 2314387

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592398001	ARGWC-22
592398002	ARGWC-23
592398003	DUP-01
592398004	ARAMW-7
1205186792	Method Blank (MB)
1205186793	Laboratory Control Sample (LCS)
1205186796	592398004(ARAMW-7) Sample Duplicate (DUP)
1205186797	592398004(ARAMW-7) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
The following samples 1205186796 (ARAMW-7DUP), 1205186797 (ARAMW-7PS), 592398001 (ARGWC-22), 592398002 (ARGWC-23), 592398003 (DUP-01) and 592398004 (ARAMW-7) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	592398			
	001	002	003	004
Sulfate	50X	5X	5X	100X

Product: **Solids, Total Dissolved**
Analytical Method: SM 2540C
Analytical Procedure: GL-GC-E-001 REV# 19
Analytical Batch: 2314703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592398001	ARGWC-22
592398002	ARGWC-23
1205187422	Method Blank (MB)
1205187423	Laboratory Control Sample (LCS)
1205187425	592388012(AP1PZ-8) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Solids, Total Dissolved**
Analytical Method: SM 2540C
Analytical Procedure: GL-GC-E-001 REV# 19
Analytical Batch: 2315106

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592398003	DUP-01
592398004	ARAMW-7
1205188258	Method Blank (MB)
1205188259	Laboratory Control Sample (LCS)
1205188261	592273001(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Alkalinity**
Analytical Method: SM 2320B
Analytical Procedure: GL-GC-E-033 REV# 14
Analytical Batch: 2314690

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592398001	ARGWC-22
592398002	ARGWC-23
592398004	ARAMW-7
1205187405	Laboratory Control Sample (LCS)
1205187406	592500002(NonSDG) Sample Duplicate (DUP)
1205187407	592500002(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Metals

Product: **Determination of Metals by ICP-MS**
Analytical Method: SW846 3005A/6020B
Analytical Procedure: GL-MA-E-014 REV# 35
Analytical Batch: 2312858

Preparation Method: SW846 3005A
Preparation Procedure: GL-MA-E-006 REV# 14
Preparation Batch: 2312855

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592013001	ARGWA-19
592013002	ARGWC-21
592013003	ARAMW-1
592013004	FB-01
592013005	ARGWA-20
592013006	EB-01
592013007	ARAMW-8
592013008	ARAMW-2
592013009	ARGWA-20
1205183812	Method Blank (MB)**ICP-MS**
1205183813	Laboratory Control Sample (LCS)
1205183816	592013001(ARGWA-19L) Serial Dilution (SD)
1205183814	592013001(ARGWA-19S) Matrix Spike (MS)
1205183815	592013001(ARGWA-19SD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

ICSA/ICSAB Statement
For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Technical Information

Sample Dilutions
Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range

target analyte concentrations into the linear calibration range. Samples 592013002 (ARGWC-21), 592013003 (ARAMW-1), 592013007 (ARAMW-8) and 592013008 (ARAMW-2) were diluted to ensure that the analyte concentrations were within the linear calibration range of the instrument.

Analyte	592013			
	002	003	007	008
Boron	10X	10X	10X	10X
Calcium	10X	10X	10X	10X

Product: **Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer**
Analytical Method: SW846 7470A
Analytical Procedure: GL-MA-E-010 REV# 38
Analytical Batch: 2313273

Preparation Method: SW846 7470A Prep
Preparation Procedure: GL-MA-E-010 REV# 38
Preparation Batch: 2313271

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592013001	ARGWA-19
592013002	ARGWC-21
592013003	ARAMW-1
592013004	FB-01
592013005	ARGWA-20
592013006	EB-01
592013007	ARAMW-8
592013008	ARAMW-2
592013009	ARGWA-20
1205184644	Method Blank (MB)**CVAA**
1205184645	Laboratory Control Sample (LCS)
1205184648	591067001(NonSDGL) Serial Dilution (SD)
1205184646	591067001(NonSDGD) Sample Duplicate (DUP)
1205184647	591067001(NonSDGS) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

General Chemistry

Product: **Ion Chromatography**
Analytical Method: EPA 300.0
Analytical Procedure: GL-GC-E-086 REV# 30

Analytical Batch: 2312949

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592013001	ARGWA-19
592013002	ARGWC-21
592013003	ARAMW-1
592013004	FB-01
592013005	ARGWA-20
592013006	EB-01
592013007	ARAMW-8
592013008	ARAMW-2
1205184008	Method Blank (MB)
1205184009	Laboratory Control Sample (LCS)
1205184010	592013005(ARGWA-20) Sample Duplicate (DUP)
1205184011	592013001(ARGWA-19) Sample Duplicate (DUP)
1205184012	592013005(ARGWA-20) Post Spike (PS)
1205184013	592013001(ARGWA-19) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
The following samples 592013002 (ARGWC-21), 592013003 (ARAMW-1), 592013007 (ARAMW-8) and 592013008 (ARAMW-2) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	592013			
	002	003	007	008
Sulfate	20X	20X	10X	40X

Product: **Solids, Total Dissolved**
Analytical Method: SM 2540C
Analytical Procedure: GL-GC-E-001 REV# 19
Analytical Batch: 2313724

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592013001	ARGWA-19
592013002	ARGWC-21
592013003	ARAMW-1
1205185479	Method Blank (MB)
1205185480	Laboratory Control Sample (LCS)

1205185481 591879005(NonSDG) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplicate Relative Percent Difference (RPD) Statement
The Relative Percent Difference (RPD) between the sample and duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample:

Analyte	Sample	Value
Total Dissolved Solids	1205185481 (Non SDG 591879005DUP)	10.7* (0%-5%)

Miscellaneous Information

Additional Comments
Sample filtration took > 10 minutes; therefore as prescribed in the method, a reduced aliquot was used. 1205185481 (Non SDG 591879005DUP).

Product: **Solids, Total Dissolved**
Analytical Method: SM 2540C
Analytical Procedure: GL-GC-E-001 REV# 19
Analytical Batch: 2313725

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592013004	FB-01
592013005	ARGWA-20
592013006	EB-01
592013007	ARAMW-8
592013008	ARAMW-2
1205185483	Method Blank (MB)
1205185484	Laboratory Control Sample (LCS)
1205185485	592013008(ARAMW-2) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Alkalinity**
Analytical Method: SM 2320B
Analytical Procedure: GL-GC-E-033 REV# 14
Analytical Batch: 2313370

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592013001	ARGWA-19
592013002	ARGWC-21
592013003	ARAMW-1
592013005	ARGWA-20
592013007	ARAMW-8
592013008	ARAMW-2
1205184828	Laboratory Control Sample (LCS)
1205184829	591798001(ARGWA-5) Sample Duplicate (DUP)
1205184830	591798001(ARGWA-5) Matrix Spike (MS)
1205184831	591798012(ARGWC-8) Sample Duplicate (DUP)
1205184832	591798012(ARGWC-8) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

592398/592399

GEL Laboratories LLC
Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics
gel.com

Chain of Custody and Analytical Request

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

ject # 175569434
L Quote #:
C Number (1): 1 Cooler
Number:

GEL Work Order Number: *GEL Project Manager: Erin Trent*

ent Name: Georgia Power — Phone # (937) 344-6533
ject/Site Name: Plant Arkwright AP-2 — Fax #
dress: 241 Ralph McGill Blvd SE, Atlanta, GA 30308
llected By: John Myer, Emily Scheiben, — Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	Metals App. III, IV (6020B) NI	TDS (SM Method 2540C)	RAD 226-228 Cmbd NI	Mercury (7470B) NI	Anions (Cl, Fl, Sulfate) (300.0 Rev. 2.1 1993)	Metals App. IV (6020B) (Co only) NI	Ag (App. I) (6020B) NI	Alkalinity (300.0 R2.1)	Metals Al, K, Mg, Na, Fe, Mn (6020B) NI		<-- Preservative Type (6) Comments
ARGWC-22	09/06/22	1425	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 5.88
ARGWC-23	09/06/22	1440	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 6.41
DUP-01	09/06/22	NA	FD	N	WQ			5	X	X	X	X	X		X				NA
ARAMW-7	09/07/22	1020	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 5.57

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
	9/8/22	0810		9/8/22	8:10
	9/8/22	1515			1243

3

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge)

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [X] Level 2 [ ] Level 3 [ ] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] Yes [ ] No *Cooler Temp:* ____ °C

or sample shipping and delivery details, see Sample Receipt & Review form (SRR.)

Sample Collection Time Zone: [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

hain of Custody Number = Client Determined

C Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite

ield Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.

latrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal

ample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B* - 3, *6010B/7470A* - 1).

reservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

KNOWN OR POSSIBLE HAZARDS

RA Metals
= Arsenic Hg= Mercury
= Barium Se= Selenium
= Cadmium Ag= Silver
= Chromium MR= Misc. RCRA metals

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or dispos concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

E.T

Client: GPCC	SDG/AR/COC/Work Order: 592388, 592398, 592399
Received By: Shanequa Patterson	Date Received: 9/9/22 SP
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS ~~Field Services~~ Courier Other

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		X	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		X	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		X	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		X	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	X			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*		X		Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 1.9
4	Daily check performed and passed on IR temperature gun?	X			Temperature Device Serial #: IR2-22 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	X			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			X	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	X			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	X			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	X			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	X			
13	COC form is properly signed in relinquished/received sections?	X			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials AJ Date 9/9/22 Page ___ of ___

Page: 1 of 1
Project # 175569434
GEL Quote #:
COC Number (1): 3 Coolers
PO Number:

592013
592014

GEL Laboratories LLC
gel.com
Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

GEL Work Order Number: *GEL Project Manager: Erin Trent*

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Georgia Power Phone # (937) 344-6533
Project/Site Name: Plant Arkwright AP-2 Fax #
Address: 241 Ralph McGill Blvd SE, Atlanta, GA 30308
Collected By: John Myer, Emily Scheiben, Bryan Pennell
Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	Metals App. III, IV (6020B) NI	TDS (SM Method 2540C)	RAD 226-228 Cmbd NI	Mercury (7470B) NI	Anions (Cl, Fl, Sulfate) (300.0 Rev. 2.1 1993)	Metals App. IV (6020B) (Co only) NI	Ag (App. I) (6020B) NI	Alkalinity (300.0 R2.1)	Metals Al, K, Mg, Na, Fe, Mn (6020B) NI	Metals App. III, IV (Dissolved) (6020B) NI	<-- Preservative Type (6) Comments Note: extra sample is required for sample specific QC
ARGWA-19	9/1/2022	1030	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 5.88
ARGWC-21	9/1/2022	1315	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 5.97
ARAMW-1	9/2/2022	1000	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 6.04
FB-01	9/2/2022	1045	FB	N	WQ			5	X	X	X	X	X		X				NA
ARGWA-20	9/2/2022	1014	N	Y	WG			7	X	X	X	X	X		X	X	X	X	pH: 5.68
EB-01	9/2/2022	1100	EB	N	WQ			5	X	X	X	X	X		X				NA
ARAMW-8	9/2/2022	1255	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 6.44
ARAMW-2	9/2/2022	1510	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 6.00

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1		9-2-2022	1800	1	9/3/22	855
2				2		
3				3		

> *For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)*

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge)

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [X] Level 2 [ ] Level 3 [ ] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] *Yes* [ ] *No* ***Cooler Temp:*** ____ °C

Sample Collection Time Zone : [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with **a - Y -** for yes the sample was field filtered or **- N -** for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, N=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* **- 3**, *6010B/7470A* **- 1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Misc. RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: STNT/GPCC	**SDG/AR/COC/Work Order:** 592013 / 592014 / 592011 / 592012
Received By: StacyBoone	**Date Received:** 9/3/22
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 2775 4922 1277 1c 2775 4922 1288 1c 2775 4922 1255 1c

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): Ø CPM / mR/Hr **Classified as: Rad 1 Rad 2 Rad 3**
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:_____
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR4-22 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):
2775 4922 1266 1c
2775 4922 1244 1c

PM (or PMA) review: Initials SMR Date 09/06/22 Page 1 of 1

List of current GEL Certifications as of 22 September 2022

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122023−3
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2022−137
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−22−20
Utah NELAP	SC000122021−36
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

December 08, 2022

Joju Abraham
Georgia Power Company, Southern Company
241 Ralph McGill Blvd NE, Bin 10160
Atlanta, Georgia 30308

Re: Arkwright CCR Groundwater Compliance AP2
Work Orders: 592014 and 592399

Dear Joju Abraham:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on September 03, 2022 and September 08, 2022. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. The data package has been revised to report new MDC values for the Ra-226+228 Sum results.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4504.

Sincerely,

Edith Kent for
Erin Trent
Project Manager

Purchase Order: GPC82177-0002
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GPCC001 Georgia Power Company

Client SDG: 592014 GEL Work Order: 592014

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Reviewed by _____

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GPCC001 Georgia Power Company

Client SDG: 592399 GEL Work Order: 592399

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Erin Trent.

Reviewed by _____

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Georgia Power Company, Southern
Address : Company
241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWA-19
Sample ID: 592014001
Matrix: WG
Collect Date: 01-SEP-22
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	-0.763	+/-1.26	2.62	+/-1.26	3.00	pCi/L			JE1	09/27/22	1104	2312613	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum	U	0.913	+/-1.33	2.62	+/-1.33		pCi/L		1	NXL1	09/29/22	0912	2312609	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.913	+/-0.408	0.421	+/-0.429	1.00	pCi/L			LXP1	09/27/22	0958	2312594	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2312613	51.4	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Georgia Power Company, Southern
Address : Company
241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWC-21
Sample ID: 592014002
Matrix: WG
Collect Date: 01-SEP-22
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	1.19	+/-1.49	2.54	+/-1.52	3.00	pCi/L			JE1	09/27/22	1104	2312613	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum	U	1.57	+/-1.52	2.54	+/-1.55		pCi/L		1	NXL1	09/29/22	0912	2312609	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226	U	0.382	+/-0.292	0.426	+/-0.298	1.00	pCi/L			LXP1	09/27/22	0958	2312594	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2312613	47.1	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Georgia Power Company, Southern
Address : Company
241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARAMW-1
Sample ID: 592014003
Matrix: WG
Collect Date: 02-SEP-22
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228		2.67	+/-1.55	2.34	+/-1.69	3.00	pCi/L			JE1	09/27/22	1104	2312613	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		3.41	+/-1.60	2.34	+/-1.74		pCi/L		1	NXL1	09/29/22	0912	2312609	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.742	+/-0.411	0.534	+/-0.441	1.00	pCi/L			LXP1	09/27/22	0958	2312594	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2312613	61.8	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Georgia Power Company, Southern
Address : Company
241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: FB-01
Sample ID: 592014004
Matrix: WQ
Collect Date: 02-SEP-22
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	0.115	+/-1.32	2.50	+/-1.32	3.00	pCi/L			JE1	09/27/22	1104	2312613	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum	U	0.737	+/-1.35	2.50	+/-1.36		pCi/L		1	NXL1	09/29/22	0912	2312609	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.623	+/-0.294	0.251	+/-0.323	1.00	pCi/L			LXP1	09/27/22	0958	2312594	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2312613	50.8	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Georgia Power Company, Southern
Address : Company
241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWA-20
Sample ID: 592014005
Matrix: WG
Collect Date: 02-SEP-22
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	0.207	+/-1.41	2.62	+/-1.41	3.00	pCi/L			JE1	09/27/22	1104	2312613	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum	U	0.783	+/-1.44	2.62	+/-1.44		pCi/L		1	NXL1	09/29/22	0912	2312609	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.577	+/-0.308	0.354	+/-0.325	1.00	pCi/L			LXP1	09/27/22	0959	2312594	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2312613	51.5	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: EB-01
Sample ID: 592014006
Matrix: WQ
Collect Date: 02-SEP-22
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	2.21	+/-1.62	2.55	+/-1.72	3.00	pCi/L			JE1	09/27/22	1105	2312613	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		2.84	+/-1.67	2.55	+/-1.76		pCi/L		1	NXL1	09/29/22	0912	2312609	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.623	+/-0.373	0.492	+/-0.392	1.00	pCi/L			LXP1	09/27/22	0959	2312594	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2312613	54	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARAMW-8
Sample ID: 592014007
Matrix: WG
Collect Date: 02-SEP-22
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	1.07	+/-1.43	2.43	+/-1.45	3.00	pCi/L			JE1	09/27/22	1105	2312613	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum	U	1.89	+/-1.47	2.43	+/-1.51		pCi/L		1	NXL1	09/29/22	0912	2312609	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.821	+/-0.371	0.423	+/-0.408	1.00	pCi/L			LXP1	09/27/22	0959	2312594	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2312613	59.2	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARAMW-2
Sample ID: 592014008
Matrix: WG
Collect Date: 02-SEP-22
Receive Date: 03-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228		3.38	+/-1.57	2.25	+/-1.79	3.00	pCi/L			JE1	09/27/22	1105	2312613	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		4.18	+/-1.62	2.25	+/-1.84		pCi/L		1	NXL1	09/29/22	0912	2312609	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.800	+/-0.429	0.548	+/-0.444	1.00	pCi/L			LXP1	09/27/22	1036	2312594	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2312613	65.8	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWC-22
Sample ID: 592399001
Matrix: WG
Collect Date: 06-SEP-22
Receive Date: 08-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	1.57	+/-1.49	2.45	+/-1.54	3.00	pCi/L			JE1	10/04/22	0956	2317042	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		2.58	+/-1.55	2.45	+/-1.62		pCi/L		1	NXL1	10/06/22	1016	2317952	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		1.02	+/-0.434	0.339	+/-0.491	1.00	pCi/L			LXP1	10/06/22	0745	2317044	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2317042	73	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARGWC-23
Sample ID: 592399002
Matrix: WG
Collect Date: 06-SEP-22
Receive Date: 08-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	1.57	+/-1.51	2.50	+/-1.56	3.00	pCi/L			JE1	10/04/22	0957	2317042	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum	U	2.36	+/-1.59	2.50	+/-1.65		pCi/L		1	NXL1	10/06/22	1016	2317952	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.790	+/-0.502	0.710	+/-0.533	1.00	pCi/L			LXP1	10/06/22	0745	2317044	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2317042	77.4	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: DUP-01
Sample ID: 592399003
Matrix: WG
Collect Date: 06-SEP-22
Receive Date: 08-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	0.272	+/-1.24	2.23	+/-1.24	3.00	pCi/L			JE1	10/04/22	0957	2317042	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum	U	0.635	+/-1.30	2.23	+/-1.30		pCi/L		1	NXL1	10/06/22	1016	2317952	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226	U	0.363	+/-0.394	0.638	+/-0.398	1.00	pCi/L			LXP1	10/06/22	0745	2317044	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2317042	84.6	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : Georgia Power Company, Southern
Address : Company
241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308

Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP2

Client Sample ID: ARAMW-7
Sample ID: 592399004
Matrix: WG
Collect Date: 07-SEP-22
Receive Date: 08-SEP-22
Collector: Client

Project: GPCC00100
Client ID: GPCC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228		3.91	+/-1.78	2.64	+/-2.04	3.00	pCi/L			JE1	10/04/22	0957	2317042	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		4.29	+/-1.81	2.64	+/-2.07		pCi/L		1	NXL1	10/06/22	1016	2317952	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226	U	0.384	+/-0.342	0.535	+/-0.349	1.00	pCi/L			LXP1	10/06/22	0745	2317044	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2317042	79.9	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Client : **Georgia Power Company, Southern Company**
241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia

Contact: **Joju Abraham**

Workorder: **592014**

Report Date: December 7, 2022

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2312613										
QC1205183299 592012002 DUP										
Radium-228	U	1.82		2.73	pCi/L	40		(0% - 100%)	JE1	09/27/22 11:03
	Uncert:	+/-1.65		+/-1.67						
	TPU:	+/-1.71		+/-1.81						
QC1205183300 LCS										
Radium-228	44.0			48.9	pCi/L		111	(75%-125%)	JE1	09/27/22 11:03
	Uncert:			+/-4.42						
	TPU:			+/-13.1						
QC1205183298 MB										
Radium-228			U	0.603	pCi/L				JE1	09/27/22 11:03
	Uncert:			+/-1.41						
	TPU:			+/-1.42						
Rad Ra-226										
Batch 2312594										
QC1205183267 592012002 DUP										
Radium-226		0.846		1.23	pCi/L	36.9*		(0%-20%)	LXP1	09/27/22 10:36
	Uncert:	+/-0.358		+/-0.395						
	TPU:	+/-0.388		+/-0.470						
QC1205183269 LCS										
Radium-226	26.5			23.8	pCi/L		89.9	(75%-125%)	LXP1	09/27/22 10:36
	Uncert:			+/-1.66						
	TPU:			+/-5.12						
QC1205183266 MB										
Radium-226			U	0.256	pCi/L				LXP1	09/27/22 10:36
	Uncert:			+/-0.266						
	TPU:			+/-0.270						
QC1205183268 592012002 MS										
Radium-226	134	0.846		103	pCi/L		76.4	(75%-125%)	LXP1	09/27/22 10:36
	Uncert:	+/-0.358		+/-8.30						
	TPU:	+/-0.388		+/-18.1						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded

QC Summary

Workorder: **592014**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time

J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

QC Summary

Client : **Georgia Power Company, Southern Company**
241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia

Contact: **Joju Abraham**

Workorder: **592399**

Report Date: December 7, 2022

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2317042										
QC1205192228 592399001 DUP										
Radium-228	U	1.57	U	0.794	pCi/L	0		N/A	JE1	10/04/22 09:55
	Uncert:	+/-1.49		+/-1.01						
	TPU:	+/-1.54		+/-1.03						
QC1205192229 LCS										
Radium-228	43.9			42.4	pCi/L		96.7	(75%-125%)	JE1	10/04/22 09:55
	Uncert:			+/-3.39						
	TPU:			+/-11.2						
QC1205192227 MB										
Radium-228			U	0.724	pCi/L				JE1	10/04/22 09:55
	Uncert:			+/-1.06						
	TPU:			+/-1.07						
Rad Ra-226										
Batch 2317044										
QC1205192207 592399001 DUP										
Radium-226		1.02		0.872	pCi/L	15.5		(0% - 100%)	LXP1	10/06/22 08:17
	Uncert:	+/-0.434		+/-0.501						
	TPU:	+/-0.491		+/-0.542						
QC1205192209 LCS										
Radium-226	26.5			26.2	pCi/L		98.7	(75%-125%)	LXP1	10/06/22 08:17
	Uncert:			+/-2.11						
	TPU:			+/-5.53						
QC1205192206 MB										
Radium-226			U	0.395	pCi/L				LXP1	10/06/22 08:17
	Uncert:			+/-0.379						
	TPU:			+/-0.384						
QC1205192208 592399001 MS										
Radium-226	130	1.02		143	pCi/L		109	(75%-125%)	LXP1	10/06/22 08:17
	Uncert:	+/-0.434		+/-10.6						
	TPU:	+/-0.491		+/-26.3						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded

QC Summary

Workorder: **592399**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time

J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Radiochemistry
Technical Case Narrative
Georgia Power Company
SDG #: 592014

Product: **Radium-226+Radium-228 Calculation**
Analytical Method: Calculation
Analytical Procedure: GL-RAD-D-003 REV# 45
Analytical Batch: 2312609

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592014001	ARGWA-19
592014002	ARGWC-21
592014003	ARAMW-1
592014004	FB-01
592014005	ARGWA-20
592014006	EB-01
592014007	ARAMW-8
592014008	ARAMW-2

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **GFPC Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2312613

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592014001	ARGWA-19
592014002	ARGWC-21
592014003	ARAMW-1
592014004	FB-01
592014005	ARGWA-20
592014006	EB-01
592014007	ARAMW-8
592014008	ARAMW-2
1205183298	Method Blank (MB)
1205183299	592012002(ARGWC-18) Sample Duplicate (DUP)
1205183300	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2312594

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592014001	ARGWA-19
592014002	ARGWC-21
592014003	ARAMW-1
592014004	FB-01
592014005	ARGWA-20
592014006	EB-01
592014007	ARAMW-8
592014008	ARAMW-2
1205183266	Method Blank (MB)
1205183267	592012002(ARGWC-18) Sample Duplicate (DUP)
1205183268	592012002(ARGWC-18) Matrix Spike (MS)
1205183269	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value
1205183267 (ARGWC-18DUP)	Radium-226	RPD 36.9* (0.00%-20.00%) RER 1.23 (0-3)

Miscellaneous Information

Additional Comments
The matrix spike, 1205183268 (ARGWC-18MS), aliquot was reduced to conserve sample volume.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Radiochemistry
Technical Case Narrative
Georgia Power Company
SDG #: 592399

Product: **Radium-226+Radium-228 Calculation**
Analytical Method: Calculation
Analytical Procedure: GL-RAD-D-003 REV# 45
Analytical Batch: 2317952

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592399001	ARGWC-22
592399002	ARGWC-23
592399003	DUP-01
592399004	ARAMW-7

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **GFPC Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2317042

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592399001	ARGWC-22
592399002	ARGWC-23
592399003	DUP-01
592399004	ARAMW-7
1205192227	Method Blank (MB)
1205192228	592399001(ARGWC-22) Sample Duplicate (DUP)
1205192229	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2317044

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
592399001	ARGWC-22
592399002	ARGWC-23
592399003	DUP-01
592399004	ARAMW-7
1205192206	Method Blank (MB)
1205192207	592399001(ARGWC-22) Sample Duplicate (DUP)
1205192208	592399001(ARGWC-22) Matrix Spike (MS)
1205192209	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments
The matrix spike, 1205192208 (ARGWC-22MS), aliquot was reduced to conserve sample volume.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Page: 1 of 1
Project # 175569434
GEL Quote #:
COC Number (1): 3 Coolers
PO Number:

592013
592014

GEL Laboratories LLC
gel.com
Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Chain of Custody and Analytical Request

GEL Work Order Number: *GEL Project Manager: Erin Trent*

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Georgia Power Phone # (937) 344-6533
Project/Site Name: Plant Arkwright AP-2 Fax #
Address: 241 Ralph McGill Blvd SE, Atlanta, GA 30308
Collected By: John Myer, Emily Scheiben, Evan Pennell
Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	Metals App. III, IV (6020B) NI	TDS (SM Method 2540C)	RAD 226-228 Cmbd NI	Mercury (7470B) NI	Anions (Cl, Fl, Sulfate) (300.0 Rev. 2.1 1993)	Metals App. IV (6020B) (Co only) NI	Ag (App. I) (6020B) NI	Alkalinity (300.0 R2.1)	Metals Al, K, Mg, Na, Fe, Mn (6020B) NI	Metals App. III, IV (Dissolved) (6020B) NI	<-- Preservative Type (6) Comments
ARGWA-19	9/1/2022	1030	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 5.88
ARGWC-21	9/1/2022	1315	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 5.97
ARAMW-1	9/2/2022	1000	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 6.04
FB-01	9/2/2022	1045	FB	N	WQ			5	X	X	X	X	X		X				NA
ARGWA-20	9/2/2022	1014	N	Y	WG			7	X	X	X	X	X		X	X	X	X	pH: 5.68
EB-01	9/2/2022	1100	EB	N	WQ			5	X	X	X	X	X		X				NA
ARAMW-8	9/2/2022	1255	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 6.44
ARAMW-2	9/2/2022	1510	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 6.00

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	9-2-2022	1800	1	9/3/22	855
2			2		
3			3		

> *For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)*

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge)

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [X] Level 2 [ ] Level 3 [ ] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] *Yes* [ ] *No* ***Cooler Temp:*** ____ °C

Sample Collection Time Zone: [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

1.) Chain of Custody Number = Client Determined

2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite

3.) Field Filtered: For liquid matrices, indicate with a **- Y -** for yes the sample was field filtered or **- N -** for sample was not field filtered.

4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, N=Nasal

5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A)** and number of containers provided for each (i.e. *8260B* **- 3**, *6010B/7470A* **- 1**).

6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

7.) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals
As = Arsenic **Hg**= Mercury
Ba = Barium **Se**= Selenium
Cd = Cadmium **Ag**= Silver
Cr = Chromium **MR**= Misc. RCRA metals
Pb = Lead

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated biphenyls

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or disposal concerns. *(i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)*

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: STNT /GPCC	**SDG/AR/COC/Work Order:** 592013 / 592014 / 592011 / 592012
Received By: StacyBoone	**Date Received:** 9/3/22
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 2775 4922 1277 1 c 2775 4922 1288 1 c 2775 4922 1255 1 c

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): Ø CPM / mR/Hr **Classified as: Rad 1 Rad 2 Rad 3**
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:_____
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR4-22 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):
2775 4922 1266 1 c
2775 4922 1244 1 c

PM (or PMA) review: Initials SMR Date 09/06/22 Page 1 of 1

592398/592399

GEL Laboratories LLC
Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics
gel.com

Chain of Custody and Analytical Request

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Project #: 175569434
PL Quote #:
COC Number (1): 1 Cooler
Number:

GEL Work Order Number: *GEL Project Manager: Erin Trent*

Client Name: Georgia Power — Phone # (937) 344-6533
Project/Site Name: Plant Arkwright AP-2 — Fax #
Address: 241 Ralph McGill Blvd SE, Atlanta, GA 30308
Collected By: John Myer, Emily Scheiben, — Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID (* For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive (If yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Total number of containers	Metals App. III, IV (6020B) NI	TDS (SM Method 2540C)	RAD 226-228 Cmbd NI	Mercury (7470B) NI	Anions (Cl, Fl, Sulfate) (300.0 Rev. 2.1 1993)	Metals App. IV (6020B) (Co only) NI	Ag (App. I) (6020B)	Alkalinity (300.0 R2.1)	Metals Al, K, Mg, Na, Fe, Mn (6020B) NI		<-- Preservative Type (6)
																			Comments Note: extra sample is required for sample specific QC
ARGWC-22	09/06/22	1425	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 5.88
ARGWC-23	09/06/22	1440	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 6.41
DUP-01	09/06/22	NA	FD	N	WQ			5	X	X	X	X	X		X				NA
ARAMW-7	09/07/22	1020	N	N	WG			6	X	X	X	X	X		X	X	X		pH: 5.57

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
[illegible]	9/8/22	0810	[illegible]	9/8/22	8:10
[illegible]	9/8/22	1215	[illegible]	9/8/22	1243
			3		

TAT Requested: Normal: X Rush: ____ Specify: ____ (Subject to Surcharge)

Fax Results: [ ] Yes [X] No

Select Deliverable: [ ] C of A [ ] QC Summary [ ] level 1 [X] Level 2 [ ] Level 3 [ ] Level 4

Additional Remarks:

For Lab Receiving Use Only: *Custody Seal Intact?* [ ] Yes [ ] No *Cooler Temp:* ____ °C

For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)

Sample Collection Time Zone: [X] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:

Chain of Custody Number = Client Determined

QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite

Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.

Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal

Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B* - 3, *6010B/7470A* - 1).

Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

KNOWN OR POSSIBLE HAZARDS

RA Metals
= Arsenic Hg= Mercury
= Barium Se= Selenium
= Cadmium Ag= Silver
= Chromium MR= Misc. RCRA metals

Characteristic Hazards
FL = Flammable/Ignitable
CO = Corrosive
RE = Reactive

TSCA Regulated
PCB = Polychlorinated

Listed Waste
LW= Listed Waste
(F,K,P and U-listed wastes.)
Waste code(s):

Other
OT= Other / Unknown
(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
Description:

Please provide any additional details below regarding handling and/or dispos concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

E.T

Client: GPCC	SDG/AR/COC/Work Order: 592388, 592398, 592399
Received By: Shanequa Patterson	Date Received: 9/8/22
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS ~~Field Services~~ Courier Other

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		X	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		X	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		X	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		X	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	X			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*		X		Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 1.9
4	Daily check performed and passed on IR temperature gun?	X			Temperature Device Serial #: IR2-22 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	X			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			X	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	X			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	X			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	X			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	X			
13	COC form is properly signed in relinquished/received sections?	X			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials AJ Date 9/9/22 Page ___ of ___

List of current GEL Certifications as of 07 December 2022

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122023−3
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2022−160
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−22−20
Utah NELAP	SC000122022−37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

February 02, 2023

Kelley Sharpe
ARCADIS - Atlanta
2839 Paces Ferry Rd
STE 900
Atlanta, GA 30339

RE: Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Dear Kelley Sharpe:

Enclosed are the analytical results for sample(s) received by the laboratory on August 17, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Asheville
- Pace Analytical Services - Green Bay
- Pace Analytical Services - Peachtree Corners, GA

Rev. 1 - This replaces the August 26, 2022 final report. This report was revised to report Cobalt (EPA 6020/Metals) per client request. No other changes were made to this report.

Rev. 2 - This replaces the January 24, 2023 final report. This report was revised to report additional Metals (EPA 6020) per client request. No other changes were made to this report.

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

Sincerely,

Maiya Parks
maiya.parks@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR
Ben Hodges, Georgia Power
Warren Johnson, ARCADIS - Atlanta
Laura Midkiff, Georgia Power

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

cc: Tina Sullivan, ERM

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-21-8
Virginia VELAP Certification ID: 11873
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-21-00008
Federal Fish & Wildlife Permit #: 51774A

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Laboratory ID: 99030
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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SAMPLE SUMMARY

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92621120001	**BC-0.8a**	Water	08/16/22 15:55	08/17/22 13:00
92621120002	**BC-0.3**	Water	08/16/22 11:55	08/17/22 13:00
92621120003	**BC-0.5.5**	Water	08/16/22 16:15	08/17/22 13:00
92621120004	**BC-0.5.6**	Water	08/16/22 16:05	08/17/22 13:00
92621120005	**BC-0.5.7**	Water	08/16/22 16:25	08/17/22 13:00
92621120006	**BC-BR**	Water	08/16/22 17:00	08/17/22 13:00

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SAMPLE ANALYTE COUNT

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92621120001	**BC-0.8a**	EPA 6010D	KH	4	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2540C-2015	BTS	1	PASI-GA
		SM 2320B	TMK	2	PASI-G
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92621120002	**BC-0.3**	EPA 6010D	KH	4	PASI-GA
		EPA 6020B	CW1	13	PASI-GA
		SM 2540C-2015	BTS	1	PASI-GA
		SM 2320B	TMK	2	PASI-G
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92621120003	**BC-0.5.5**	EPA 6010D	KH	4	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2540C-2015	BTS	1	PASI-GA
		SM 2320B	TMK	2	PASI-G
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92621120004	**BC-0.5.6**	EPA 6010D	KH	4	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2540C-2015	BTS	1	PASI-GA
		SM 2320B	TMK	2	PASI-G
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92621120005	**BC-0.5.7**	EPA 6010D	KH	4	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2540C-2015	BTS	1	PASI-GA
		SM 2320B	TMK	2	PASI-G
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92621120006	**BC-BR**	EPA 6010D	KH	4	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2540C-2015	BTS	1	PASI-GA
		SM 2320B	TMK	2	PASI-G
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-G = Pace Analytical Services - Green Bay
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Sample: BC-0.8a **Lab ID: 92621120001** Collected: 08/16/22 15:55 Received: 08/17/22 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.3**	mg/L	0.20	1	08/19/22 15:44	08/20/22 00:17	7440-09-7	
Sodium	**8.7**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:17	7440-23-5	
Calcium	**9.7**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:17	7440-70-2	
Magnesium	**4.3**	mg/L	0.050	1	08/19/22 15:44	08/20/22 00:17	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 17:40	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 17:40	7440-48-4	
Lithium	ND	mg/L	0.030	1	08/22/22 15:10	08/23/22 17:40	7439-93-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**89.9**	mg/L	25.0	1		08/19/22 08:47		
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay							
Alkalinity, Total as CaCO3	**46.5**	mg/L	10.0	1		08/25/22 22:18		
Alkalinity,Bicarbonate (CaCO3)	**46.5**	mg/L	10.0	1		08/25/22 22:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**7.7**	mg/L	1.0	1		08/20/22 10:29	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		08/20/22 10:29	16984-48-8	
Sulfate	**4.1**	mg/L	1.0	1		08/20/22 10:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Sample: BC-0.3 **Lab ID: 92621120002** Collected: 08/16/22 11:55 Received: 08/17/22 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.3**	mg/L	0.20	1	08/19/22 15:44	08/20/22 00:22	7440-09-7	
Sodium	**7.5**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:22	7440-23-5	
Calcium	**9.6**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:22	7440-70-2	
Magnesium	**4.1**	mg/L	0.050	1	08/19/22 15:44	08/20/22 00:22	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Antimony	ND	mg/L	0.0030	1	08/22/22 15:10	08/23/22 18:02	7440-36-0	
Arsenic	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:02	7440-38-2	
Barium	**0.028**	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:02	7440-39-3	
Beryllium	ND	mg/L	0.00050	1	08/22/22 15:10	08/23/22 18:02	7440-41-7	
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 18:02	7440-42-8	
Cadmium	ND	mg/L	0.00050	1	08/22/22 15:10	08/23/22 18:02	7440-43-9	
Chromium	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:02	7440-47-3	
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:02	7440-48-4	
Lead	ND	mg/L	0.0010	1	08/22/22 15:10	08/23/22 18:02	7439-92-1	
Lithium	ND	mg/L	0.030	1	08/22/22 15:10	08/23/22 18:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	1	08/22/22 15:10	08/23/22 18:02	7439-98-7	
Selenium	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:02	7782-49-2	
Thallium	ND	mg/L	0.0010	1	08/22/22 15:10	08/23/22 18:02	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**90.9**	mg/L	25.0	1		08/19/22 08:47		
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay							
Alkalinity, Total as CaCO3	**44.6**	mg/L	10.0	1		08/25/22 22:24		
Alkalinity,Bicarbonate (CaCO3)	**44.6**	mg/L	10.0	1		08/25/22 22:24		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**7.0**	mg/L	1.0	1		08/20/22 10:44	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		08/20/22 10:44	16984-48-8	
Sulfate	**5.4**	mg/L	1.0	1		08/20/22 10:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Sample: BC-0.5.5 **Lab ID: 92621120003** Collected: 08/16/22 16:15 Received: 08/17/22 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.4**	mg/L	0.20	1	08/19/22 15:44	08/20/22 00:27	7440-09-7	
Sodium	**8.6**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:27	7440-23-5	
Calcium	**10.3**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:27	7440-70-2	
Magnesium	**4.5**	mg/L	0.050	1	08/19/22 15:44	08/20/22 00:27	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 18:08	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:08	7440-48-4	
Lithium	ND	mg/L	0.030	1	08/22/22 15:10	08/23/22 18:08	7439-93-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**85.9**	mg/L	25.0	1		08/19/22 08:47		
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay							
Alkalinity, Total as CaCO3	**48.5**	mg/L	10.0	1		08/25/22 22:30		
Alkalinity,Bicarbonate (CaCO3)	**48.5**	mg/L	10.0	1		08/25/22 22:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**7.7**	mg/L	1.0	1		08/20/22 10:58	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		08/20/22 10:58	16984-48-8	
Sulfate	**5.6**	mg/L	1.0	1		08/20/22 10:58	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Sample: BC-0.5.6 **Lab ID: 92621120004** Collected: 08/16/22 16:05 Received: 08/17/22 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.4**	mg/L	0.20	1	08/19/22 15:44	08/20/22 00:41	7440-09-7	
Sodium	**8.7**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:41	7440-23-5	
Calcium	**10.5**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:41	7440-70-2	
Magnesium	**4.6**	mg/L	0.050	1	08/19/22 15:44	08/20/22 00:41	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 18:14	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:14	7440-48-4	
Lithium	ND	mg/L	0.030	1	08/22/22 15:10	08/23/22 18:14	7439-93-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**83.9**	mg/L	25.0	1		08/19/22 08:48		
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay							
Alkalinity, Total as CaCO3	**47.3**	mg/L	10.0	1		08/25/22 22:35		
Alkalinity,Bicarbonate (CaCO3)	**47.3**	mg/L	10.0	1		08/25/22 22:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**7.9**	mg/L	1.0	1		08/20/22 11:13	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		08/20/22 11:13	16984-48-8	
Sulfate	**6.2**	mg/L	1.0	1		08/20/22 11:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Sample: BC-0.5.7 **Lab ID: 92621120005** Collected: 08/16/22 16:25 Received: 08/17/22 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.4**	mg/L	0.20	1	08/19/22 15:44	08/20/22 00:46	7440-09-7	
Sodium	**8.5**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:46	7440-23-5	
Calcium	**10.1**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:46	7440-70-2	
Magnesium	**4.4**	mg/L	0.050	1	08/19/22 15:44	08/20/22 00:46	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 18:20	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:20	7440-48-4	
Lithium	ND	mg/L	0.030	1	08/22/22 15:10	08/23/22 18:20	7439-93-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**90.9**	mg/L	25.0	1		08/19/22 08:49		
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay							
Alkalinity, Total as CaCO3	**47.6**	mg/L	10.0	1		08/25/22 22:55		
Alkalinity,Bicarbonate (CaCO3)	**47.6**	mg/L	10.0	1		08/25/22 22:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**7.7**	mg/L	1.0	1		08/20/22 11:27	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		08/20/22 11:27	16984-48-8	
Sulfate	**4.3**	mg/L	1.0	1		08/20/22 11:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(770)734-4200

ANALYTICAL RESULTS

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Sample: BC-BR **Lab ID: 92621120006** Collected: 08/16/22 17:00 Received: 08/17/22 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.4**	mg/L	0.20	1	08/19/22 15:44	08/20/22 00:50	7440-09-7	
Sodium	**8.2**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:50	7440-23-5	
Calcium	**10.2**	mg/L	1.0	1	08/19/22 15:44	08/20/22 00:50	7440-70-2	
Magnesium	**4.5**	mg/L	0.050	1	08/19/22 15:44	08/20/22 00:50	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 18:26	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:26	7440-48-4	
Lithium	ND	mg/L	0.030	1	08/22/22 15:10	08/23/22 18:26	7439-93-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**84.9**	mg/L	25.0	1		08/19/22 08:49		
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay							
Alkalinity, Total as CaCO3	**49.8**	mg/L	10.0	1		08/25/22 23:00		
Alkalinity,Bicarbonate (CaCO3)	**49.8**	mg/L	10.0	1		08/25/22 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**7.7**	mg/L	1.0	1		08/20/22 11:42	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	1		08/20/22 11:42	16984-48-8	
Sulfate	**5.8**	mg/L	1.0	1		08/20/22 11:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

QC Batch: 718462
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

METHOD BLANK: 3745239 Matrix: Water
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	08/19/22 22:26	
Magnesium	mg/L	ND	0.050	08/19/22 22:26	
Potassium	mg/L	ND	0.20	08/19/22 22:26	
Sodium	mg/L	ND	1.0	08/19/22 22:26	

LABORATORY CONTROL SAMPLE: 3745240

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	103	80-120	
Magnesium	mg/L	1	1.0	105	80-120	
Potassium	mg/L	1	1.1	112	80-120	
Sodium	mg/L	1	.98J	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3745241 3745242

Parameter	Units	92618822019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	585	1	1	578	584	-696	-94	75-125	1	20	M1
Magnesium	mg/L	54.4	1	1	54.7	53.9	22	-53	75-125	1	20	M1
Potassium	mg/L	11.9	1	1	12.9	12.7	102	84	75-125	1	20	
Sodium	mg/L	11.7	1	1	12.7	12.5	94	80	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

QC Batch: 718742
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

METHOD BLANK: 3746438 Matrix: Water
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	08/23/22 14:54	
Arsenic	mg/L	ND	0.0050	08/23/22 14:54	
Barium	mg/L	ND	0.0050	08/23/22 14:54	
Beryllium	mg/L	ND	0.00050	08/23/22 14:54	
Boron	mg/L	ND	0.040	08/23/22 14:54	
Cadmium	mg/L	ND	0.00050	08/23/22 14:54	
Chromium	mg/L	ND	0.0050	08/23/22 14:54	
Cobalt	mg/L	ND	0.0050	08/23/22 14:54	
Lead	mg/L	ND	0.0010	08/23/22 14:54	
Lithium	mg/L	ND	0.030	08/23/22 14:54	
Molybdenum	mg/L	ND	0.010	08/23/22 14:54	
Selenium	mg/L	ND	0.0050	08/23/22 14:54	
Thallium	mg/L	ND	0.0010	08/23/22 14:54	

LABORATORY CONTROL SAMPLE: 3746439

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	104	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	0.98	98	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.10	103	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.096	96	80-120	
Molybdenum	mg/L	0.1	0.10	105	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3746747 3746748

Parameter	Units	92620540002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	113	113	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	100	102	75-125	2	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3746747 3746748

Parameter	Units	92620540002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	57.0 ug/L	0.1	0.1	0.16	0.16	105	106	75-125	1	20	
Beryllium	mg/L	ND	0.1	0.1	0.094	0.096	94	96	75-125	2	20	
Boron	mg/L	6870 ug/L	1	1	7.9	7.8	100	95	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.10	99	102	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.099	98	97	75-125	1	20	
Cobalt	mg/L	26.1 ug/L	0.1	0.1	0.12	0.12	96	97	75-125	0	20	
Lead	mg/L	ND	0.1	0.1	0.088	0.090	88	90	75-125	2	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.11	96	98	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.10	99	102	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.092	0.093	92	93	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

QC Batch: 718207 | Analysis Method: SM 2540C-2015
QC Batch Method: SM 2540C-2015 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

METHOD BLANK: 3744034 Matrix: Water
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	08/19/22 08:45	

LABORATORY CONTROL SAMPLE: 3744035

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	380	95	80-120	

SAMPLE DUPLICATE: 3744037

Parameter	Units	92621116005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	105	108	3	25	

SAMPLE DUPLICATE: 3744488

Parameter	Units	92621107001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	56.9	62.9	10	25	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

QC Batch: 424462 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

METHOD BLANK: 2444373 Matrix: Water
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	08/25/22 20:22	

LABORATORY CONTROL SAMPLE: 2444374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	200	207	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2444375 2444376

Parameter	Units	92621107001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	30.2	200	200	237	238	104	104	80-120	0	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

QC Batch: 718269
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

METHOD BLANK: 3744375 Matrix: Water
Associated Lab Samples: 92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	08/19/22 18:52	
Fluoride	mg/L	ND	0.10	08/19/22 18:52	
Sulfate	mg/L	ND	1.0	08/19/22 18:52	

LABORATORY CONTROL SAMPLE: 3744376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.4	101	90-110	
Fluoride	mg/L	2.5	2.4	95	90-110	
Sulfate	mg/L	50	50.2	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3744377 3744378

Parameter	Units	92621107001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	7.8	50	50	58.8	59.0	102	102	90-110	0	10	
Fluoride	mg/L	0.12	2.5	2.5	2.5	2.5	94	96	90-110	2	10	
Sulfate	mg/L	5.1	50	50	56.2	56.4	102	102	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3744379 3744380

Parameter	Units	92621116006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.9	50	50	54.7	55.0	102	102	90-110	1	10	
Fluoride	mg/L	0.12	2.5	2.5	2.4	2.4	92	93	90-110	1	10	
Sulfate	mg/L	38.1	50	50	88.9	89.2	102	102	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Arkwright-CCR Ash Pond-Revised Report
Pace Project No.: 92621120

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92621120001	**BC-0.8a**	EPA 3010A	718462	EPA 6010D	718518
92621120002	**BC-0.3**	EPA 3010A	718462	EPA 6010D	718518
92621120003	**BC-0.5.5**	EPA 3010A	718462	EPA 6010D	718518
92621120004	**BC-0.5.6**	EPA 3010A	718462	EPA 6010D	718518
92621120005	**BC-0.5.7**	EPA 3010A	718462	EPA 6010D	718518
92621120006	**BC-BR**	EPA 3010A	718462	EPA 6010D	718518
92621120001	**BC-0.8a**	EPA 3005A	718742	EPA 6020B	718842
92621120002	**BC-0.3**	EPA 3005A	718742	EPA 6020B	718842
92621120003	**BC-0.5.5**	EPA 3005A	718742	EPA 6020B	718842
92621120004	**BC-0.5.6**	EPA 3005A	718742	EPA 6020B	718842
92621120005	**BC-0.5.7**	EPA 3005A	718742	EPA 6020B	718842
92621120006	**BC-BR**	EPA 3005A	718742	EPA 6020B	718842
92621120001	**BC-0.8a**	SM 2540C-2015	718207		
92621120002	**BC-0.3**	SM 2540C-2015	718207		
92621120003	**BC-0.5.5**	SM 2540C-2015	718207		
92621120004	**BC-0.5.6**	SM 2540C-2015	718207		
92621120005	**BC-0.5.7**	SM 2540C-2015	718207		
92621120006	**BC-BR**	SM 2540C-2015	718207		
92621120001	**BC-0.8a**	SM 2320B	424462		
92621120002	**BC-0.3**	SM 2320B	424462		
92621120003	**BC-0.5.5**	SM 2320B	424462		
92621120004	**BC-0.5.6**	SM 2320B	424462		
92621120005	**BC-0.5.7**	SM 2320B	424462		
92621120006	**BC-BR**	SM 2320B	424462		
92621120001	**BC-0.8a**	EPA 300.0 Rev 2.1 1993	718269		
92621120002	**BC-0.3**	EPA 300.0 Rev 2.1 1993	718269		
92621120003	**BC-0.5.5**	EPA 300.0 Rev 2.1 1993	718269		
92621120004	**BC-0.5.6**	EPA 300.0 Rev 2.1 1993	718269		
92621120005	**BC-0.5.7**	EPA 300.0 Rev 2.1 1993	718269		
92621120006	**BC-BR**	EPA 300.0 Rev 2.1 1993	718269		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A — Required Client Information:

Company:	ARCADIS - Atlanta
Address:	2839 Paces Ferry Rd
	Atlanta, GA 30339
Email:	warren.johnson@arcadis.com
Phone:	678.485.5298 Fax:
Requested Due Date:	5 day TAT

Section B — Required Project Information:

Report To:	Joju Abraham, Ben Hodges
Copy To:	Warren Johnson
Purchase Order #:	
Project Name:	Plant Arkwright - AP2
Project #:	

Section C — Invoice Information:

Attention:	Joju Abraham
Company Name:	GPC
Address:	
Pace Quote:	
Pace Project Manager:	Mayia.Parks@pacelabs.com,
Pace Profile #:	2239

Regulatory Agency

WO# : 92621120

92621120

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

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	CCR Appendix III[1]	Major Ions[2]	CCR Appendix IV[3]	Lithium	Residual Chlorine (Y/N)	
1	BC-0.8a	WS	G	8/16/2022	1555														X	X		X			
2	BC-0.3	WS	G	8/16/2022	1155														X	X		X			Dup Entry
3	BC-0.5.5	WS	G	8/16/2022	1615														X	X		X			
4	BC-0.5.6	WS	G	8/16/2022	1605														X	X		X			
5	BC-0.5.7	WS	G	8/16/2022	1625														X	X		X			
6	BC-BR	WS	G	8/16/2022	1700														X	X		X			
7																									
8																									
9																									
10																									
11																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
CCR Appendix III[1] - B, Ca, Cl, F, Sulfate, Total Dissolved Solids (TDS)	Arcadis	8/17/22	0600	Ryan Williams / Pace	8/17/22	0933 1500
Major Ions[2] - Mg, Na, K, total alkalinity, bicarbonate alkalinity	Ryan Williams / Pace	8/17/22	1300		8/17/22	1300
CCR Appendix IV[3] - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226, Radium 228						

SAMPLE CONDITIONS

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Garrett Glinkowski

SIGNATURE of SAMPLER:

DATE Signed: 8-17-22

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-HUN1-0083 v01_Sample Condition Upon Receipt
	Effective Date: 05/12/2022

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Arcadis

Project #

WO#: 92621120

PM: MP Due Date: 08/24/22

CLIENT: GA-ArcadAtl

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other:

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 8/17/22 CM

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☐ No ☐ N/A

Thermometer: ☑ IR Gun ID: 214

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 4.8 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 4.8

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: **Date:**

Project Manager SRF Review: **Date:**

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

*****Check all unpreserved Nitrates for chlorine**

Project #

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	DG9S-40 mL VOA H2SO4 (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1																							
2		2	1			1																							
3		2	1			1																							
4		2	1			1																							
5		2	1			1																							
6		2	1			1																							
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

C.4 Data Quality Evaluation

DATA USABILITY SUMMARY

Steven Elliott (Stantec) reviewed three data packages from GEL Laboratories (GEL) for the analysis of water samples collected from August 30 to September 7, 2022, at the Georgia Power Arkwright Plant site. Samples were collected according to the Field Sampling Plan – Plant Arkwright (Amec Foster Wheeler, 2016).

Intended Use of Data: To delineate concentrations of constituents of concern in site groundwater.

Analyses requested included:

- SW-846 6020B – Metals by inductively coupled plasma - mass spectrometry (ICP/MS)
- SW-846 7470A – Mercury by manual cold-vapor
- EPA 300 Rev 2.1 – Chloride, fluoride, and sulfate by ion chromatography
- SM 2540C - 2015 – Total dissolved solids (TDS)
- SM 2320B – Total Alkalinity, Bicarbonate, Carbonate

Data were reviewed and validated as described in the field sampling plan and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (November 2020). The results of the review/validation are discussed in this Data Usability Summary (DUS) and the associated Laboratory Data Review Checklists.

DATA REVIEW/VALIDATION RESULTS

Introduction

Forty (40) groundwater samples, ten (10) field blanks, and five (5) field duplicate samples were analyzed for one or more of the analyses listed above. Table 1 lists the field identifications cross-referenced to laboratory identifications. Table 2 is a summary of qualified data. Tables 3a through 3e summarize field duplicate results.

Analytical Results

The data packages contain a minimum of one quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not detected results are reported as less than the value of the method detection limit (MDL).

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody forms. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample condition upon receipt forms indicates all samples were received at temperatures ranging from 2°C to 4°C. All samples were analyzed within the technical holding time. No data were qualified.

Calibrations

Case narratives indicate Initial and continuing calibration verification data were within method acceptance criteria.

Blanks

Laboratory Method Blanks. No contamination was detected in any of the laboratory method blanks with the following exceptions:

SDG 591798 & 592011

- Magnesium was detected in the method blank in batch 2312499 at a concentration of 0.0107 mg/L. All associated sample results were reported as either not detected or detected at concentrations greater than 10 times the blank and therefore no qualification was necessary.

SDG 592013 & 592398

- Magnesium was detected in the method blank in batch 2312858 at a concentration of 0.0253 mg/L. All associated sample results were reported as either not detected or detected at concentrations greater than 10 times the blank and therefore no qualification was necessary.

Field Blanks. Field blanks were analyzed for the full suite of sample analyses and all analytes were not detected with the following exceptions:

SDG 591798 & 592011

- Molybdenum was detected in the equipment blank EB-02 (09/02/2022) at a concentration below the laboratory Reporting Limit (RL). No qualification was required for associated sample results reported as greater than 10 times the blank concentration. Two samples (ARAMW-4 and DUP-02) had a reported value less than 10 times the blank concentration and have been qualified as estimated with a high bias ("J+").

- Chloride was detected in the equipment blank EB-01 at a concentration above the laboratory RL and in the field blank FB-02 (both collected 08/31/2022) at a concentration below the RL. No qualification was required for associated sample results reported as greater than 10 times the blank concentration. Two samples (ARGWA-3 and ARGWC-15) had reported values less than 10 times the blank concentration and have been qualified as estimated with a high bias ("J+").

- Boron was detected in the equipment blank EB-01 (08/31/2022) at concentrations below the RL. No qualification was required for associated sample results reported as greater than 10 times the blank concentration. Six samples (ARGWA-24, ARGWA-3, ARGWC-15, ARGWC9, ARGWA-14, and ARGWC-10) had a reported value less than 10 times the blank concentration and have been qualified as estimated with a high bias ("J+").

SDG 592013 & 592398

- Chloride was detected in the equipment blank EB-01 (09/02/2022) at a concentration above the RL. Associated sample results were reported as detected greater than 10 times the blank concentration and therefore no qualification was necessary.

SDG 592388 & 592528

- Chloride was detected in the blanks EB-01 and EB-02 at a concentration below the RL and FB-01 and FB-02 (all collected 09/07/2022) at a concentration above the RL. No qualification was required for associated sample results reported as greater than 10 times the blank concentration. Four samples (AP1GWA-1, AP1GWA-2, AP1PZ-1, and AP1PZ-1) had a reported value less than 10 times the blank concentration and have been qualified as estimated with a high bias ("J+").

- Molybdenum was detected in the equipment blank EB-01 (09/07/2022) at a concentration below the RL. No qualification was required for associated sample results reported as not detected or as greater than 10 times the blank concentration. Four samples (AP1PZ-1, AP1PZ-9, AP1PZ-3, and AP1PZ-6) had a reported value less than 10 times the blank concentration and have been qualified as estimated with a high bias ("J+").

- Sulfate and barium were detected in the equipment blank EB-02 (09/07/2022) at a concentration below the RL and calcium was detected at a concentration above the RL. No qualification was required for associated sample results for barium and calcium reported as greater than 10 times the blank concentration. One sample (AP1GWA-2) had a reported value less than 10 times the blank concentration and has been qualified as estimated with a high bias ("J+").

Laboratory Control Samples

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries met the laboratory acceptance criteria for all analyses.

Matrix Spike/Matrix Spike Duplicates

Site-specific MS/MSD precision and accuracy results were within the laboratory acceptance criteria with the following exceptions:

SDG 591798 & 592011

- Chloride had a high percent recovery in the post spike sample in ARGWC-9 while the MS/MSD was not reported. Chloride has been qualified as estimated ("J") in this sample.

- Calcium had a high RPD in the serial dilution sample in ARGWA-5 while the MS/MSD had a sample concentration greater than four times the spike concentration. Calcium has been qualified as estimated ("J") in this sample.

- Calcium, boron, magnesium, manganese, and sodium sample concentrations in sample ARGWC-18 were greater than four times the spike concentration and therefore not appropriate for evaluation.

SDG 592013 & 592398

- Barium and boron had MS/MSD percent recoveries of less than 30% in sample AP1GWA-1. Barium and boron have been qualified as rejected ("R") in this sample.

SDG 592388 & 592528

- The same QC batch from SDG 592013 & 592398 including the sample AP1GWA-1 MS/MSD results was reported in this SDG. The same qualifications apply for this sample.

Laboratory Duplicates

Appropriate analytical duplicates were analyzed and RPDs were within the laboratory acceptance criteria.

Field Precision

Five sets of field duplicate samples were collected for this sampling event (see Tables 3a – 3e for sample/duplicate identification and precision calculations). The calculated RPDs between sample and duplicate were within the QAPP acceptance criteria of 25% for all analytes detected above five times the RL. For results reported less than five times the RL, with a difference between sample and duplicate less than two times the RL are also considered acceptable (qualified "A*"). All field duplicate precision was considered acceptable.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the affected property. A summary of qualified data is presented in Table 2 below.

References:

Amec Foster Wheeler, 2016. Arkwright Field Sampling Plan. October.

United State Environmental Protection Agency (USEPA), 2020. National Functional Guidelines for Superfund Inorganic Methods Data Review. November.

Table 1 – Cross-Reference between Laboratory and Field Identifications

Field Identification	Laboratory Identification	SDG	Sample Date
EB-02	592011001	592011	09/02/2022
ARGWC-18	592011002	592011	09/02/2022
ARGWC-17	592011003	592011	09/02/2022
ARAMW-4	592011004	592011	09/02/2022
DUP-02	592011005	592011	09/02/2022
ARGWA-5	591798001	591798	08/30/2022
ARGWA-12	591798002	591798	08/30/2022
FB-01	591798003	591798	08/30/2022
ARGWA-24	591798004	591798	08/31/2022
ARGWA-3	591798005	591798	08/31/2022
ARGWA-13	591798006	591798	08/31/2022
ARGWC-7	591798007	591798	08/31/2022
ARAMW-6	591798008	591798	08/31/2022
ARGWC-15	591798009	591798	08/31/2022
ARGWC-9	591798010	591798	08/31/2022
ARGWA-14	591798011	591798	08/31/2022
ARGWC-8	591798012	591798	08/31/2022
ARGWC-10	591798013	591798	08/31/2022
FB-02	591798014	591798	08/31/2022
ARGWC-16	591798015	591798	08/31/2022
DUP-01	591798016	591798	08/31/2022
ARAMW-3	591798017	591798	08/31/2022
EB-01	591798018	591798	08/31/2022
ARGWC-22	592398001	592398	09/06/2022
ARGWC-23	592398002	592398	09/06/2022
DUP-01	592398003	592398	09/06/2022
ARAMW-7	592398004	592398	09/07/2022
ARGWA-19	592013001	592013	09/01/2022
ARGWC-21	592013002	592013	09/01/2022
ARAMW-1	592013003	592013	09/02/2022
FB-01	592013004	592013	09/02/2022
ARGWA-20	592013005	592013	09/02/2022
EB-01	592013006	592013	09/02/2022
ARAMW-8	592013007	592013	09/02/2022
ARAMW-2	592013008	592013	09/02/2022
ARGWA-20	592013009	592013	09/02/2022
AP1PZ-11	592528001	592528	09/08/2022
DUP-02	592528002	592528	09/08/2022
AP1PZ-2	592528003	592528	09/08/2022
AP1PZ-5	592528004	592528	09/08/2022
EB-01	592388001	592388	09/07/2022
AP1GWA-1	592388002	592388	09/07/2022

Table 1 – Cross-Reference between Laboratory and Field Identifications

Field Identification	Laboratory Identification	SDG	Sample Date
AP1GWA-2	592388003	592388	09/07/2022
FB-01	592388004	592388	09/07/2022
AP1PZ-1	592388005	592388	09/07/2022
AP1PZ-7	592388006	592388	09/07/2022
AP1PZ-10	592388007	592388	09/07/2022
FB-02	592388008	592388	09/07/2022
AP1PZ-4	592388009	592388	09/07/2022
DUP-01	592388010	592388	09/07/2022
AP1PZ-9	592388011	592388	09/07/2022
AP1PZ-8	592388012	592388	09/07/2022
EB-02	592388013	592388	09/07/2022
AP1PZ-3	592388014	592388	09/07/2022
AP1PZ-6	592388015	592388	09/07/2022

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
ARAMW-4	Molybdenum	J+	Field blank contamination
DUP-02	Molybdenum	J+	Field blank contamination
ARGWA-3	Chloride	J+	Field blank contamination
ARGWC-15	Chloride	J+	Field blank contamination
ARGWA-24	Boron	J+	Field blank contamination
ARGWA-3	Boron	J+	Field blank contamination
ARGWC-15	Boron	J+	Field blank contamination
ARGWC-9	Boron	J+	Field blank contamination
ARGWC-10	Boron	J+	Field blank contamination
AP1GWA-1	Chloride	J+	Field blank contamination
AP1GWA-2	Chloride	J+	Field blank contamination
AP1PZ-1	Chloride	J+	Field blank contamination
AP1PZ-8	Chloride	J+	Field blank contamination
AP1PZ-1	Molybdenum	J+	Field blank contamination
AP1PZ-9	Molybdenum	J+	Field blank contamination
AP1PZ-3	Molybdenum	J+	Field blank contamination
AP1PZ-6	Molybdenum	J+	Field blank contamination
AP1GWA-2	Sulfate	J+	Field blank contamination
ARGWC-9	Chloride	J	High PS recovery
ARGWA-5	Calcium	J	High SD RPD
AP1GWA-1	Barium	R	MS/MSD recoveries <30%
AP1GWA-1	Boron	R	MS/MSD recoveries <30%

J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.
J+ – The analyte was detected in an associated blank; estimated data with a high bias.
R – Rejected data due to one or more QC requirements.
UJ – The analyte was analyzed for but was detected at a level below the associated blank contamination. The associated value is an estimate and may be inaccurate or imprecise.

Table 3a – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
ARGWC-16 / DUP-01 (083122, 591798)	Barium	0.0383	0.0397	-3.59	A
	Potassium	3.71	NA	NC	NQ
	Selenium	0.00287 J	NA	NC	NQ
	Boron	0.101	0.11	-8.53	A
	Calcium	42.4	43.2	-1.87	A
	Magnesium	31.9	NA	NC	NQ
	Manganese	0.327	NA	NC	NQ
	Sodium	15	NA	NC	NQ
	Chloride	5.67	5.74	-1.23	A
	Sulfate	243	242	0.41	A
	TDS	375	373	0.53	A
	Alkalinity	19	NA	NC	NQ
	Bicarbonate	19	NA	NC	NQ

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

Table 3b – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
ARAMW-4 / DUP-02 (090222, 592011)	Arsenic	0.00339 J	0.00307 J	NC	A*
	Barium	0.0374	0.0358	4.37	A
	Cobalt	0.00411	0.00392	NC	A*
	Lithium	0.0117	0.0117	NC	A*
	Molybdenum	0.000288 J	0.000263 J	NC	A*
	Boron	0.477	0.471	NC	A*
	Calcium	240	230	4.26	A
	Magnesium	128	NA	NC	NQ
	Chloride	4.58	4.64	-1.30	A
	Fluoride	0.0590 J	0.0555 J	NC	A*
	Sulfate	1080	1080	0.00	A

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

Table 3c – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
ARGWC-23/ DUP-01 (090622, 592388)	Barium	0.0939	0.0899	4.35	A
	Cobalt	0.000588 J	0.000587 J	NC	A*
	Lithium	0.0578	0.0573	0.87	A
	Magnesium	11.6	NA	NC	NQ
	Manganese	0.417	NA	NC	NQ
	Molybdenum	0.067	0.0677	1.04	A
	Boron	0.458	0.426	7.24	A
	Calcium	65.2	68.4	4.79	A
	TDS	305	294	3.67	A
	Alkalinity	180	NA	NC	NQ
	Bicarbonate	180	NA	NC	NQ
	Chloride	3.73	3.66	1.89	A
	Fluoride	0.362	0.358	NC	A*
	Sulfate	65.3	66.9	2.42	A

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

Table 3d – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
AP1PZ-4 / DUP-01 (090622, 592398)	Barium	0.0426	0.043	-0.93	A
	Cobalt	0.000335 J	0.000327 J	NC	A*
	Lithium	0.00652 J	0.00664 J	NC	A*
	Molybdenum	0.00233	0.0023	1.30	A
	Boron	3.72	3.68	1.08	A
	Calcium	370	381	-2.93	A
	TDS	2210	2230	-0.90	A
	Chloride	5.1	5.13	-0.59	A
	Fluoride	0.249	0.243	NC	A*
	Sulfate	1420	1430	-0.70	A

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

Table 3e – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
AP1PZ-11/ DUP-02 (090822, 592528)	Barium	0.0221	0.0216	2.29	A
	Molybdenum	0.00136	0.00116	NC	A*
	Boron	0.163	0.158	3.12	A
	Calcium	27.3	26.7	2.22	A
	TDS	198	199	-0.50	A
	Chloride	1.45	1.41	2.80	A
	Fluoride	0.173	0.176	NC	A*
	Sulfate	52.3	52.9	-1.14	A

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

DATA USABILITY SUMMARY

Steven Elliott (Stantec) reviewed three data packages from GEL Laboratories (GEL) for the analysis of water samples collected from August 30 to September 7, 2022, at the Georgia Power Arkwright Plant site. Samples were collected according to the Field Sampling Plan – Plant Arkwright (Amec Foster Wheeler, 2016).

Intended Use of Data: To delineate concentrations of constituents of concern in site groundwater.

Analyses requested included:

- EPA Method 904 – Radium 228 by Gas Flow Proportional Counting
- EPA Method 903.1 Mod – Radium 226

Data were reviewed and validated as described in the field sampling plan and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (November 2020). The results of the review/validation are discussed in this Data Usability Summary (DUS) and the associated Laboratory Data Review Checklists.

DATA REVIEW/VALIDATION RESULTS

Introduction

Forty (40) groundwater samples, ten (10) field blanks, and five (5) field duplicate samples were analyzed for one or more of the analyses listed above. Table 1 lists the field identifications cross-referenced to laboratory identifications. Table 2 is a summary of qualified data. Tables 3a through 3h summarize field duplicate results.

Analytical Results

The data packages contain a minimum of one quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not detected results are reported as less than the value of the method detection limit (MDL).

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody forms. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample condition upon receipt forms indicates all samples were received at temperatures ranging from 1.9°C to 3.2°C. All samples were analyzed within the technical holding time. No data were qualified.

Calibrations

Case narratives indicate Initial and continuing calibration verification data were within method acceptance criteria.

Blanks

Laboratory Method Blanks. No contamination was detected in any of the laboratory method blanks.

Field Blanks. Field blanks were analyzed for the full suite of sample analyses and all analytes were not detected with the following exceptions:

SDG 591802 & 592012

- Radium 226 was detected in the field blank FB-01 (08/30/2022) at a concentration above the laboratory Reporting Limit (RL). No qualification was required for associated sample results reported as not detected ("U").

SDG 592014 & 592399

- Radium 226 was detected in the equipment blank EB-01 and field blank FB-01 (09/02/2022) at concentrations below the RL. Associated sample results were reported as detected greater than 10 times the blank concentration and therefore no qualification was necessary. Four samples (ARAMW-1, ARGWA-20, ARAMW-8, and ARAMW-2) had a reported value less than 10 times the blank concentration and have been qualified as estimated with a high bias ("J+").

SDG 592396 & 592534

- Radium 226 was detected in the blanks EB-02 (09/07/2022) at a concentration below the RL. No qualification was required for associated sample results reported as not detected. Seven samples (AP1GWA-1, AP1GWA-2, AP1PZ-4, AP1PZ-9, AP1PZ-8, AP1PZ-3, and AP1PZ-6) had a reported value less than 10 times the blank concentration and have been qualified as estimated with a high bias ("J+").

Laboratory Control Samples

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries met the laboratory acceptance criteria for all analyses.

Matrix Spike/Matrix Spike Duplicates

Site-specific MS/MSD precision and accuracy results were within the laboratory acceptance criteria.

Laboratory Duplicates

Appropriate analytical duplicates were analyzed and RPDs were within the laboratory acceptance criteria with the following exceptions.

SDG 592396 & 592534

- Radium 226 had a high laboratory duplicate RPD in sample AP1GWA-1 and has been qualified as estimated ("J").

Field Precision

Five sets of field duplicate samples were collected for this sampling event (see Tables 3a – 3e for sample/duplicate identification and precision calculations). The calculated RPDs between sample and duplicate were within the QAPP acceptance criteria of 25% for all analytes detected above five times the RL. For results reported less than five times the RL, with a difference between sample and duplicate less than two times the RL are also considered acceptable (qualified "A*"). All field duplicate precision was considered acceptable.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the affected property. A summary of qualified data is presented in Table 2 below.

References:

Amec Foster Wheeler, 2016. Arkwright Field Sampling Plan. October.

United State Environmental Protection Agency (USEPA), 2020. National Functional Guidelines for Superfund Inorganic Methods Data Review. November.

Table 1 – Cross-Reference between Laboratory and Field Identifications

Field Identification	Laboratory Identification	SDG	Sample Date
EB-02	592012001	592012	09/02/2022
ARGWC-18	592012002	592012	09/02/2022
ARGWC-17	592012003	592012	09/02/2022
ARAMW-4	592012004	592012	09/02/2022
DUP-02	592012005	592012	09/02/2022
ARGWA-5	591802001	591802	08/30/2022
ARGWA-12	591802002	591802	08/30/2022
FB-01	591802003	591802	08/30/2022
ARGWA-24	591802004	591802	08/31/2022
ARGWA-3	591802005	591802	08/31/2022
ARGWA-13	591802006	591802	08/31/2022
ARGWC-7	591802007	591802	08/31/2022
ARAMW-6	591802008	591802	08/31/2022
ARGWC-15	591802009	591802	08/31/2022
ARGWC-9	591802010	591802	08/31/2022
ARGWA-14	591802011	591802	08/31/2022
ARGWC-8	591802012	591802	08/31/2022
ARGWC-10	591802013	591802	08/31/2022
FB-02	591802014	591802	08/31/2022
ARGWC-16	591802015	591802	08/31/2022
DUP-01	591802016	591802	08/31/2022
ARAMW-3	591802017	591802	08/31/2022
EB-01	591802018	591802	08/31/2022
ARGWC-22	592399001	592399	09/06/2022
ARGWC-23	592399002	592399	09/06/2022
DUP-01	592399003	592399	09/06/2022
ARAMW-7	592399004	592399	09/07/2022
ARGWA-19	592014001	592014	09/01/2022
ARGWC-21	592014002	592014	09/01/2022
ARAMW-1	592014003	592014	09/02/2022
FB-01	592014004	592014	09/02/2022
ARGWA-20	592014005	592014	09/02/2022
EB-01	592014006	592014	09/02/2022
ARAMW-8	592014007	592014	09/02/2022
ARAMW-2	592014008	592014	09/02/2022
AP1PZ-11	592534001	592534	09/08/2022
DUP-02	592534002	592534	09/08/2022
AP1PZ-2	592534003	592534	09/08/2022
AP1PZ-5	592534004	592534	09/08/2022
EB-01	592396001	592396	09/07/2022
AP1GWA-1	592396002	592396	09/07/2022
AP1GWA-2	592396003	592396	09/07/2022

Table 1 – Cross-Reference between Laboratory and Field Identifications

Field Identification	Laboratory Identification	SDG	Sample Date
FB-01	592396004	592396	09/07/2022
AP1PZ-1	592396005	592396	09/07/2022
AP1PZ-7	592396006	592396	09/07/2022
AP1PZ-10	592396007	592396	09/07/2022
FB-02	592396008	592396	09/07/2022
AP1PZ-4	592396009	592396	09/07/2022
DUP-01	592396010	592396	09/07/2022
AP1PZ-9	592396011	592396	09/07/2022
AP1PZ-8	592396012	592396	09/07/2022
EB-02	592396013	592396	09/07/2022
AP1PZ-3	592396014	592396	09/07/2022
AP1PZ-6	592396015	592396	09/07/2022

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
ARAMW-1	Radium 226	J+	Field blank contamination
ARGWA-20	Radium 226	J+	Field blank contamination
ARAMW-8	Radium 226	J+	Field blank contamination
ARAMW-2	Radium 226	J+	Field blank contamination
AP1GWA-1	Radium 226	J+	Field blank contamination, Lab Duplicate RPD
AP1GWA-2	Radium 226	J+	Field blank contamination
AP1PZ-4	Radium 226	J+	Field blank contamination
AP1PZ-9	Radium 226	J+	Field blank contamination
AP1PZ-8	Radium 226	J+	Field blank contamination
AP1PZ-3	Radium 226	J+	Field blank contamination
AP1PZ-6	Radium 226	J+	Field blank contamination

Table 3a – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
ARGWC-16 / DUP-01 (083122, 591802)	Radium 228	-0.688 U	0.202 U	NC	A*
	Radium 226	0.493	1.8	NC	A*
	Radium 226+228	0.493	2	NC	A*

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

Table 3b – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
ARAMW-4 / DUP-02 (090222, 592012)	Radium 228	0.493 U	1.25 U	NC	A*
	Radium 226	0.455	0.983	NC	A*
	Radium 226+228	0.947	2.23	NC	A*

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

Table 3c – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
ARGWC-23/ DUP-01 (090622, 592399)	Radium 228	1.57 U	0.272 U	NC	A*
	Radium 226	0.79	0.363 U	NC	A*
	Radium 226+228	2.36	0.635	NC	A*

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

Table 3d – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
AP1PZ-4 / DUP-01 (090622, 592396)	Radium 228	1.73 U	-0.991 U	NC	A*
	Radium 226	0.59	0.374 U	NC	A*
	Radium 226+228	2.32	0.374	NC	A*

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

Table 3e – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
AP1PZ-11/ DUP-02 (090822, 592534)	Radium 228	0.891 U	-0.177 U	NC	A*
	Radium 226	0.166 U	0.613	NC	A*
	Radium 226+228	1.06	0.613	NC	A*

[a] RPD = ((SR - DR)*200)/(SR + DR)
A - Acceptable Data.
A* - Acceptable data where results were less than 5X the RDL and the difference between sample and duplicate was less than 2X the RDL.
J – Estimated detected.
NA – Not analyzed
NC – Not calculated
NQ – Not qualified

DATA USABILITY SUMMARY

Steven Elliott (Stantec) reviewed one data package from GEL Laboratories (GEL) for the analysis of water samples (ARAMW-9) collected from October 20, 2022, at the Georgia Power Arkwright Plant site. Samples were collected according to the Field Sampling Plan – Plant Arkwright (Amec Foster Wheeler, 2016).

Intended Use of Data: To delineate concentrations of constituents of concern in site groundwater.

Analyses requested included:

- SW-846 6020B – Metals by inductively coupled plasma - mass spectrometry (ICP/MS)
- SW-846 7470A – Mercury by manual cold-vapor
- EPA 300 Rev 2.1 – Chloride, fluoride, and sulfate by ion chromatography
- SM 2540C - 2015 – Total dissolved solids (TDS)
- SM 2320B – Total Alkalinity, Bicarbonate, Carbonate

Data were reviewed and validated as described in the field sampling plan and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (November 2020). The results of the review/validation are discussed in this Data Usability Summary (DUS) and the associated Laboratory Data Review Checklists.

DATA REVIEW/VALIDATION RESULTS

Introduction

One (1) groundwater sample and two (2) field blanks were analyzed for one or more of the analyses listed above. Table 1 lists the field identifications cross-referenced to laboratory identifications. Table 2 is a summary of qualified data. Table 3 summarizes field duplicate results.

Analytical Results

The data packages contain a minimum of one quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not detected results are reported as less than the value of the method detection limit (MDL).

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody forms. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample condition upon receipt forms indicates all samples were received at temperatures ranging from 2°C to 4°C. All samples were analyzed within the technical holding time. No data were qualified.

Calibrations

Case narratives indicate Initial and continuing calibration verification data were within method acceptance criteria.

Blanks

Laboratory Method Blanks. No contamination was detected in any of the laboratory method blanks.

Field Blanks. Field blanks were analyzed for the full suite of sample analyses and all analytes were not detected with the following exceptions:

- Calcium was detected in the equipment blank FB-01 at a concentration below the laboratory Reporting Limit (RL). No qualification was required for associated sample results reported as greater than 10 times the blank concentration.

Laboratory Control Samples

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries met the laboratory acceptance criteria for all analyses.

Matrix Spike/Matrix Spike Duplicates

Site-specific MS/MSD precision and accuracy results were within the laboratory acceptance criteria with the following exceptions:

- Calcium, potassium, magnesium, manganese, and sodium sample concentrations in sample ARAMW-9 were greater than four times the spike concentration and therefore not appropriate for evaluation.

Laboratory Duplicates

Appropriate analytical duplicates were analyzed and RPDs were within the laboratory acceptance criteria.

Field Precision

A field duplicate sample was not collected for this sampling event.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the affected property. A summary of qualified data is presented in Table 2 below.

References:

Amec Foster Wheeler, 2016. Arkwright Field Sampling Plan. October.

United State Environmental Protection Agency (USEPA), 2020. National Functional Guidelines for Superfund Inorganic Methods Data Review. November.

Table 1 – Cross-Reference between Laboratory and Field Identifications

Field Identification	Laboratory Identification	SDG	Sample Date
ARAMW-9	599922001	599922	10/20/2022
FB-01	599922002	599922	10/20/2022
EB-01	599922003	599922	10/20/2022

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
	None		

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
None					

Stantec
Georgia Power – Arkwright (AP-2)
Analytical Report Nos. 597794
November 2022

DATA USABILITY SUMMARY

Steven Elliott (Stantec) reviewed one data package from GEL Laboratories (GEL) for the analysis of water samples (ARAMW-9) collected October 20, 2022, at the Georgia Power Arkwright Plant site. Samples were collected according to the Field Sampling Plan – Plant Arkwright (Amec Foster Wheeler, 2016).

Intended Use of Data: To delineate concentrations of constituents of concern in site groundwater.

Analyses requested included:

- EPA Method 904 – Radium 228 by Gas Flow Proportional Counting
- EPA Method 903.1 Mod – Radium 226

Data were reviewed and validated as described in the field sampling plan and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (November 2020). The results of the review/validation are discussed in this Data Usability Summary (DUS) and the associated Laboratory Data Review Checklists.

DATA REVIEW/VALIDATION RESULTS

Introduction

One (1) groundwater sample, one (1) field blank, and one (1) equipment blank were analyzed for one or more of the analyses listed above. Table 1 lists the field identifications cross-referenced to laboratory identifications. Table 2 is a summary of qualified data. Tables 3a through 3h summarize field duplicate results.

Analytical Results

The data packages contain a minimum of one quality control batch per analytical method analyzed. The quality control batch identifies the laboratory QC samples that correspond to the designated field samples. Not detected results are reported as less than the value of the method detection limit (MDL).

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody forms. The samples were received in the appropriate containers with the paperwork filled out properly. The laboratory sample condition upon receipt forms indicates all samples were received at temperatures ranging from 1.9°C to 3.2°C. All samples were analyzed within the technical holding time. No data were qualified.

Calibrations

Case narratives indicate Initial and continuing calibration verification data were within method acceptance criteria.

Blanks

Laboratory Method Blanks. No contamination was detected in any of the laboratory method blanks.

Field Blanks. Field blanks were analyzed for the full suite of sample analyses and all analytes were not detected.

Laboratory Control Samples

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries met the laboratory acceptance criteria for all analyses.

Matrix Spike/Matrix Spike Duplicates

Site-specific MS/MSD precision and accuracy results were within the laboratory acceptance criteria.

Laboratory Duplicates

Appropriate analytical duplicates were analyzed and RPDs were within the laboratory acceptance criteria.

Field Precision

No field duplicate samples were collected for this sampling event.

Summary

The groundwater analytical data are usable for the purpose of determining current concentrations of COCs in this medium at the affected property. A summary of qualified data is presented in Table 2 below.

References:

Amec Foster Wheeler, 2016. Arkwright Field Sampling Plan. October.

United State Environmental Protection Agency (USEPA), 2020. National Functional Guidelines for Superfund Inorganic Methods Data Review. November.

Table 1 – Cross-Reference between Laboratory and Field Identifications

Field Identification	Laboratory Identification	SDG	Sample Date
ARAMW-9	597794001	597794	10/20/2022
FB-1	597794002	597794	10/20/2022
EB-1	597794003	597794	10/20/2022

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
	None		

Table 3 – Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD[a]	Qualified
None					

APPENDIX D
STATISTICAL ANALYSES

GROUNDWATER STATS CONSULTING

February 28, 2023

Southern Company Services
Attn: Mr. Joju Abraham
241 Ralph McGill Blvd NE, Bin 10160
Atlanta, Georgia 30308-3374

Re: Plant Arkwright Ash Pond 2/Dry Ash Stockpile
September 2022 Semi-Annual Sample Event

Dear Mr. Abraham,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the September 2022 Semi-Annual Groundwater Monitoring Detection and Assessment statistical analysis of monitoring data for Georgia Power Company's Plant Arkwright Ash Pond 2/Dry Ash Stockpile. The analysis complies with the Georgia Environmental Protection Division (EPD) Rules for Solid Waste Management Chapter 391-3-4-.10 and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Semi-annual sampling is conducted for USEPA's Coal Combustion Residuals (CCR) Appendix III and IV parameters, in addition to Appendix I parameters, in accordance with the Georgia Department of Natural Resources, Environmental Protection Division groundwater monitoring regulations. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** ARGWA-19 and ARGWA-20
- **Downgradient wells:** ARGWC-21, ARGWC-22, and ARGWC-23
- **Assessment wells:** ARAMW-1, ARAMW-2, ARAMW-7, and ARAMW-8

Assessment wells ARAMW-1 and ARAMW-2 were installed in late 2019, and wells ARAMW-7 and ARAMW-8 were installed in late 2020. Assessment wells with less than 4 samples did not require formal statistics; therefore, these well/constituent pairs were only

plotted on time series graphs and box plots. Assessment wells with 4 or more samples were additionally evaluated with confidence intervals.

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Kristina Rayner, Founder and Senior Statistician for Groundwater Stats Consulting.

The CCR program consists of the following constituents:

- **Georgia Appendix I:** arsenic, barium, cadmium, lead, selenium, and silver
- **CCR Appendix III:** boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **CCR Appendix IV:** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lithium, lead, mercury, molybdenum, selenium, and thallium

Data for Appendix I constituents were analyzed using interwell prediction limits and confidence intervals; data for Appendix III constituents were analyzed using interwell prediction limits; and data for Appendix IV were analyzed using confidence intervals. Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. Summaries of well/constituent pairs containing 100% non-detects since 2016 for all constituents follow this letter.

For all constituents, a substitution of the most recent reporting limit is used for non-detect data. For time series plots, interwell prediction limits, and upper tolerance limits, a single reporting limit substitution is used across all wells. Note that Minimum Detectable Concentrations (MDCs) were not provided for the September 2022 combined radium 226 + 228 observations at the time of this report.

Time series plots for all well/constituent pairs are provided and are particularly useful for screening parameters detected in downgradient wells which require statistical analyses (Figure A). Additionally, a separate section of box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs. A summary of flagged outliers follows this report (Figure C).

Based on the previous screening described below, data at all wells for constituents detected in downgradient wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method based on site characteristics of groundwater data

upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided in the previous analysis to demonstrate that the selected statistical methods for the parameters listed above comply with the USEPA Unified Guidance and the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10. The EPA suggests the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations. Power curves were based on the following:

Georgia EPD Appendix I Constituents:

- Semi-Annual Sampling
- Interwell Prediction Limits with 1-of-2 resample plan (all parameters)
- # Constituents: 5 (cadmium was 100% non-detect in downgradient wells)
- # Downgradient wells: 3

CCR Appendix III Constituents:

- Semi-Annual Sampling
- Interwell Prediction Limits with 1-of-2 resample plan (all parameters)
- # Constituents: 7
- # Downgradient wells: 3

The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. Parametric prediction limits (or tolerance limits or confidence intervals, as applicable) are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. While the false positive rate associated with parametric limits is based on an annual 10% (5% per semi-annual event) as recommend by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. The following approaches are used for handling non-detects (USEPA, 2009).

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for non-detects is the most recent practical quantification limit (PQL) as reported by the laboratory.

- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% non-detects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after careful screening for any new outliers. In some cases, the earlier portion of data may require deselection prior to construction of limits to provide sensitive limits that will rapidly detect changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs. No adjustments were required at this time.

Summary of Background Screening – Conducted in 2019

Outlier Analysis

Time series plots were used to identify suspected outliers, or extreme values that would result in limits that are not representative of the current background data population. Suspected outliers at wells ARGWA-19, ARGWA-20, and ARGWC-21 for Appendix I, Appendix III, and Appendix IV parameters were formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits. Outliers were flagged in downgradient wells, though there are no intrawell statistical analyses in the current report. This improves the estimate of downgradient confidence intervals and provides for possible future application of intrawell statistics. As noted below, current values that could result in exceedances were not flagged.

When the most recent values are identified as outliers in upgradient wells, those values are typically not flagged in the database (except in cases where they would cause background limits to be elevated) as they may represent a possible trend in an upgradient well. If future values do not remain at similar concentrations, these values will be flagged as outliers and deselected. Several low values exist in the data sets and appear on the graphs as possible low outliers relative to the laboratory's Practical Quantitation Limit. However, these values are observed trace values (i.e., measurements reported by the laboratory between the Method Detection Limit and the Practical Quantitation Limit) and,

therefore, were not flagged as outliers. Due to changing reporting limits, when non-detects are replaced with the most recent reporting limit, previously flagged "J" values (or estimated values) may be flagged as outliers if they are much higher than current reporting limits.

Additionally, when any values are flagged in the database as outliers, they are plotted in a disconnected and lighter symbol on the time series graph. The accompanying data pages display the flagged value in a lighter font as well. A substitution of the most recent reporting limit was applied when varying detection limits existed in data. A summary of flagged values is included in Figure C.

Seasonality

No obvious seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

Trend Test Evaluation

While trends may be identified by visual inspection, a quantification of the trend and its significance is needed. The Sen's Slope/Mann Kendall trend test was used to evaluate all data at wells ARGWA-19, ARGWA-20, and ARGWC-21 to identify statistically significant increasing or decreasing trends. In the absence of suspected contamination, significant trending data are typically not included as part of the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, all available data are evaluated to determine whether earlier concentration levels are significantly different than current reported concentrations and will be deselected as necessary. When any records of data are truncated for the reasons above, a summary report will be provided to show the date ranges used in construction of the statistical limits.

The results of the trend analyses were included with the previous screenings and showed a few statistically significant trends, both increasing and decreasing. No adjustments to the background period were made because the overall changes were relatively small. Since intrawell tests are not used in this current analysis, the background levels are not affected by trends in downgradient wells.

Appendix III – Determination of Spatial Variation

The Analysis of Variance (ANOVA) was used to statistically evaluate differences in average concentrations among upgradient wells, which assists in identifying the most appropriate statistical approach. Interwell tests, which compare downgradient well data to statistical limits constructed from pooled upgradient well data, are appropriate when average concentrations are similar across upgradient wells. Intrawell tests, which compare compliance data from a single well to screened historical data within the same well, are appropriate when upgradient wells exhibit spatial variation; when statistical limits constructed from upgradient wells are not representative of the current background data population; and when downgradient water quality is unimpacted compared to upgradient water quality for the same parameter.

The ANOVA identified significant differences among upgradient well data for several constituents. While data were further tested for intrawell eligibility during the screening, interwell methods will be used for all Appendix I and Appendix III constituents in accordance with Georgia EPD requirements.

Prediction Limits Appendix I & III Parameters – September 2022

All Appendix I and III parameters are analyzed using interwell prediction limits. Upgradient well data were re-assessed for potential outliers during this analysis. No new values were flagged and a summary of flagged outliers follows this report (Figure C).

Interwell Prediction Limits

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed using all historical upgradient well data through September 2022 for Appendix I and III constituents (Figures D & E, respectively). As mentioned above, wells containing 100% non-detects did not require statistical analyses. Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The September 2022 sample from each downgradient well is compared to the background limit to determine whether initial exceedances are present.

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When a resample confirms the initial exceedance, a statistically significant increase is identified and further research would be required to identify the cause of the exceedance (i.e., impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result; therefore, no exceedance is noted, and no further action is necessary. If no

resample is collected, the original result is considered a confirmed exceedance. Summary tables and graphical results for the interwell prediction limits for Appendix I and III constituents limits follow this letter. No exceedances were identified for Appendix I well/constituent pairs. The following exceedances were identified for Appendix III well/constituent pairs:

- Boron: ARGWC-21, ARGWC-22, and ARGWC-23
- Calcium: ARGWC-21, ARGWC-22, and ARGWC-23
- Fluoride: ARGWC-21 and ARGWC-23
- pH: ARGWC-23
- Sulfate: ARGWC-21, ARGWC-22, and ARGWC-23
- TDS ARGWC-21, ARGWC-22, and ARGWC-23

Trend Tests – Appendix III

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test at the 99% confidence level to determine whether concentrations are statistically increasing, decreasing, or stable (Figure F). Upgradient well data are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site. Upgradient trends are an indication of natural variability in groundwater quality unrelated to practices at the site. Both a summary and graphical display of the trend test results follows this letter. Statistically significant trends were identified for the following well/constituent pairs:

Increasing:

- Boron: ARGWA-20 (upgradient) and ARGWC-21
- Calcium: ARGWC-21
- Fluoride: ARGWC-23
- Sulfate: ARGWC-21
- TDS: ARGWC-21

Decreasing:

- Sulfate: ARGWA-19 (upgradient)

Confidence Interval Analysis of Appendix I & IV Parameters – September 2022

For Appendix I and IV parameters, confidence intervals for each downgradient well/constituent pair were compared against corresponding Groundwater Protection Standards (GWPS). GWPS were developed as described below. Downgradient well/constituent pairs containing 100% non-detects do not require analysis. Data from

upgradient wells for Appendix I and IV parameters are reassessed for outliers during each analysis. No new values were flagged, and a summary of previously flagged outliers follows this report (Figure C).

Interwell Upper Tolerance Limits

First, interwell tolerance limits were used to calculate site-specific background limits from all available pooled upgradient well data through September 2022 for Appendix I and IV constituents (Figure G). Parametric tolerance limits are used when data follow a normal or transformed-normal distribution. When data contained greater than 50% non-detects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used.

Groundwater Protection Standards

The background limits were then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia EPD Rule 391-3-4-.10(6)(a). On July 30, 2018, US EPA revised the Federal CCR rule updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR §257.95(h)(2). Effective on February 22, 2022, Georgia EPD incorporated the updated GWPS into the current Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a). In accordance with the updated Rules, the GWPS is:

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title
- Where an MCL has not been established for a constituent, Federal and State CCR Rules specify levels for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L)
- The respective background level for a constituent when the background level is higher than the MCL or Federal CCR Rule identified GWPS

Following Georgia EPD Rule requirements and the Federal CCR requirements, GWPS were established for statistical comparison of Appendix I and IV constituents for this sample event (Figure H).

Confidence Intervals

To complete the statistical comparison to GWPS, confidence intervals were constructed when a minimum of 4 samples was available using data since 2016 for each of the Appendix I and IV constituents in accordance with the state requirements in each downgradient well. The Sanitas software was used to calculate the tolerance limits and

the confidence intervals. Confidence intervals were compared to the GWPS prepared as described above (Figure I). Only when the entire confidence interval is above a GWPS is the downgradient well/constituent pair considered to exceed its respective standard. If there is an exceedance of the GWPS, a statistically significant level (SSL) exceedance is identified. A summary of the confidence intervals follows this letter and an exceedance was identified for the following well/constituent pair:

- Cobalt: ARAMW-7
- Lithium: ARAMW-7

Trend Test Evaluation – Appendix IV

Data at wells with confidence interval exceedances are further evaluated using the Sen's Slope/Mann Kendall trend test at the 99% confidence level to determine whether concentrations are statistically increasing, decreasing, or stable (Figure J). Upgradient wells are included in the trend analyses to identify whether similar patterns exist upgradient of the site for the same constituents. When trends are present in upgradient trends, it is an indication of natural variability in groundwater quality unrelated to practices at the site. No significant trends were identified.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Plant Arkwright Ash Pond 2/Dry Ash Stockpile. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

Andrew Collins
Project Manager

Kristina Rayner
Senior Statistician

100% Non-Detects: Appendix I Downgradient

Analysis Run 10/10/2022 12:34 PM View: Appendix I
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Selenium (mg/L)
ARGWC-21, ARGWC-23

Silver (mg/L)
ARGWC-22, ARGWC-23

100% Non-Detects: Appendix I & IV Downgradient & Assessment

Analysis Run 10/10/2022 12:59 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Antimony (mg/L)
ARAMW-1, ARAMW-2, ARAMW-7, ARAMW-8, ARGWC-21, ARGWC-22, ARGWC-23

Beryllium (mg/L)
ARAMW-1, ARAMW-2, ARAMW-8, ARGWC-21

Cadmium (mg/L)
ARAMW-1, ARAMW-2, ARAMW-7, ARAMW-8, ARGWC-21, ARGWC-22, ARGWC-23

Chromium (mg/L)
ARAMW-1, ARAMW-2, ARAMW-7, ARAMW-8, ARGWC-23

Lead (mg/L)
ARAMW-1, ARAMW-2, ARAMW-8

Mercury (mg/L)
ARAMW-1, ARAMW-2, ARAMW-7, ARAMW-8, ARGWC-22, ARGWC-23

Molybdenum (mg/L)
ARGWC-21

Selenium (mg/L)
ARAMW-1, ARAMW-2, ARAMW-7, ARAMW-8, ARGWC-21, ARGWC-23

Silver (mg/L)
ARAMW-1, ARAMW-2, ARAMW-7, ARAMW-8, ARGWC-22, ARGWC-23

Thallium (mg/L)
ARAMW-1, ARAMW-2, ARAMW-7, ARAMW-8, ARGWC-21

Appendix I Interwell Prediction Limits - All Results (No Significant)

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	ARGWC-21	0.005	n/a	9/1/2022	0.00207J	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	ARGWC-22	0.005	n/a	9/6/2022	0.005ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	ARGWC-23	0.005	n/a	9/6/2022	0.005ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Barium (mg/L)	ARGWC-21	0.1	n/a	9/1/2022	0.0425	No	64	n/a	n/a	0	n/a	n/a	0.0004709	NP Inter (normality) 1 of 2
Barium (mg/L)	ARGWC-22	0.1	n/a	9/6/2022	0.0226	No	64	n/a	n/a	0	n/a	n/a	0.0004709	NP Inter (normality) 1 of 2
Barium (mg/L)	ARGWC-23	0.1	n/a	9/6/2022	0.0939	No	64	n/a	n/a	0	n/a	n/a	0.0004709	NP Inter (normality) 1 of 2
Lead (mg/L)	ARGWC-21	0.002	n/a	9/1/2022	0.002ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Lead (mg/L)	ARGWC-22	0.002	n/a	9/6/2022	0.002ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Lead (mg/L)	ARGWC-23	0.002	n/a	9/6/2022	0.002ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Selenium (mg/L)	ARGWC-22	0.005	n/a	9/6/2022	0.005ND	No	63	n/a	n/a	63.49	n/a	n/a	0.0004845	NP Inter (NDs) 1 of 2
Silver (mg/L)	ARGWC-21	0.001	n/a	9/1/2022	0.001ND	No	54	n/a	n/a	90.74	n/a	n/a	0.0006584	NP Inter (NDs) 1 of 2

Appendix III Interwell Prediction Limits - Significant Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	ARGWC-21	0.08782	n/a	9/1/2022	0.921	Yes	34	0.2043	0.05187	32.35	Kaplan-Meier	sqrt(x)	0.002505	Param Inter 1 of 2
Boron (mg/L)	ARGWC-22	0.08782	n/a	9/6/2022	2.78	Yes	34	0.2043	0.05187	32.35	Kaplan-Meier	sqrt(x)	0.002505	Param Inter 1 of 2
Boron (mg/L)	ARGWC-23	0.08782	n/a	9/6/2022	0.458	Yes	34	0.2043	0.05187	32.35	Kaplan-Meier	sqrt(x)	0.002505	Param Inter 1 of 2
Calcium (mg/L)	ARGWC-21	14.12	n/a	9/1/2022	71.5	Yes	34	10.56	2.006	0	None	No	0.002505	Param Inter 1 of 2
Calcium (mg/L)	ARGWC-22	14.12	n/a	9/6/2022	162	Yes	34	10.56	2.006	0	None	No	0.002505	Param Inter 1 of 2
Calcium (mg/L)	ARGWC-23	14.12	n/a	9/6/2022	65.2	Yes	34	10.56	2.006	0	None	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	ARGWC-21	0.148	n/a	9/1/2022	0.161	Yes	38	n/a	n/a	44.74	n/a	n/a	0.001277	NP Inter (normality) 1 of 2
Fluoride (mg/L)	ARGWC-23	0.148	n/a	9/6/2022	0.362	Yes	38	n/a	n/a	44.74	n/a	n/a	0.001277	NP Inter (normality) 1 of 2
pH (SU)	ARGWC-23	6.101	5.374	9/6/2022	6.41	Yes	37	5.738	0.2064	0	None	No	0.001253	Param Inter 1 of 2
Sulfate (mg/L)	ARGWC-21	21	n/a	9/1/2022	221	Yes	59	n/a	n/a	0	n/a	n/a	0.0005475	NP Inter (normality) 1 of 2
Sulfate (mg/L)	ARGWC-22	21	n/a	9/6/2022	667	Yes	59	n/a	n/a	0	n/a	n/a	0.0005475	NP Inter (normality) 1 of 2
Sulfate (mg/L)	ARGWC-23	21	n/a	9/6/2022	65.3	Yes	59	n/a	n/a	0	n/a	n/a	0.0005475	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	ARGWC-21	145.2	n/a	9/1/2022	537	Yes	32	108	20.85	0	None	No	0.002505	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	ARGWC-22	145.2	n/a	9/6/2022	1180	Yes	32	108	20.85	0	None	No	0.002505	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	ARGWC-23	145.2	n/a	9/6/2022	305	Yes	32	108	20.85	0	None	No	0.002505	Param Inter 1 of 2

Appendix III Interwell Prediction Limits - All Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**ARGWC-21**	**0.08782**	**n/a**	**9/1/2022**	**0.921**	**Yes**	**34**	**0.2043**	**0.05187**	**32.35**	**Kaplan-Meier**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Boron (mg/L)	**ARGWC-22**	**0.08782**	**n/a**	**9/6/2022**	**2.78**	**Yes**	**34**	**0.2043**	**0.05187**	**32.35**	**Kaplan-Meier**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Boron (mg/L)	**ARGWC-23**	**0.08782**	**n/a**	**9/6/2022**	**0.458**	**Yes**	**34**	**0.2043**	**0.05187**	**32.35**	**Kaplan-Meier**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**ARGWC-21**	**14.12**	**n/a**	**9/1/2022**	**71.5**	**Yes**	**34**	**10.56**	**2.006**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**ARGWC-22**	**14.12**	**n/a**	**9/6/2022**	**162**	**Yes**	**34**	**10.56**	**2.006**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**ARGWC-23**	**14.12**	**n/a**	**9/6/2022**	**65.2**	**Yes**	**34**	**10.56**	**2.006**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	ARGWC-21	16.2	n/a	9/1/2022	3.34	No	60	n/a	n/a	0	n/a	n/a	0.0005253	NP Inter (normality) 1 of 2
Chloride (mg/L)	ARGWC-22	16.2	n/a	9/6/2022	8.34	No	60	n/a	n/a	0	n/a	n/a	0.0005253	NP Inter (normality) 1 of 2
Chloride (mg/L)	ARGWC-23	16.2	n/a	9/6/2022	3.73	No	60	n/a	n/a	0	n/a	n/a	0.0005253	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**ARGWC-21**	**0.148**	**n/a**	**9/1/2022**	**0.161**	**Yes**	**38**	**n/a**	**n/a**	**44.74**	**n/a**	**n/a**	**0.001277**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	ARGWC-22	0.148	n/a	9/6/2022	0.056J	No	38	n/a	n/a	44.74	n/a	n/a	0.001277	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**ARGWC-23**	**0.148**	**n/a**	**9/6/2022**	**0.362**	**Yes**	**38**	**n/a**	**n/a**	**44.74**	**n/a**	**n/a**	**0.001277**	**NP Inter (normality) 1 of 2**
pH (SU)	ARGWC-21	6.101	5.374	9/1/2022	5.97	No	37	5.738	0.2064	0	None	No	0.001253	Param Inter 1 of 2
pH (SU)	ARGWC-22	6.101	5.374	9/6/2022	5.88	No	37	5.738	0.2064	0	None	No	0.001253	Param Inter 1 of 2
pH (SU)	**ARGWC-23**	**6.101**	**5.374**	**9/6/2022**	**6.41**	**Yes**	**37**	**5.738**	**0.2064**	**0**	**None**	**No**	**0.001253**	**Param Inter 1 of 2**
Sulfate (mg/L)	**ARGWC-21**	**21**	**n/a**	**9/1/2022**	**221**	**Yes**	**59**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0005475**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**ARGWC-22**	**21**	**n/a**	**9/6/2022**	**667**	**Yes**	**59**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0005475**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**ARGWC-23**	**21**	**n/a**	**9/6/2022**	**65.3**	**Yes**	**59**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0005475**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	**ARGWC-21**	**145.2**	**n/a**	**9/1/2022**	**537**	**Yes**	**32**	**108**	**20.85**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**ARGWC-22**	**145.2**	**n/a**	**9/6/2022**	**1180**	**Yes**	**32**	**108**	**20.85**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**ARGWC-23**	**145.2**	**n/a**	**9/6/2022**	**305**	**Yes**	**32**	**108**	**20.85**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**

Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**ARGWA-20 (bg)**	**0.006578**	**66**	**63**	**Yes**	**17**	**23.53**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**ARGWC-21**	**0.06544**	**102**	**63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**ARGWC-21**	**6.037**	**104**	**63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Fluoride (mg/L)	**ARGWC-23**	**0.1703**	**71**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**ARGWA-19 (bg)**	**-0.2346**	**-172**	**-146**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**ARGWC-21**	**7.726**	**327**	**146**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	**ARGWC-21**	**36.03**	**99**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Appendix III Trend Tests - Prediction Limit Exceedances - All Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	ARGWA-19 (bg)	0.002119	38	63	No	17	41.18	n/a	n/a	0.01	NP
Boron (mg/L)	**ARGWA-20 (bg)**	**0.006578**	**66**	**63**	**Yes**	**17**	**23.53**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**ARGWC-21**	**0.06544**	**102**	**63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	ARGWC-22	-0.06204	-15	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	ARGWC-23	0.0343	34	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	ARGWA-19 (bg)	-0.3484	-19	-63	No	17	0	n/a	n/a	0.01	NP
Calcium (mg/L)	ARGWA-20 (bg)	0.1596	32	63	No	17	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**ARGWC-21**	**6.037**	**104**	**63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	ARGWC-22	0	-4	-53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	ARGWC-23	2.362	31	53	No	15	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	ARGWA-19 (bg)	0	-7	-74	No	19	36.84	n/a	n/a	0.01	NP
Fluoride (mg/L)	ARGWA-20 (bg)	0	-32	-74	No	19	52.63	n/a	n/a	0.01	NP
Fluoride (mg/L)	ARGWC-21	0	-2	-74	No	19	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	**ARGWC-23**	**0.1703**	**71**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH (SU)	ARGWA-19 (bg)	0.008295	10	68	No	18	0	n/a	n/a	0.01	NP
pH (SU)	ARGWA-20 (bg)	0.00258	9	74	No	19	0	n/a	n/a	0.01	NP
pH (SU)	ARGWC-23	-0.03192	-11	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**ARGWA-19 (bg)**	**-0.2346**	**-172**	**-146**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	ARGWA-20 (bg)	-0.1014	-87	-139	No	29	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**ARGWC-21**	**7.726**	**327**	**146**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	ARGWC-22	-5.757	-4	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	ARGWC-23	2.598	15	53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	ARGWA-19 (bg)	-3.466	-33	-58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	ARGWA-20 (bg)	0	10	58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	**ARGWC-21**	**36.03**	**99**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	ARGWC-22	-44.02	-33	-48	No	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	ARGWC-23	0	3	48	No	14	0	n/a	n/a	0.01	NP

Upper Tolerance Limit Summary Table

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/28/2022, 5:44 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.003	n/a	n/a	n/a	n/a	26	n/a	n/a	100	n/a	n/a	0.2635	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	n/a	64	n/a	n/a	85.94	n/a	n/a	0.03752	NP Inter(NDs)
Barium (mg/L)	n/a	0.1	n/a	n/a	n/a	n/a	64	n/a	n/a	0	n/a	n/a	0.03752	NP Inter(normality)
Beryllium (mg/L)	n/a	0.0005	n/a	n/a	n/a	n/a	30	n/a	n/a	93.33	n/a	n/a	0.2146	NP Inter(NDs)
Cadmium (mg/L)	n/a	0.001	n/a	n/a	n/a	n/a	62	n/a	n/a	98.39	n/a	n/a	0.04158	NP Inter(NDs)
Chromium (mg/L)	n/a	0.01	n/a	n/a	n/a	n/a	34	n/a	n/a	20.59	n/a	n/a	0.1748	NP Inter(normality)
Cobalt (mg/L)	n/a	0.001	n/a	n/a	n/a	n/a	36	n/a	n/a	66.67	n/a	n/a	0.1578	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	n/a	1.277	n/a	n/a	n/a	n/a	34	0.5445	0.3363	0	None	No	0.05	Inter
Fluoride (mg/L)	n/a	0.148	n/a	n/a	n/a	n/a	38	n/a	n/a	44.74	n/a	n/a	0.1424	NP Inter(normality)
Lead (mg/L)	n/a	0.002	n/a	n/a	n/a	n/a	64	n/a	n/a	85.94	n/a	n/a	0.03752	NP Inter(NDs)
Lithium (mg/L)	n/a	0.013	n/a	n/a	n/a	n/a	36	n/a	n/a	41.67	n/a	n/a	0.1578	NP Inter(normality)
Mercury (mg/L)	n/a	0.0002	n/a	n/a	n/a	n/a	26	n/a	n/a	92.31	n/a	n/a	0.2635	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.001	n/a	n/a	n/a	n/a	32	n/a	n/a	90.63	n/a	n/a	0.1937	NP Inter(NDs)
Selenium (mg/L)	n/a	0.005	n/a	n/a	n/a	n/a	63	n/a	n/a	63.49	n/a	n/a	0.0395	NP Inter(NDs)
Silver (mg/L)	n/a	0.001	n/a	n/a	n/a	n/a	54	n/a	n/a	90.74	n/a	n/a	0.06267	NP Inter(NDs)
Thallium (mg/L)	n/a	0.002	n/a	n/a	n/a	n/a	26	n/a	n/a	96.15	n/a	n/a	0.2635	NP Inter(NDs)

PLANT ARKWRIGHT AP #2 GWPS				
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006
Arsenic, Total (mg/L)	0.01		0.005	0.01
Barium, Total (mg/L)	2		0.1	2
Beryllium, Total (mg/L)	0.004		0.0005	0.004
Cadmium, Total (mg/L)	0.005		0.001	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.001	0.006
Combined Radium, Total (pCi/L)	5		1.28	5
Fluoride, Total (mg/L)	4		0.15	4
Lead, Total (mg/L)	n/a	0.015	0.002	0.015
Lithium, Total (mg/L)	n/a	0.04	0.013	0.04
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.001	0.1
Selenium, Total (mg/L)	0.05		0.005	0.05
Silver, Total (mg/L)	n/a		0.001	0.001
Thallium, Total (mg/L)	0.002		0.002	0.002

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

**CCR = Coal Combustion Residuals*

Confidence Intervals - Significant Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/28/2022, 5:49 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Lower Compl.	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt (mg/L)	**ARAMW-7**	**0.077**	**0.017**	**0.006**	**n/a**	**Yes**	**5**	**0.05414**	**0.02917**	**0**	**None**	**No**	**0.031**	**NP (normality)**
Lithium (mg/L)	**ARAMW-7**	**0.06341**	**0.05875**	**0.04**	**n/a**	**Yes**	**5**	**0.06108**	**0.00139**	**0**	**None**	**No**	**0.01**	**Param.**

Confidence Intervals - All Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/28/2022, 5:49 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Lower Compl.	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	ARAMW-1	0.005	0.00233	0.01	n/a	No	6	0.004555	0.00109	83.33	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	ARAMW-2	0.06933	0.002366	0.01	n/a	No	6	0.02942	0.02977	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	ARAMW-7	0.001082	0.0001741	0.01	n/a	No	4	0.002775	0.002574	50	Kaplan-Meier	sqrt(x)	0.01	Param.
Arsenic (mg/L)	ARAMW-8	0.002457	-0.0008495	0.01	n/a	No	4	0.001957	0.002177	25	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	ARGWC-21	0.005	0.0012	0.01	n/a	No	19	0.002611	0.001542	26.32	None	No	0.01	NP (normality)
Arsenic (mg/L)	ARGWC-22	0.005	0.00066	0.01	n/a	No	14	0.004031	0.001926	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	ARGWC-23	0.005	0.00075	0.01	n/a	No	14	0.004034	0.001923	78.57	None	No	0.01	NP (NDs)
Barium (mg/L)	ARAMW-1	0.05482	0.04335	2	n/a	No	6	0.04908	0.004176	0	None	No	0.01	Param.
Barium (mg/L)	ARAMW-2	0.14	0.075	2	n/a	No	6	0.0987	0.02875	0	None	No	0.0155	NP (normality)
Barium (mg/L)	ARAMW-7	0.04083	0.01982	2	n/a	No	4	0.03033	0.004628	0	None	No	0.01	Param.
Barium (mg/L)	ARAMW-8	0.116	0.092	2	n/a	No	4	0.0995	0.01112	0	None	No	0.0625	NP (normality)
Barium (mg/L)	ARGWC-21	0.12	0.05	2	n/a	No	19	0.08845	0.03396	0	None	No	0.01	NP (normality)
Barium (mg/L)	ARGWC-22	0.05355	0.03096	2	n/a	No	14	0.04226	0.01594	0	None	No	0.01	Param.
Barium (mg/L)	ARGWC-23	0.1566	0.09926	2	n/a	No	14	0.1279	0.04046	0	None	No	0.01	Param.
Beryllium (mg/L)	ARAMW-7	0.0005	0.000236	0.004	n/a	No	4	0.000434	0.000132	75	None	No	0.0625	NP (NDs)
Beryllium (mg/L)	ARGWC-22	0.0005	0.00019	0.004	n/a	No	13	0.00042	0.0001316	61.54	None	No	0.01	NP (NDs)
Beryllium (mg/L)	ARGWC-23	0.0005	0.00033	0.004	n/a	No	13	0.0004869	0.00004715	92.31	None	No	0.01	NP (NDs)
Chromium (mg/L)	ARGWC-21	0.01	0.0017	0.1	n/a	No	17	0.009512	0.002013	94.12	None	No	0.01	NP (NDs)
Chromium (mg/L)	ARGWC-22	0.01	0.0048	0.1	n/a	No	14	0.009629	0.00139	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	ARAMW-1	0.001033	0.0004779	0.006	n/a	No	7	0.0007727	0.0002436	0	None	x^2	0.01	Param.
Cobalt (mg/L)	ARAMW-2	0.003259	0.001969	0.006	n/a	No	7	0.002614	0.0005429	0	None	No	0.01	Param.
Cobalt (mg/L)	**ARAMW-7**	**0.077**	**0.017**	**0.006**	**n/a**	**Yes**	**5**	**0.05414**	**0.02917**	**0**	**None**	**No**	**0.031**	**NP (normality)**
Cobalt (mg/L)	ARAMW-8	0.006832	0.001896	0.006	n/a	No	5	0.004364	0.001473	0	None	No	0.01	Param.
Cobalt (mg/L)	ARGWC-21	0.0019	0.0007	0.006	n/a	No	18	0.00138	0.000598	0	None	No	0.01	NP (normality)
Cobalt (mg/L)	ARGWC-22	0.01015	0.003011	0.006	n/a	No	15	0.006579	0.005264	0	None	No	0.01	Param.
Cobalt (mg/L)	ARGWC-23	0.002489	0.0008917	0.006	n/a	No	15	0.001794	0.001336	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARAMW-1	2.677	0.1451	5	n/a	No	6	1.191	1.13	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARAMW-2	4.369	2.081	5	n/a	No	6	3.225	0.833	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARAMW-7	5.428	3.622	5	n/a	No	4	4.525	0.3979	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARAMW-8	3.018	-0.051	5	n/a	No	4	0.7113	0.7991	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARGWC-21	0.9586	0.5375	5	n/a	No	17	0.7481	0.336	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARGWC-22	0.9014	0.2728	5	n/a	No	14	0.6486	0.6196	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARGWC-23	0.7214	0.1079	5	n/a	No	14	0.4723	0.6048	0	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	ARAMW-1	0.2274	0.1726	4	n/a	No	7	0.2	0.02309	0	None	No	0.01	Param.
Fluoride (mg/L)	ARAMW-2	0.1436	0.07038	4	n/a	No	7	0.107	0.03083	14.29	None	No	0.01	Param.
Fluoride (mg/L)	ARAMW-7	0.0584	0.02826	4	n/a	No	5	0.046	0.008602	40	Kaplan-Meier	No	0.01	Param.
Fluoride (mg/L)	ARAMW-8	0.2522	0.1262	4	n/a	No	5	0.1892	0.03759	0	None	No	0.01	Param.
Fluoride (mg/L)	ARGWC-21	0.16	0.084	4	n/a	No	19	0.1316	0.1116	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	ARGWC-22	0.05703	0.0419	4	n/a	No	15	0.04947	0.01116	13.33	None	No	0.01	Param.
Fluoride (mg/L)	ARGWC-23	0.3464	0.1951	4	n/a	No	15	0.2707	0.1117	0	None	No	0.01	Param.
Lead (mg/L)	ARAMW-7	0.002	0.00013	0.015	n/a	No	4	0.001533	0.000935	75	None	No	0.0625	NP (NDs)
Lead (mg/L)	ARGWC-21	0.002	0.00026	0.015	n/a	No	19	0.001811	0.0005663	89.47	None	No	0.01	NP (NDs)
Lead (mg/L)	ARGWC-22	0.002	0.00022	0.015	n/a	No	14	0.00174	0.0006611	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	ARGWC-23	0.002	0.00026	0.015	n/a	No	14	0.001746	0.0006466	85.71	None	No	0.01	NP (NDs)
Lithium (mg/L)	ARAMW-1	0.009965	0.008012	0.04	n/a	No	8	0.008988	0.00108	0	None	x^3	0.01	Param.
Lithium (mg/L)	ARAMW-2	0.086	0.018	0.04	n/a	No	8	0.03115	0.02287	0	None	No	0.004	NP (normality)
Lithium (mg/L)	**ARAMW-7**	**0.06341**	**0.05875**	**0.04**	**n/a**	**Yes**	**5**	**0.06108**	**0.00139**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	ARAMW-8	0.007241	0.004335	0.04	n/a	No	5	0.005788	0.000867	0	None	No	0.01	Param.
Lithium (mg/L)	ARGWC-21	0.01205	0.009443	0.04	n/a	No	18	0.01074	0.002151	0	None	No	0.01	Param.
Lithium (mg/L)	ARGWC-22	0.02366	0.0139	0.04	n/a	No	15	0.01878	0.007201	0	None	No	0.01	Param.
Lithium (mg/L)	ARGWC-23	0.04491	0.02584	0.04	n/a	No	15	0.03537	0.01408	0	None	No	0.01	Param.
Mercury (mg/L)	ARGWC-21	0.0002	0.000073	0.002	n/a	No	13	0.0001902	0.00003522	92.31	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	ARAMW-1	0.007482	0.004246	0.1	n/a	No	7	0.005864	0.001362	0	None	No	0.01	Param.
Molybdenum (mg/L)	ARAMW-2	0.015	0.000603	0.1	n/a	No	7	0.01099	0.006858	71.43	None	No	0.008	NP (NDs)
Molybdenum (mg/L)	ARAMW-7	0.015	0.000379	0.1	n/a	No	5	0.009316	0.007789	60	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	ARAMW-8	0.2122	0.007443	0.1	n/a	No	5	0.1098	0.06108	0	None	No	0.01	Param.
Molybdenum (mg/L)	ARGWC-22	0.015	0.00093	0.1	n/a	No	14	0.009986	0.006989	64.29	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	ARGWC-23	0.06275	0.04036	0.1	n/a	No	14	0.0495	0.01893	0	None	x^2	0.01	Param.
Selenium (mg/L)	ARGWC-22	0.005	0.002	0.05	n/a	No	14	0.004786	0.0008018	92.86	None	No	0.01	NP (NDs)
Silver (mg/L)	ARGWC-21	0.001	0.00043	0.001	n/a	No	14	0.0009593	0.0001523	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	ARGWC-22	0.002	0.00034	0.002	n/a	No	11	0.001431	0.0007998	63.64	None	No	0.006	NP (NDs)
Thallium (mg/L)	ARGWC-23	0.002	0.00026	0.002	n/a	No	11	0.001527	0.0008097	72.73	None	No	0.006	NP (NDs)

Appendix IV Trend Tests - Confidence Interval Exceedances - All Results (No Significant)

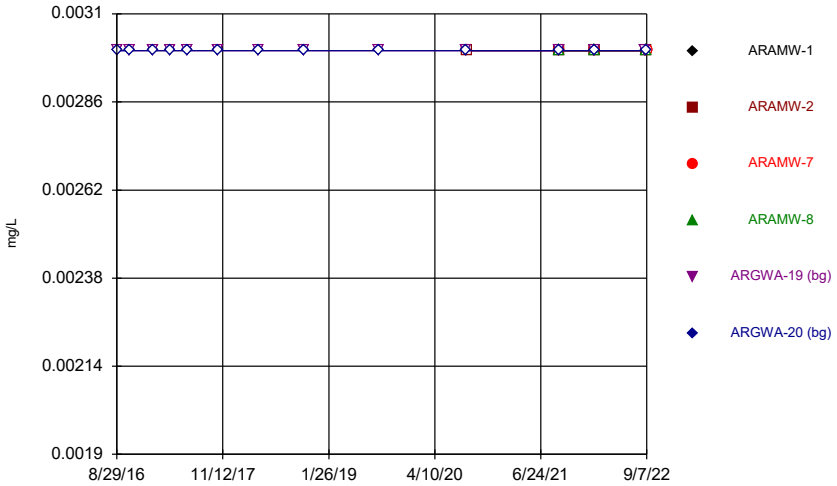
Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 1:03 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt (mg/L)	ARAMW-7	0.03097	4	12	No	5	0	n/a	n/a	0.01	NP
Cobalt (mg/L)	ARGWA-19 (bg)	0	-11	-68	No	18	77.78	n/a	n/a	0.01	NP
Cobalt (mg/L)	ARGWA-20 (bg)	0	-33	-68	No	18	55.56	n/a	n/a	0.01	NP
Lithium (mg/L)	ARAMW-7	0	0	12	No	5	0	n/a	n/a	0.01	NP
Lithium (mg/L)	ARGWA-19 (bg)	-0.0002785	-47	-68	No	18	5.556	n/a	n/a	0.01	NP
Lithium (mg/L)	ARGWA-20 (bg)	0	-10	-68	No	18	77.78	n/a	n/a	0.01	NP

FIGURE A.

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Antimony Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
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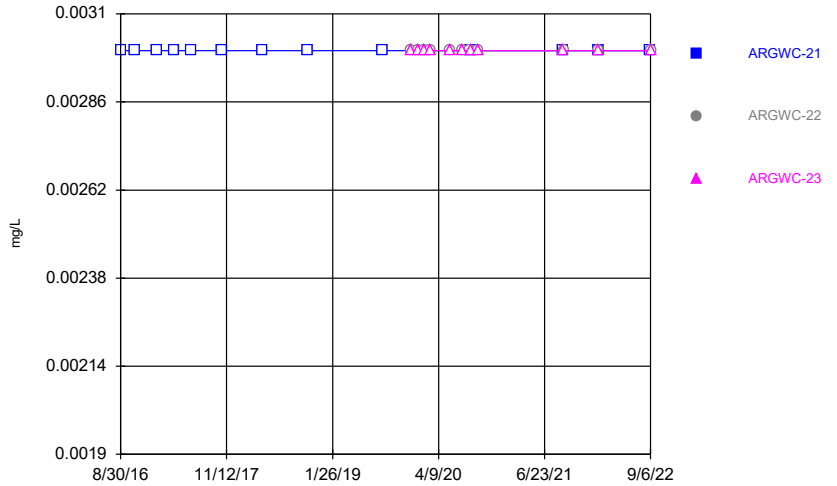

Constituent: Antimony Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

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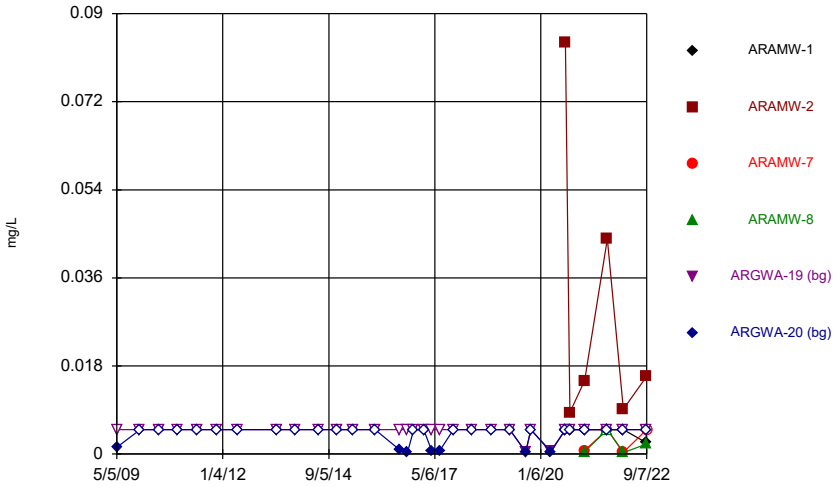

Constituent: Arsenic Analysis Run 10/28/2022 5:38 PM
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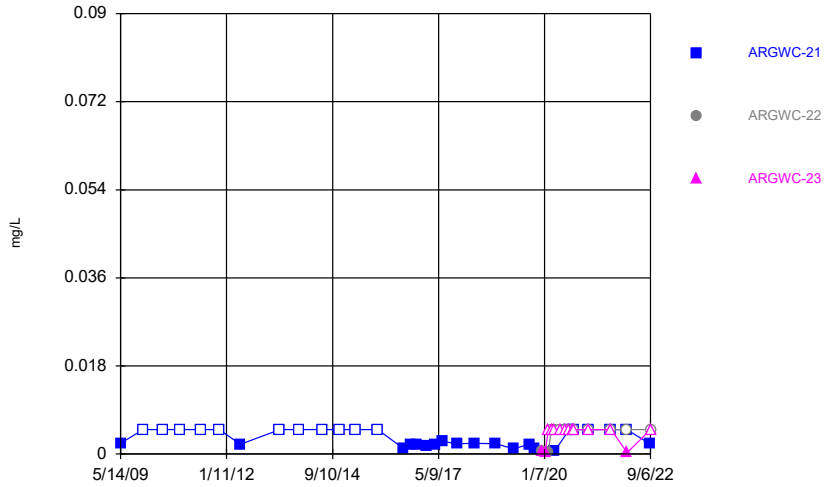

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Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

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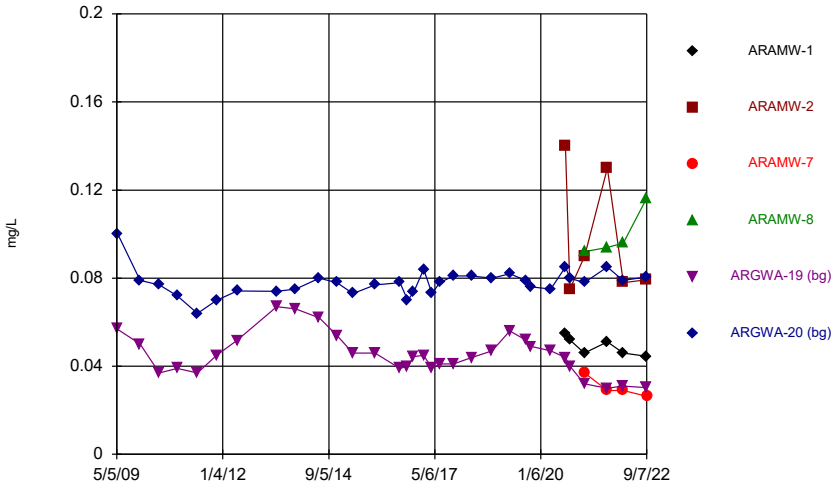

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Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

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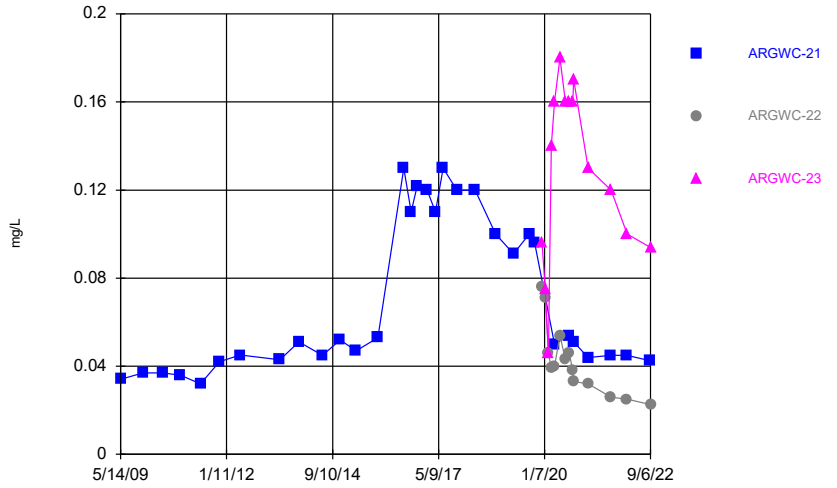

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Plant Arkwright Client: Southern Company Data: Arkwright No 2

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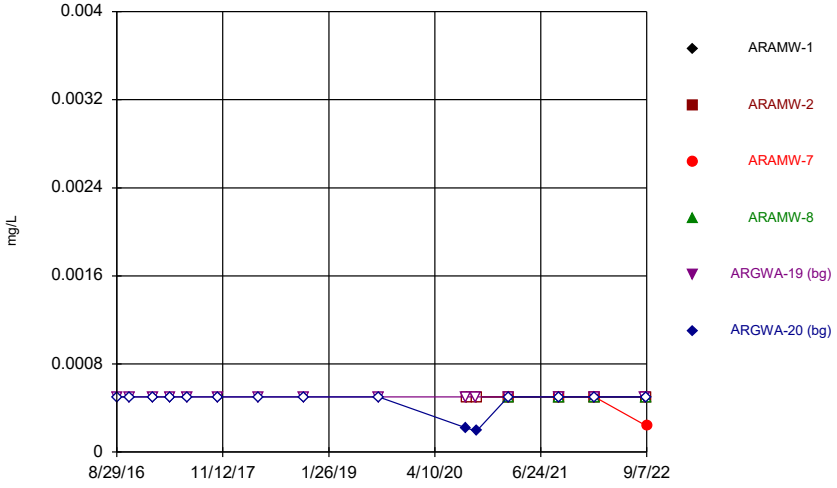

Constituent: Beryllium Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

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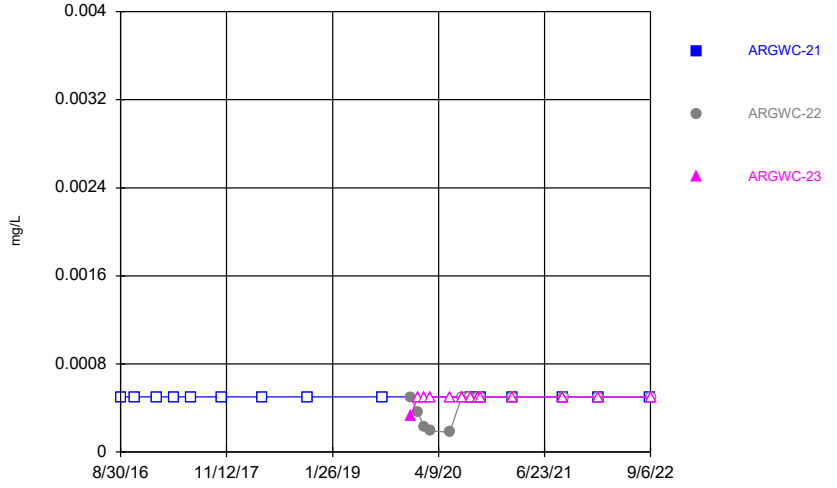

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Plant Arkwright Client: Southern Company Data: Arkwright No 2

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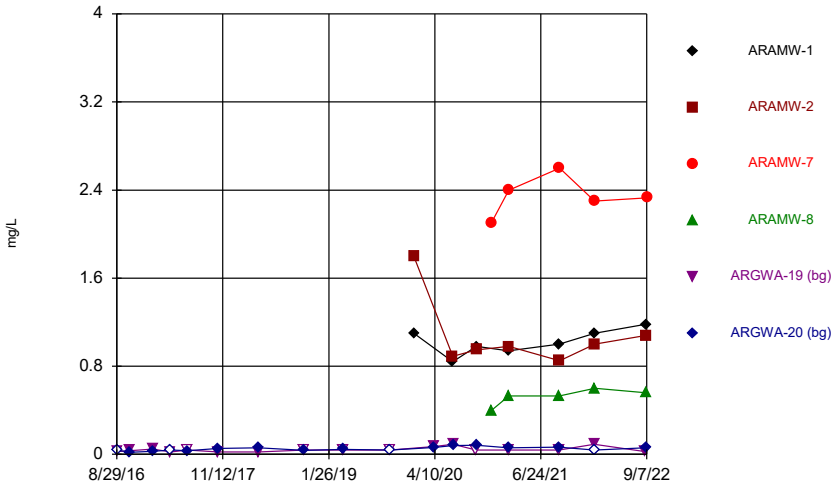

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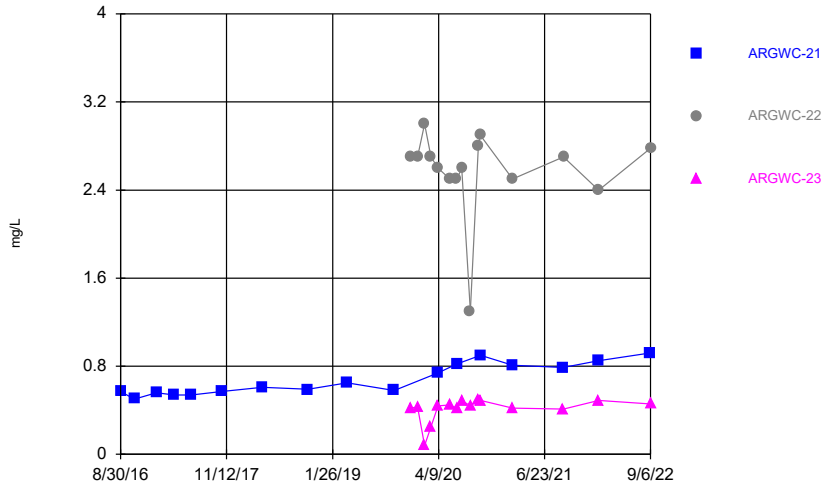
Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Time Series



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Plant Arkwright Client: Southern Company Data: Arkwright No 2

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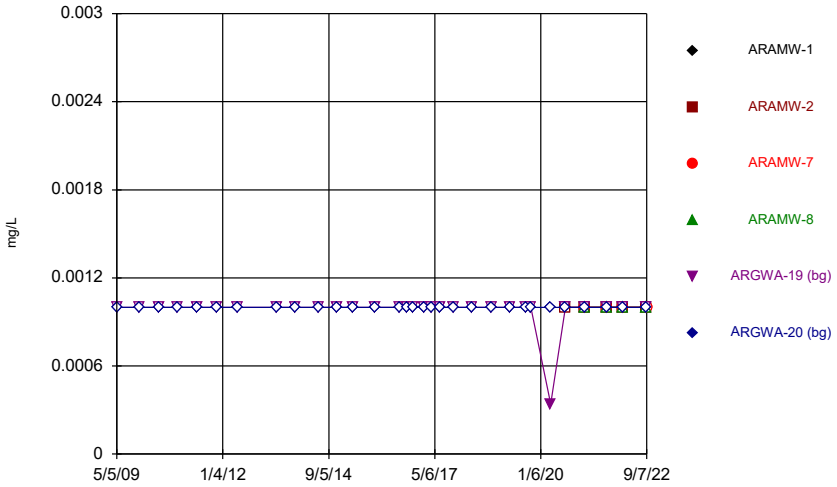

Constituent: Cadmium Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

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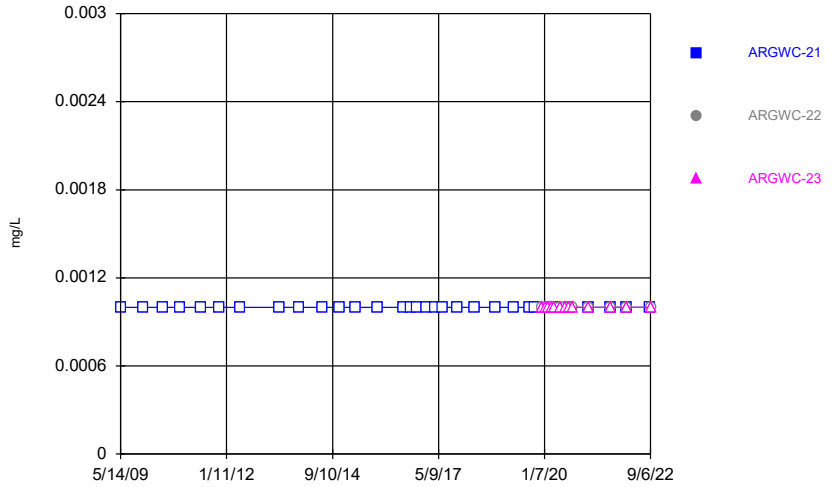

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Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

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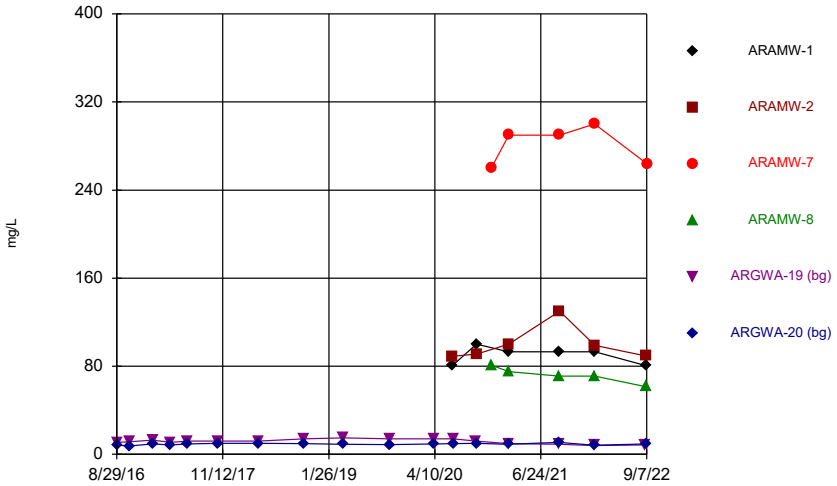
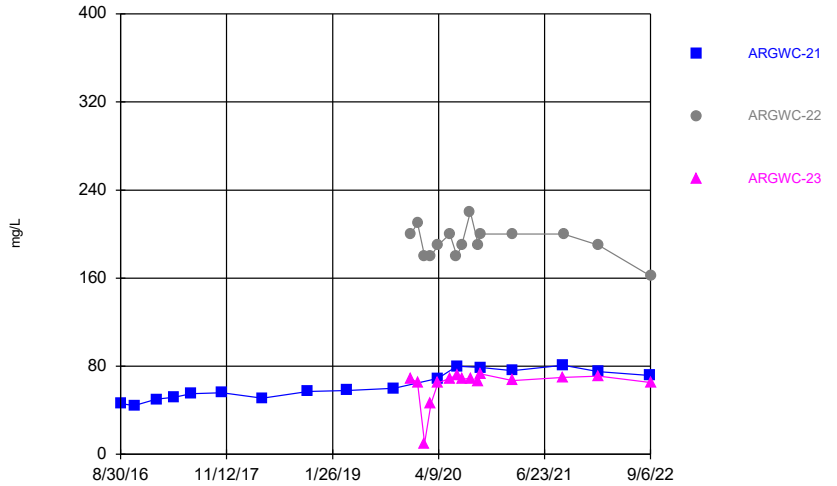


Constituent: Calcium Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Time Series



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Plant Arkwright Client: Southern Company Data: Arkwright No 2

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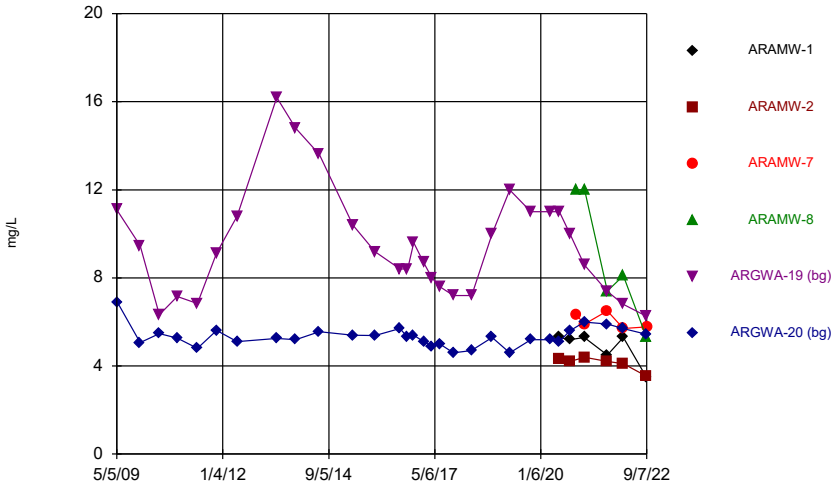

Constituent: Chloride Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

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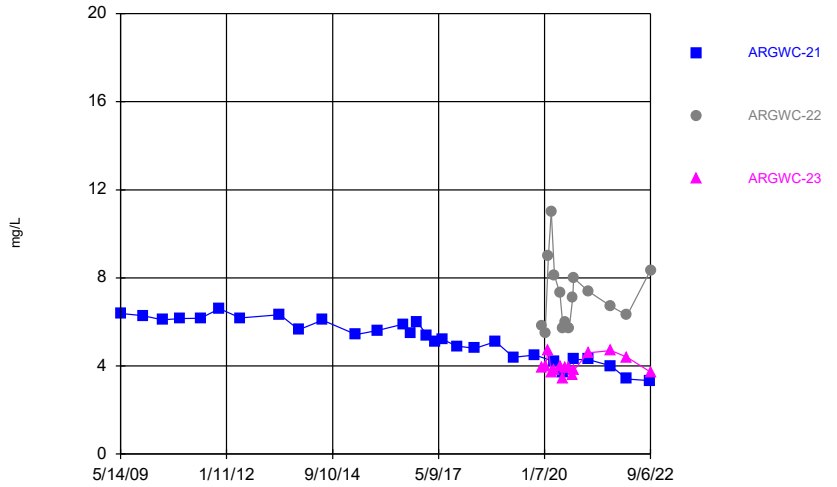

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Plant Arkwright Client: Southern Company Data: Arkwright No 2

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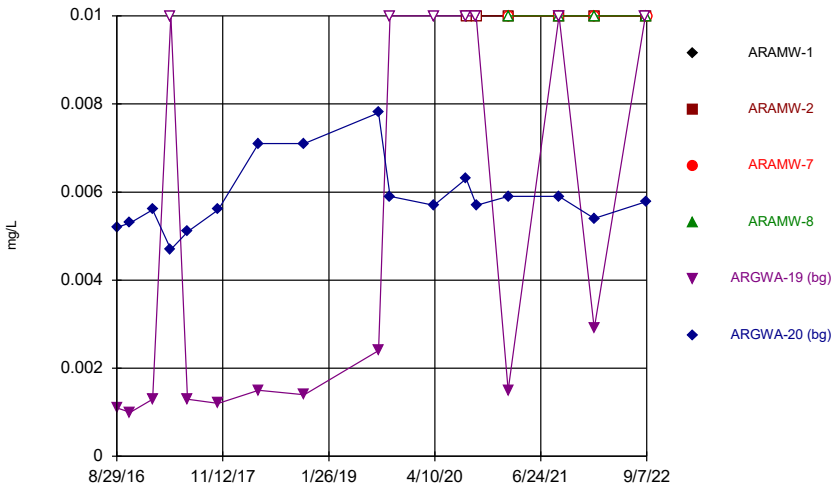

Constituent: Chromium Analysis Run 10/28/2022 5:38 PM
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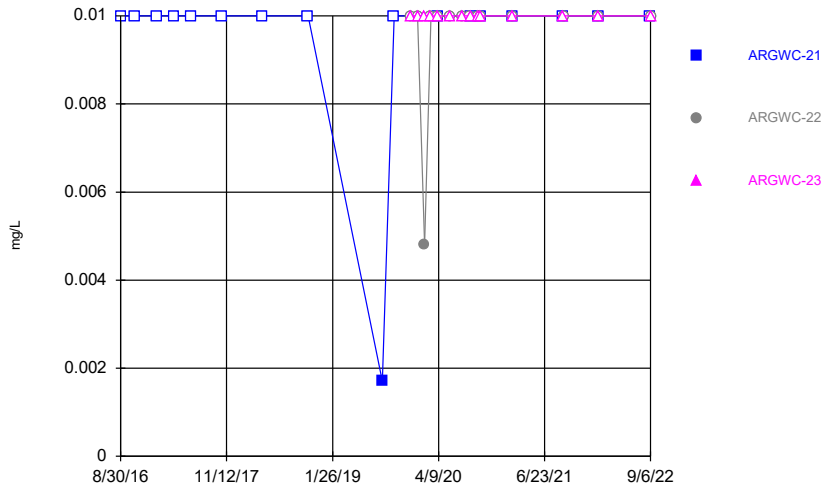

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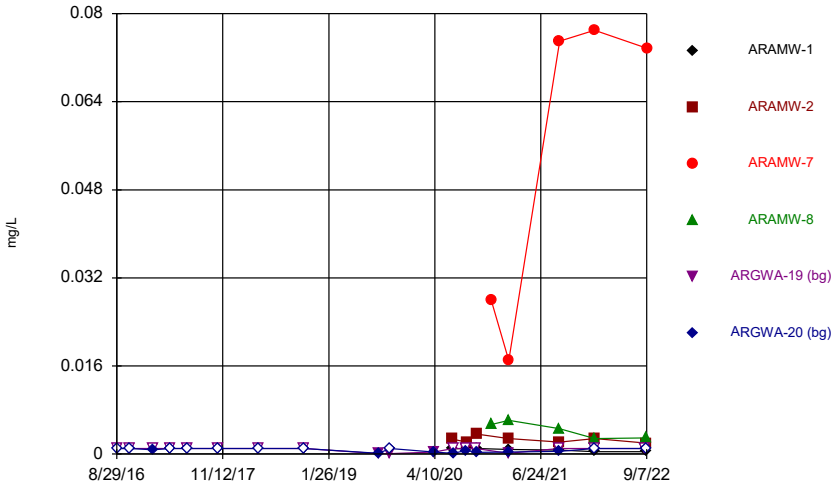

Constituent: Cobalt Analysis Run 10/28/2022 5:38 PM
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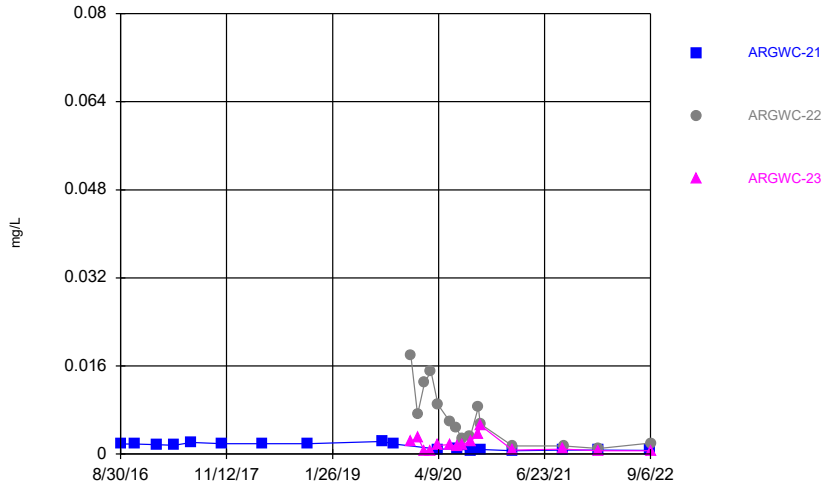

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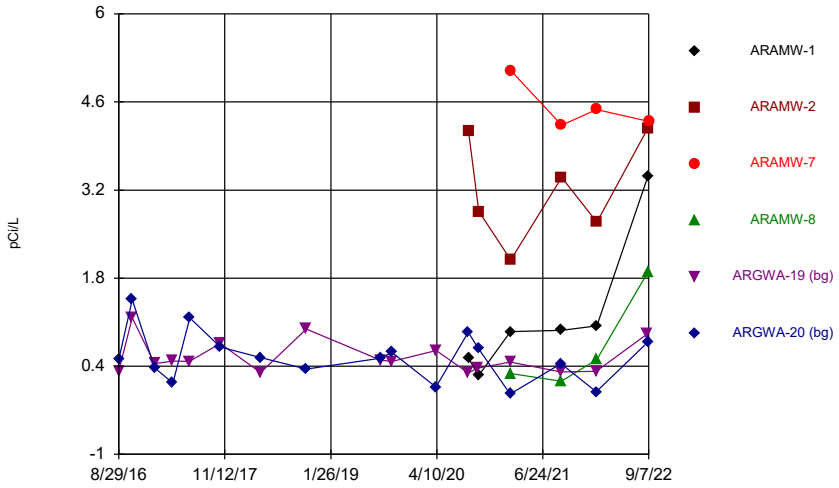
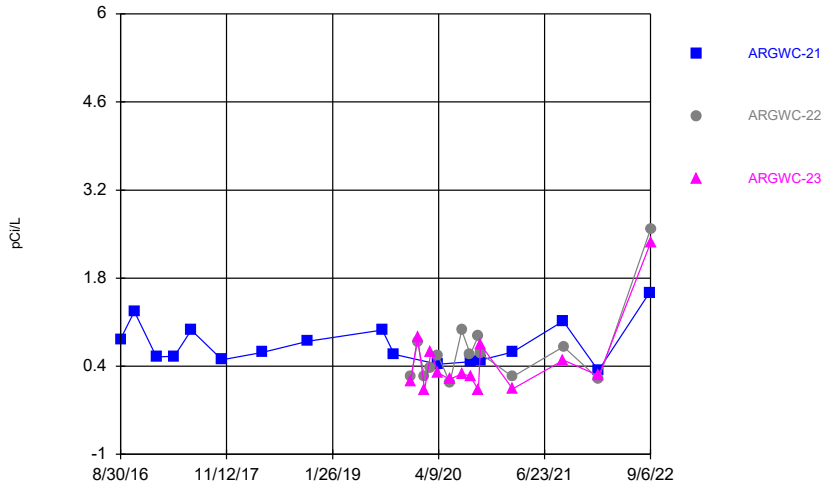


Constituent: Combined Radium 226 + 228 Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Time Series



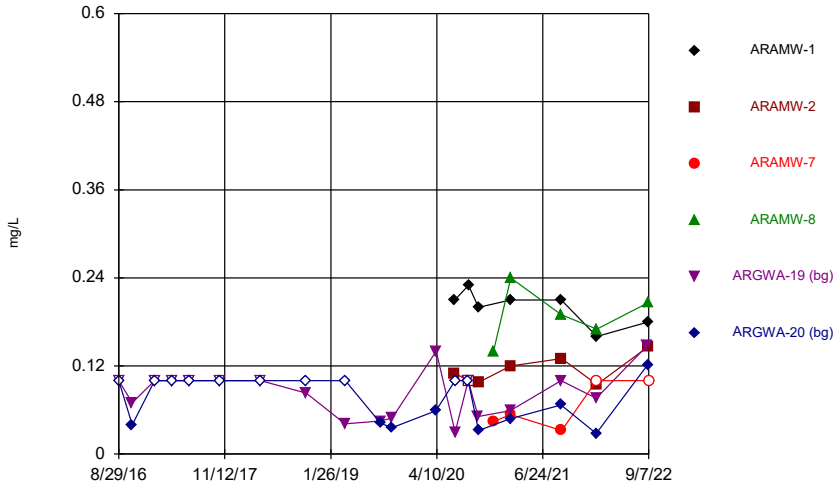
Constituent: Combined Radium 226 + 228 Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series



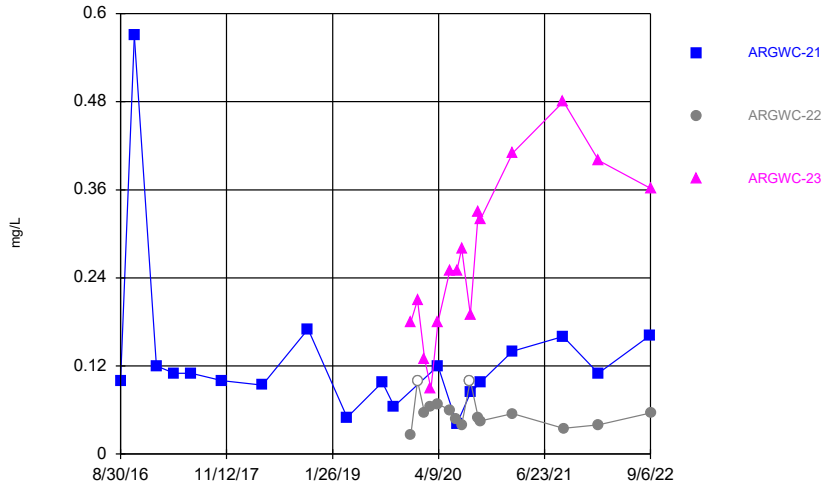
Constituent: Fluoride Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series

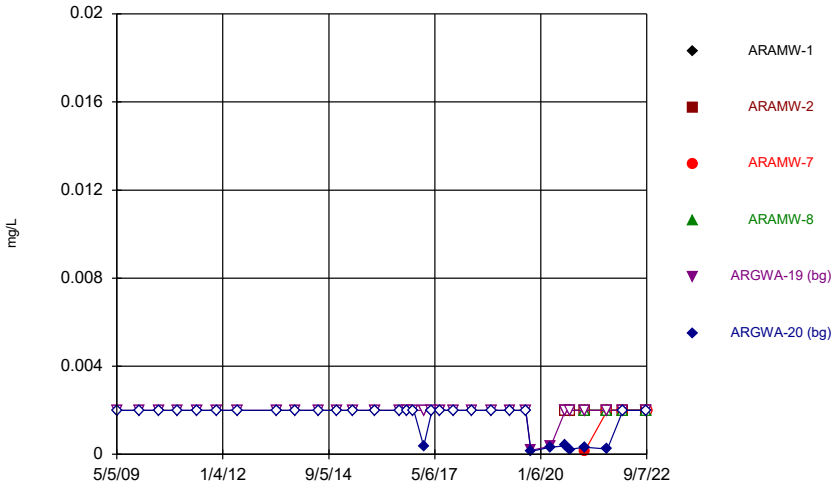


Constituent: Fluoride Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

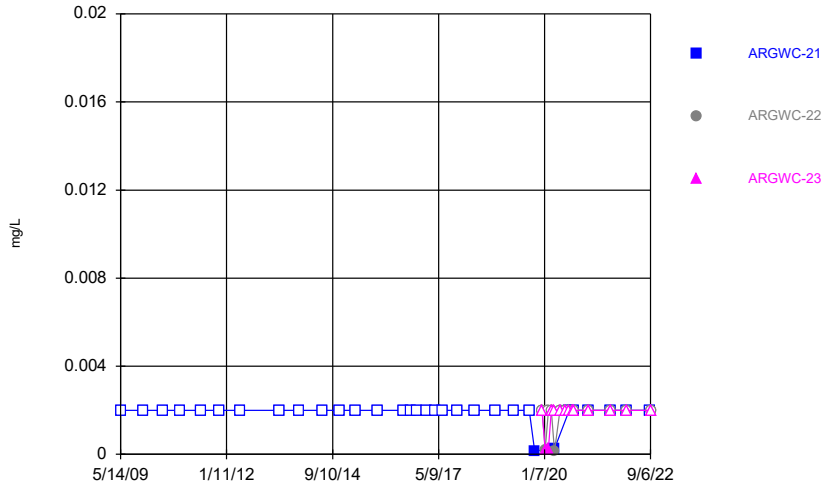
Time Series



Constituent: Lead Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

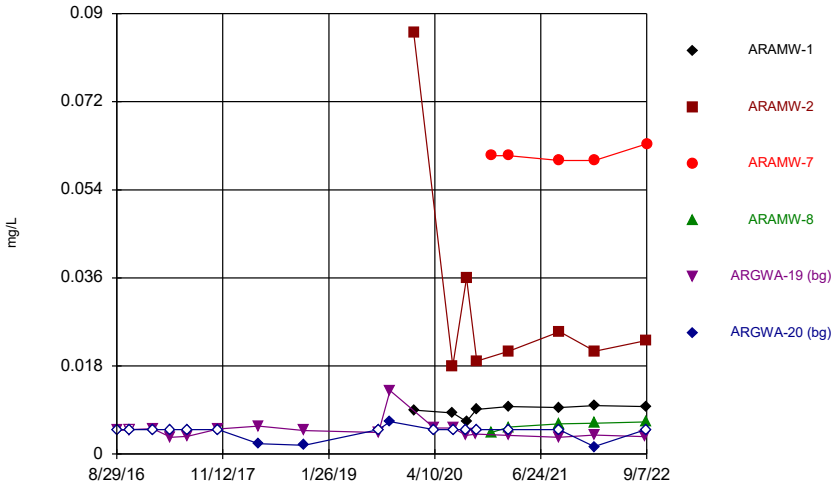
Time Series



Constituent: Lead Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

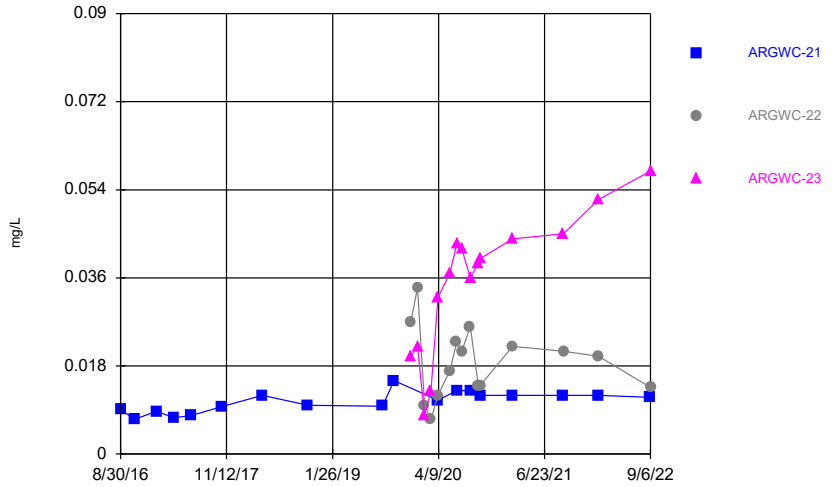
Time Series



Constituent: Lithium Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

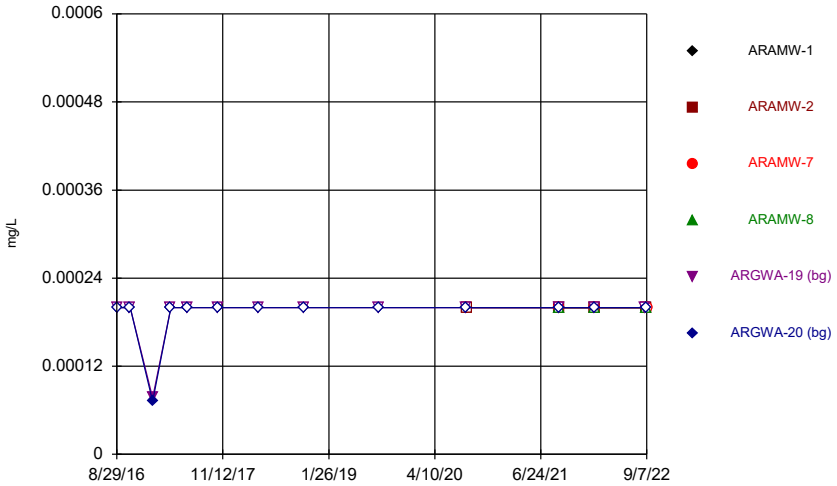
Time Series



Constituent: Lithium Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

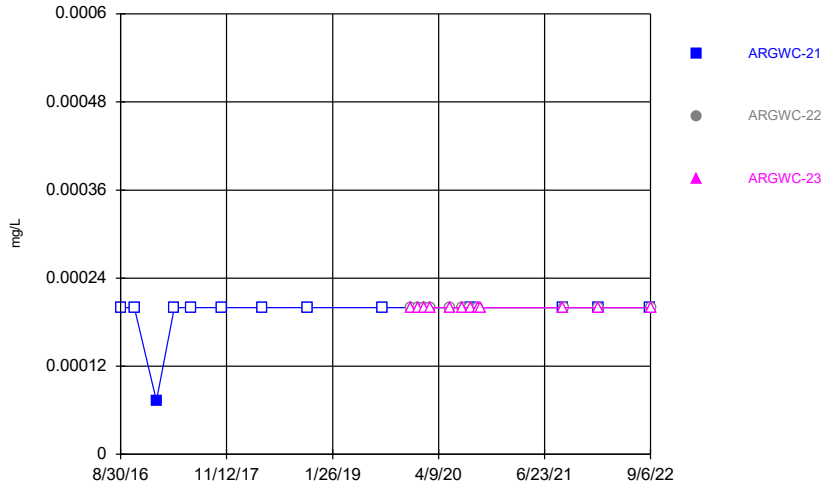
Time Series



Constituent: Mercury Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

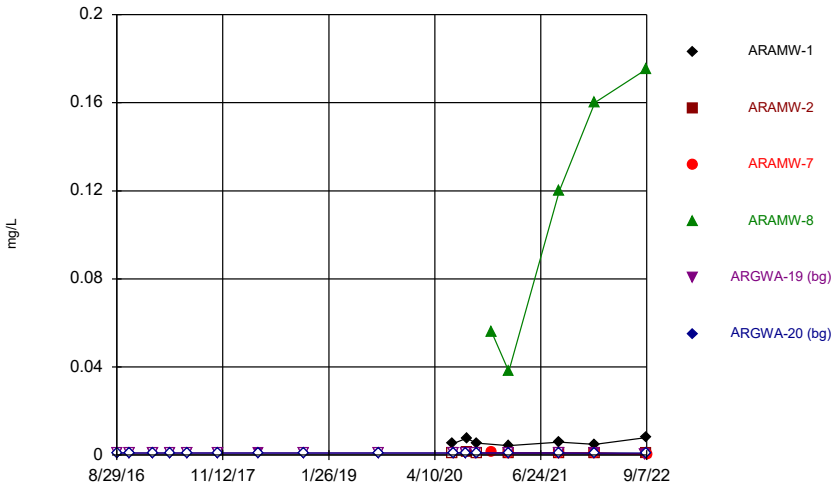
Time Series



Constituent: Mercury Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

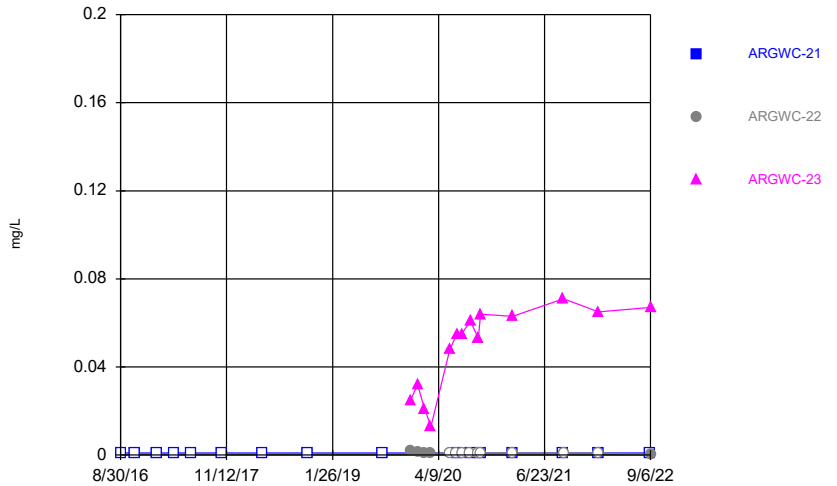
Time Series



Constituent: Molybdenum Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

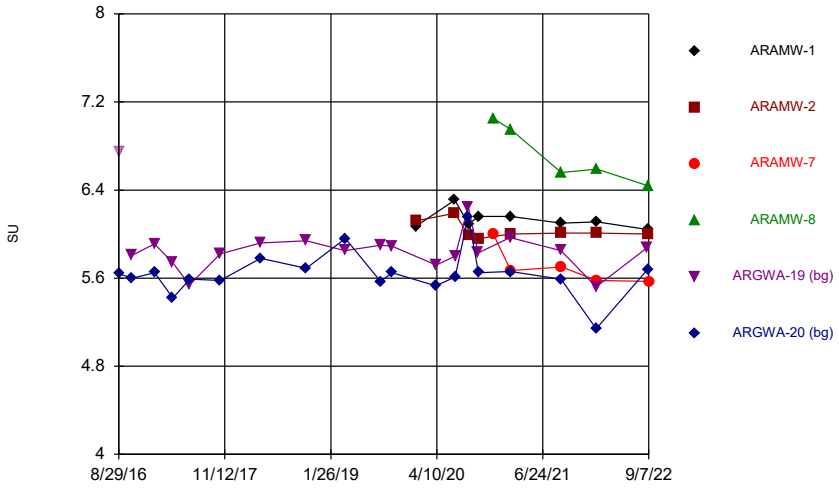
Time Series



Constituent: Molybdenum Analysis Run 10/28/2022 5:38 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Time Series

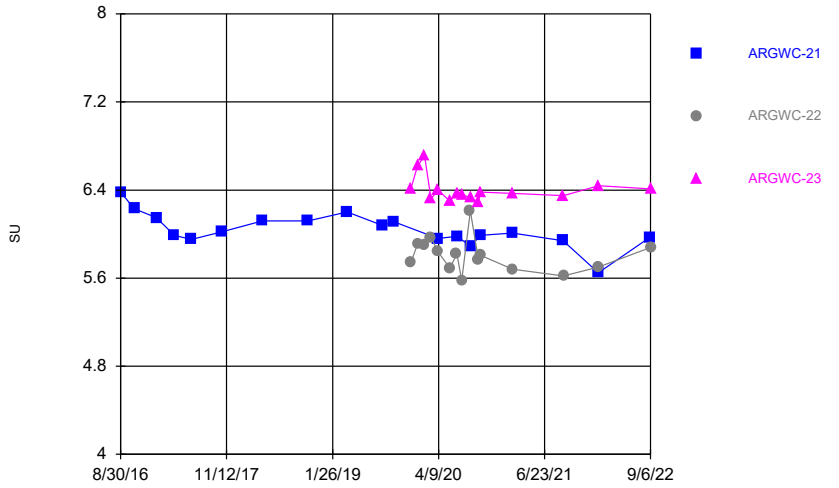


Constituent: pH Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Time Series



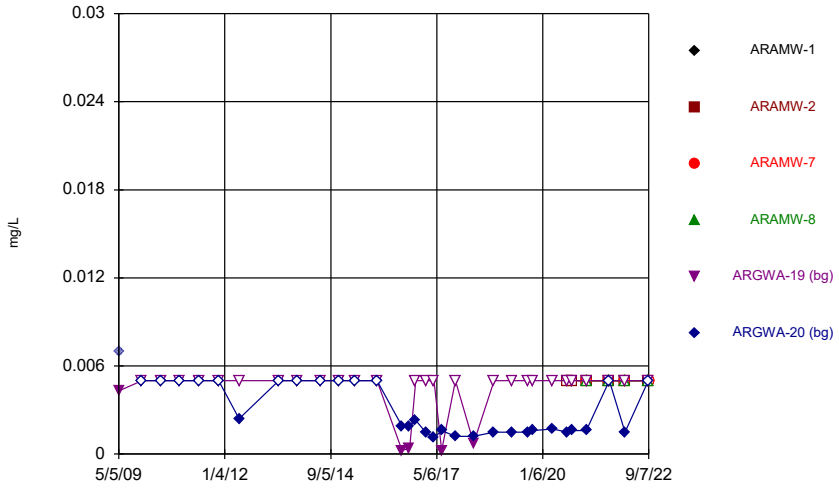
Constituent: pH Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series



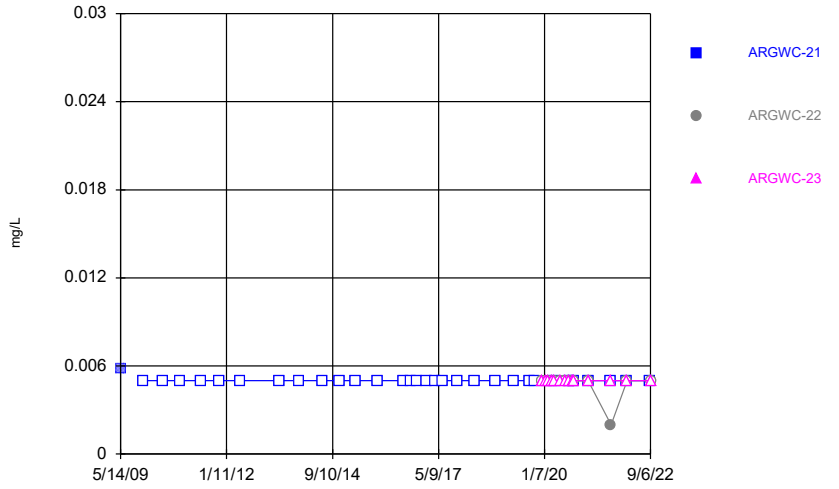
Constituent: Selenium Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series

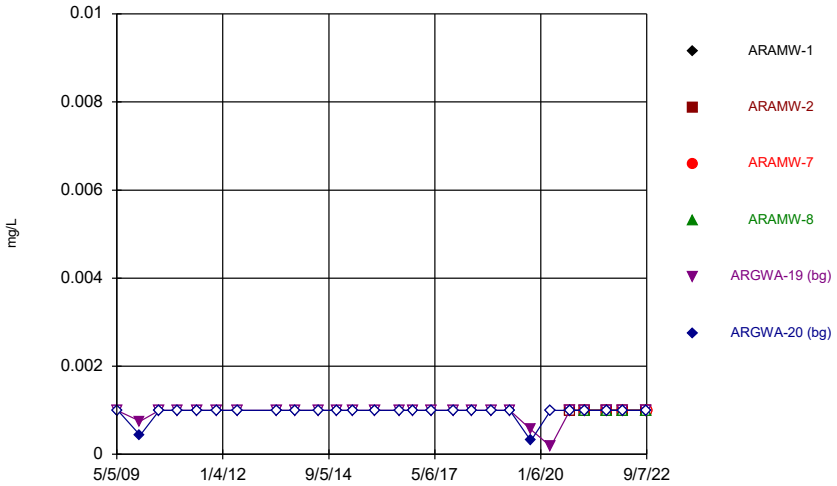


Constituent: Selenium Analysis Run 10/28/2022 5:38 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

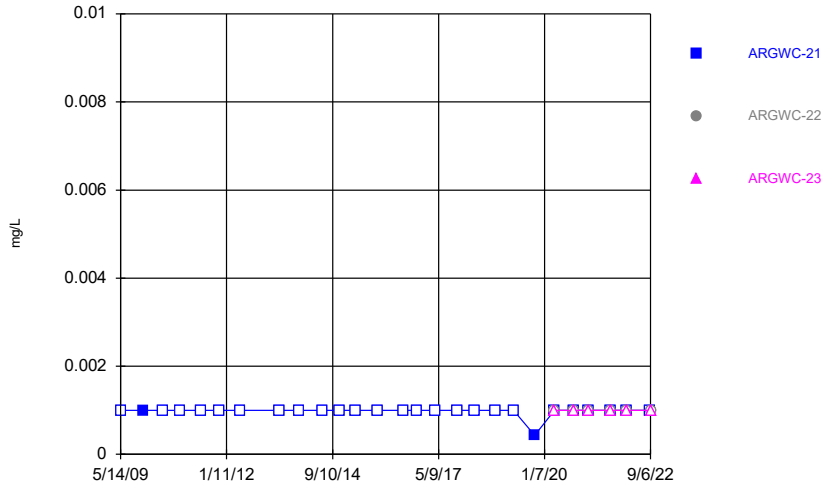
Time Series



Constituent: Silver Analysis Run 10/28/2022 5:39 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

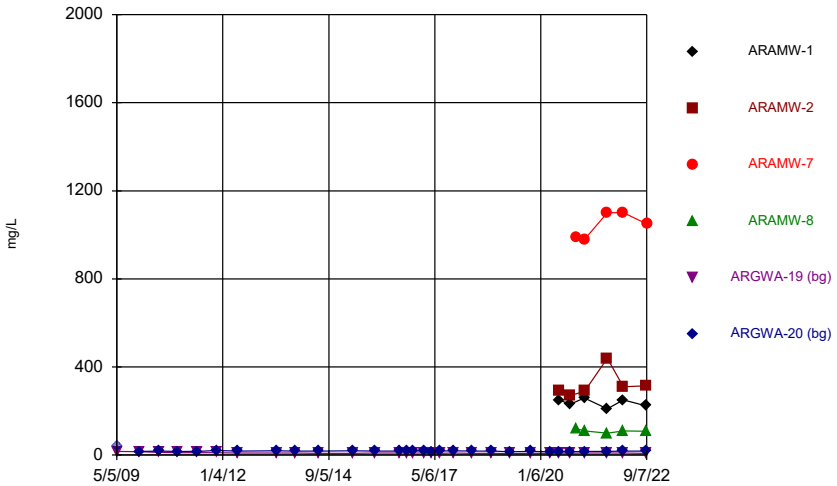
Time Series



Constituent: Silver Analysis Run 10/28/2022 5:39 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

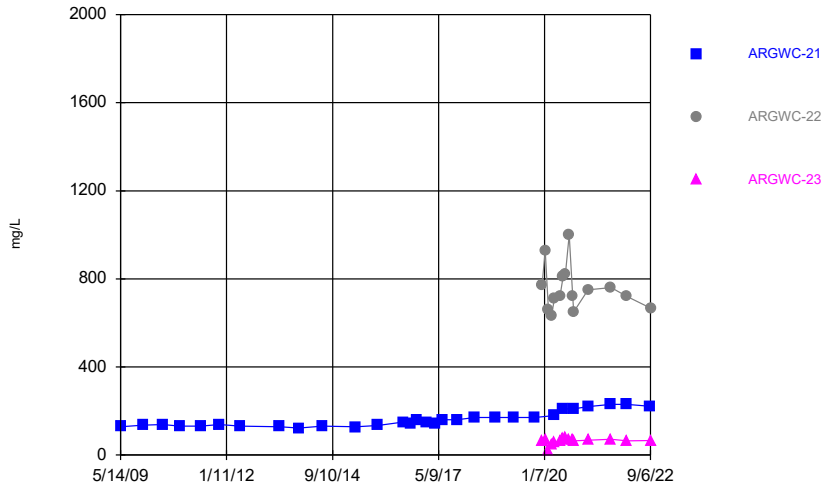
Time Series



Constituent: Sulfate Analysis Run 10/28/2022 5:39 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

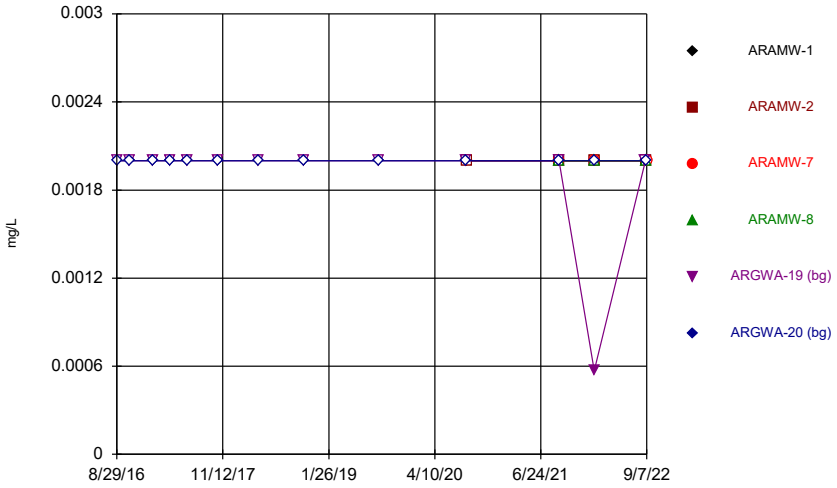
Time Series



Constituent: Sulfate Analysis Run 10/28/2022 5:39 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

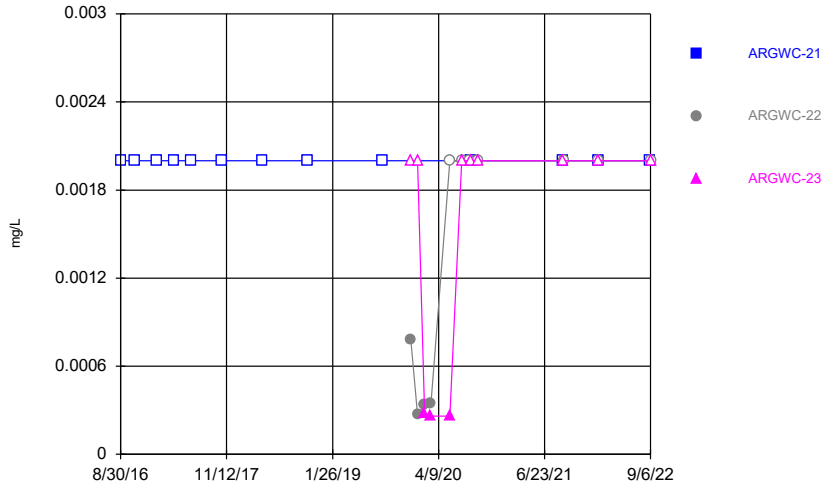
Time Series



Constituent: Thallium Analysis Run 10/28/2022 5:39 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

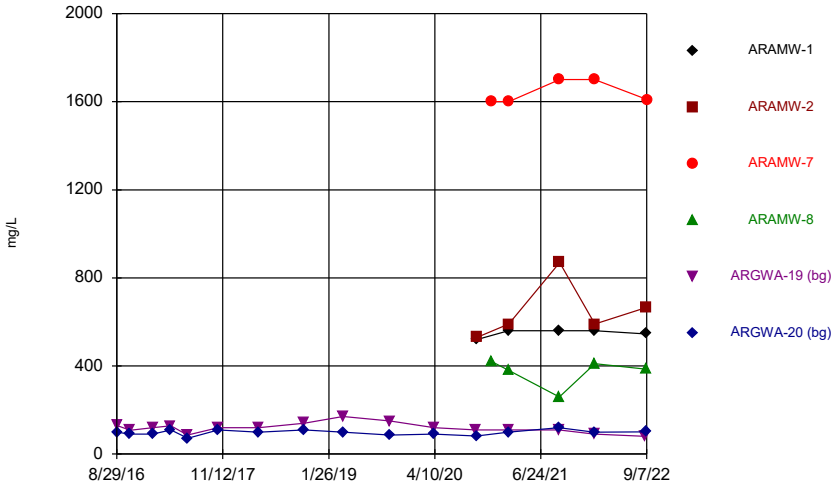
Time Series



Constituent: Thallium Analysis Run 10/28/2022 5:39 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

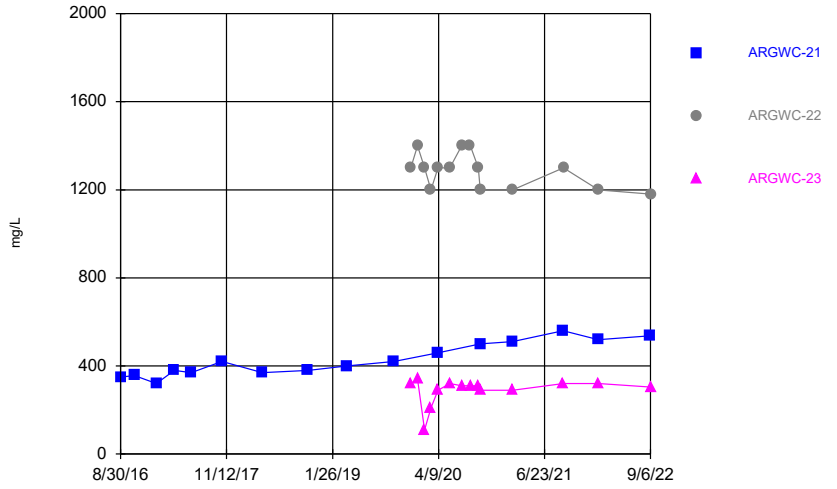
Time Series



Constituent: Total Dissolved Solids Analysis Run 10/28/2022 5:39 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Time Series



Constituent: Total Dissolved Solids Analysis Run 10/28/2022 5:39 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Time Series

Constituent: Antimony (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					<0.003	<0.003
10/24/2016					<0.003	<0.003
1/25/2017					<0.003	<0.003
4/10/2017					<0.003	<0.003
6/19/2017					<0.003	
6/20/2017						<0.003
10/24/2017					<0.003	<0.003
4/9/2018						<0.003
4/10/2018					<0.003	
10/16/2018					<0.003	<0.003
8/20/2019					<0.003	<0.003
8/19/2020					<0.003	<0.003
8/20/2020	<0.003	<0.003				
9/7/2021					<0.003	
9/8/2021						<0.003
9/9/2021	<0.003			<0.003		
9/10/2021		<0.003	<0.003			
2/1/2022					<0.003	<0.003
2/2/2022			<0.003			
2/3/2022	<0.003	<0.003		<0.003		
9/1/2022					<0.003	
9/2/2022	<0.003	<0.003		<0.003		<0.003
9/7/2022			<0.003			

Time Series

Constituent: Antimony (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	<0.003		
10/26/2016	<0.003		
1/25/2017	<0.003		
4/10/2017	<0.003		
6/19/2017	<0.003		
10/24/2017	<0.003		
4/10/2018	<0.003		
10/16/2018	<0.003		
8/20/2019	<0.003		
12/16/2019		<0.003	<0.003
1/14/2020		<0.003	<0.003
2/11/2020		<0.003	<0.003
3/9/2020		<0.003	<0.003
5/27/2020		<0.003	<0.003
7/15/2020		<0.003	<0.003
8/19/2020		<0.003	
8/20/2020			<0.003
8/21/2020	<0.003		
9/22/2020		<0.003	<0.003
9/8/2021	<0.003		
9/9/2021			<0.003
9/10/2021		<0.003	
2/1/2022	<0.003		
2/2/2022		<0.003	
2/3/2022			<0.003
9/1/2022	<0.003		
9/6/2022		<0.003	<0.003

Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
5/5/2009					<0.005	
5/15/2009						0.0015
12/5/2009					<0.005	<0.005
6/1/2010					<0.005	<0.005
11/11/2010					<0.005	<0.005
5/17/2011					<0.005	<0.005
11/8/2011					<0.005	<0.005
5/16/2012					<0.005	<0.005
5/14/2013					<0.005	<0.005
11/5/2013					<0.005	<0.005
6/9/2014					<0.005	<0.005
11/18/2014						<0.005
11/19/2014					<0.005	
4/14/2015					<0.005	<0.005
11/4/2015					<0.005	<0.005
6/22/2016					<0.005	0.00084 (J)
8/29/2016					<0.005	0.00049 (J)
10/24/2016					<0.005	<0.005
1/25/2017					<0.005	<0.005
4/10/2017					<0.005	0.00056 (J)
6/19/2017					<0.005	
6/20/2017						0.00068 (J)
10/24/2017					<0.005	<0.005
4/9/2018						<0.005
4/10/2018					<0.005	
10/16/2018					<0.005	<0.005
3/26/2019					<0.005	
3/27/2019						<0.005
8/20/2019					0.00036 (J)	0.00047 (J)
10/7/2019					<0.005	<0.005
4/6/2020						0.00042 (J)
4/7/2020					0.0006 (J)	
8/19/2020					<0.005	<0.005
8/20/2020	<0.005	0.084				
9/29/2020					<0.005	
9/30/2020	<0.005					<0.005
10/1/2020		0.0085				
2/9/2021					<0.005	<0.005
2/10/2021	<0.005					
2/11/2021		0.015	0.00075 (J)	0.00046 (J)		
9/7/2021					<0.005	
9/8/2021						<0.005
9/9/2021	<0.005			<0.005		
9/10/2021		0.044	<0.005			
2/1/2022					<0.005	<0.005
2/2/2022			0.00035 (J)			
2/3/2022	<0.005	0.0092		0.00031 (J)		
9/1/2022					<0.005	
9/2/2022	0.00233 (J)	0.0158		0.00206 (J)		<0.005
9/7/2022			<0.005			

Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
5/14/2009	0.0022		
12/5/2009	<0.005		
6/2/2010	<0.005		
11/11/2010	<0.005		
5/17/2011	<0.005		
11/8/2011	<0.005		
5/16/2012	0.002 (J)		
5/14/2013	<0.005		
11/5/2013	<0.005		
6/9/2014	<0.005		
11/18/2014	<0.005		
4/14/2015	<0.005		
10/29/2015	<0.005		
6/23/2016	0.0011 (J)		
8/30/2016	0.002		
10/26/2016	0.0019 (J)		
1/25/2017	0.0017		
4/10/2017	0.002		
6/19/2017	0.0026		
10/24/2017	0.0021		
4/10/2018	0.0022		
10/16/2018	0.0021		
3/27/2019	0.0011 (J)		
8/20/2019	0.002		
10/8/2019	0.0012 (J)		
12/16/2019		0.00066 (J)	0.00075 (J)
1/14/2020		0.00038 (J)	0.00042 (J)
2/11/2020		0.0004 (J)	<0.005
3/9/2020		<0.005	<0.005
4/7/2020	0.00054 (J)	<0.005	<0.005
5/27/2020		<0.005	<0.005
7/15/2020		<0.005	<0.005
8/19/2020		<0.005	
8/20/2020			<0.005
8/21/2020	<0.005		
9/22/2020		<0.005	<0.005
9/30/2020		<0.005	
10/1/2020	<0.005		<0.005
2/10/2021	<0.005	<0.005	<0.005
9/8/2021	<0.005		
9/9/2021			<0.005
9/10/2021		<0.005	
2/1/2022	<0.005		
2/2/2022		<0.005	
2/3/2022			0.0003 (J)
9/1/2022	0.00207 (J)		
9/6/2022		<0.005	<0.005

Time Series

Constituent: Barium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
5/5/2009					0.057	
5/15/2009						0.1
12/5/2009					0.05	0.079
6/1/2010					0.037	0.077
11/11/2010					0.039	0.072
5/17/2011					0.037	0.064
11/8/2011					0.045	0.07
5/16/2012					0.0518	0.0741
5/14/2013					0.067	0.074
11/5/2013					0.066	0.075
6/9/2014					0.062	0.08
11/18/2014						0.078
11/19/2014					0.054	
4/14/2015					0.046	0.073
11/4/2015					0.046	0.077
6/22/2016					0.039	0.078
8/29/2016					0.04	0.07
10/24/2016					0.0444	0.0738
1/25/2017					0.045	0.084
4/10/2017					0.039	0.073
6/19/2017					0.041	
6/20/2017						0.078
10/24/2017					0.041	0.081
4/9/2018						0.081
4/10/2018					0.044	
10/16/2018					0.047	0.08
3/26/2019					0.056	
3/27/2019						0.082
8/20/2019					0.052	0.079
10/7/2019					0.049	0.076
4/6/2020						0.075
4/7/2020					0.047	
8/19/2020					0.044	0.085
8/20/2020	0.055	0.14				
9/29/2020					0.04	
9/30/2020	0.052					0.08
10/1/2020		0.075				
2/9/2021					0.032	0.078
2/10/2021	0.046					
2/11/2021		0.09	0.037	0.092		
9/7/2021					0.03	
9/8/2021						0.085
9/9/2021	0.051			0.094		
9/10/2021		0.13	0.029			
2/1/2022					0.031	0.079
2/2/2022			0.029			
2/3/2022	0.046	0.078		0.096		
9/1/2022					0.0303	
9/2/2022	0.0445	0.0792		0.116		0.0806
9/7/2022			0.0263			

Time Series

Constituent: Barium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
5/14/2009	0.034		
12/5/2009	0.037		
6/2/2010	0.037		
11/11/2010	0.036		
5/17/2011	0.032		
11/8/2011	0.042		
5/16/2012	0.0451		
5/14/2013	0.043		
11/5/2013	0.051		
6/9/2014	0.045		
11/18/2014	0.052		
4/14/2015	0.047		
10/29/2015	0.053		
6/23/2016	0.13		
8/30/2016	0.11		
10/26/2016	0.122		
1/25/2017	0.12		
4/10/2017	0.11		
6/19/2017	0.13		
10/24/2017	0.12		
4/10/2018	0.12		
10/16/2018	0.1		
3/27/2019	0.091		
8/20/2019	0.1		
10/8/2019	0.096		
12/16/2019		0.076	0.096
1/14/2020		0.071	0.075
2/11/2020		0.046	0.046
3/9/2020		0.039	0.14
4/7/2020	0.05	0.04	0.16
5/27/2020		0.054	0.18
7/15/2020		0.043	0.16
8/19/2020		0.046	
8/20/2020			0.16
8/21/2020	0.054		
9/22/2020		0.038	0.16
9/30/2020		0.033	
10/1/2020	0.051		0.17
2/10/2021	0.044	0.032	0.13
9/8/2021	0.045		
9/9/2021			0.12
9/10/2021		0.026	
2/1/2022	0.045		
2/2/2022		0.025	
2/3/2022			0.1
9/1/2022	0.0425		
9/6/2022		0.0226	0.0939

Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					<0.0005	<0.0005
10/24/2016					<0.0005	<0.0005
1/25/2017					<0.0005	<0.0005
4/10/2017					<0.0005	<0.0005
6/19/2017					<0.0005	
6/20/2017						<0.0005
10/24/2017					<0.0005	<0.0005
4/9/2018						<0.0005
4/10/2018					<0.0005	
10/16/2018					<0.0005	<0.0005
8/20/2019					<0.0005	<0.0005
8/19/2020					<0.0005	0.00022 (J)
8/20/2020	<0.0005	<0.0005				
9/29/2020					<0.0005	
9/30/2020	<0.0005					0.00019 (J)
10/1/2020		<0.0005				
2/9/2021					<0.0005	<0.0005
2/10/2021	<0.0005					
2/11/2021		<0.0005	<0.0005	<0.0005		
9/7/2021					<0.0005	
9/8/2021						<0.0005
9/9/2021	<0.0005			<0.0005		
9/10/2021		<0.0005	<0.0005			
2/1/2022					<0.0005	<0.0005
2/2/2022			<0.0005			
2/3/2022	<0.0005	<0.0005		<0.0005		
9/1/2022					<0.0005	
9/2/2022	<0.0005	<0.0005		<0.0005		<0.0005
9/7/2022			0.000236 (J)			

Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	<0.0005		
10/26/2016	<0.0005		
1/25/2017	<0.0005		
4/10/2017	<0.0005		
6/19/2017	<0.0005		
10/24/2017	<0.0005		
4/10/2018	<0.0005		
10/16/2018	<0.0005		
8/20/2019	<0.0005		
12/16/2019		0.0005 (J)	0.00033 (J)
1/14/2020		0.00036 (J)	<0.0005
2/11/2020		0.00023	<0.0005
3/9/2020		0.00019	<0.0005
5/27/2020		0.00018 (J)	<0.0005
7/15/2020		<0.0005	<0.0005
8/19/2020		<0.0005	
8/20/2020			<0.0005
8/21/2020	<0.0005		
9/22/2020		<0.0005	<0.0005
9/30/2020		<0.0005	
10/1/2020	<0.0005		<0.0005
2/10/2021	<0.0005	<0.0005	<0.0005
9/8/2021	<0.0005		
9/9/2021			<0.0005
9/10/2021		<0.0005	
2/1/2022	<0.0005		
2/2/2022		<0.0005	
2/3/2022			<0.0005
9/1/2022	<0.0005		
9/6/2022		<0.0005	<0.0005

Time Series

Constituent: Boron (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					0.024 (J)	<0.08
10/24/2016					0.0339 (J)	0.0194 (J)
1/25/2017					0.048 (J)	0.026 (J)
4/10/2017					0.022 (J)	<0.08
6/19/2017					<0.08	
6/20/2017						0.032 (J)
10/24/2017					0.021 (J)	0.054
4/9/2018						0.06
4/10/2018					0.022 (J)	
10/16/2018					<0.08	0.036 (J)
3/26/2019					<0.08	
3/27/2019						0.046 (J)
10/7/2019					<0.08	<0.08
1/14/2020	1.1	1.8				
4/6/2020						0.063 (J)
4/7/2020					0.072 (J)	
6/24/2020	0.84	0.89				
6/25/2020					0.091	0.081
9/29/2020					<0.08	
9/30/2020	0.98					0.083
10/1/2020		0.95				
11/30/2020			2.1			
12/1/2020				0.4		
2/9/2021					<0.08	0.059 (J)
2/10/2021	0.94					
2/11/2021		0.98	2.4	0.53		
9/7/2021					<0.08	
9/8/2021						0.064 (J)
9/9/2021	1			0.53		
9/10/2021		0.85	2.6			
2/1/2022					0.092	<0.08
2/2/2022			2.3			
2/3/2022	1.1	1		0.6		
9/1/2022					0.0238	
9/2/2022	1.18	1.08		0.558		0.0597
9/7/2022			2.33			

Time Series

Constituent: Boron (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	0.57		
10/26/2016	0.502		
1/25/2017	0.56		
4/10/2017	0.54		
6/19/2017	0.54		
10/24/2017	0.57		
4/10/2018	0.61		
10/16/2018	0.59		
3/27/2019	0.65		
10/8/2019	0.58		
12/16/2019		2.7	0.42
1/14/2020		2.7	0.43
2/11/2020		3	0.079 (J)
3/9/2020		2.7	0.25
4/7/2020	0.74	2.6	0.44
5/27/2020		2.5	0.45
6/24/2020		2.5	
6/25/2020	0.82		0.42
7/15/2020		2.6	0.49
8/19/2020		1.3	
8/20/2020			0.44
9/22/2020		2.8	0.5
9/30/2020		2.9	
10/1/2020	0.9		0.49
2/10/2021	0.81	2.5	0.42
9/8/2021	0.79		
9/9/2021			0.41
9/10/2021		2.7	
2/1/2022	0.85		
2/2/2022		2.4	
2/3/2022			0.49
9/1/2022	0.921		
9/6/2022		2.78	0.458

Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
5/5/2009					<0.001	
5/15/2009						<0.001
12/5/2009					<0.001	<0.001
6/1/2010					<0.001	<0.001
11/11/2010					<0.001	<0.001
5/17/2011					<0.001	<0.001
11/8/2011					<0.001	<0.001
5/16/2012					<0.001	<0.001
5/14/2013					<0.001	<0.001
11/5/2013					<0.001	<0.001
6/9/2014					<0.001	<0.001
11/18/2014						<0.001
11/19/2014					<0.001	
4/14/2015					<0.001	<0.001
11/4/2015					<0.001	<0.001
6/22/2016					<0.001	<0.001
8/29/2016					<0.001	<0.001
10/24/2016					<0.001	<0.001
1/25/2017					<0.001	<0.001
4/10/2017					<0.001	<0.001
6/19/2017					<0.001	
6/20/2017						<0.001
10/24/2017					<0.001	<0.001
4/9/2018						<0.001
4/10/2018					<0.001	
10/16/2018					<0.001	<0.001
3/26/2019					<0.001	
3/27/2019						<0.001
8/20/2019					<0.001	<0.001
10/7/2019					<0.001	<0.001
4/6/2020						<0.001
4/7/2020					0.00034 (J)	
8/19/2020					<0.001	<0.001
8/20/2020	<0.001	<0.001				
2/9/2021					<0.001	<0.001
2/10/2021	<0.001					
2/11/2021		<0.001	<0.001	<0.001		
9/7/2021					<0.001	
9/8/2021						<0.001
9/9/2021	<0.001			<0.001		
9/10/2021		<0.001	<0.001			
2/1/2022					<0.001	<0.001
2/2/2022			<0.001			
2/3/2022	<0.001	<0.001		<0.001		
9/1/2022					<0.001	
9/2/2022	<0.001	<0.001		<0.001		<0.001
9/7/2022			<0.001			

Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
5/14/2009	<0.001		
12/5/2009	<0.001		
6/2/2010	<0.001		
11/11/2010	<0.001		
5/17/2011	<0.001		
11/8/2011	<0.001		
5/16/2012	<0.001		
5/14/2013	<0.001		
11/5/2013	<0.001		
6/9/2014	<0.001		
11/18/2014	<0.001		
4/14/2015	<0.001		
10/29/2015	<0.001		
6/23/2016	<0.001		
8/30/2016	<0.001		
10/26/2016	<0.001		
1/25/2017	<0.001		
4/10/2017	<0.001		
6/19/2017	<0.001		
10/24/2017	<0.001		
4/10/2018	<0.001		
10/16/2018	<0.001		
3/27/2019	<0.001		
8/20/2019	<0.001		
10/8/2019	<0.001		
12/16/2019		<0.001	<0.001
1/14/2020		<0.001	<0.001
2/11/2020		<0.001	<0.001
3/9/2020		<0.001	<0.001
4/7/2020	<0.001	<0.001	<0.001
5/27/2020		<0.001	<0.001
7/15/2020		<0.001	<0.001
8/19/2020		<0.001	
8/20/2020			<0.001
8/21/2020	<0.001		
9/22/2020		<0.001	<0.001
2/10/2021	<0.001	<0.001	<0.001
9/8/2021	<0.001		
9/9/2021			<0.001
9/10/2021		<0.001	
2/1/2022	<0.001		
2/2/2022		<0.001	
2/3/2022			<0.001
9/1/2022	<0.001		
9/6/2022		<0.001	<0.001

Time Series

Constituent: Calcium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					11	8.3
10/24/2016					11.5	7.66
1/25/2017					13	9.4
4/10/2017					11	8.6
6/19/2017					12	
6/20/2017						9.4
10/24/2017					12	9.9
4/9/2018						9.9
4/10/2018					12	
10/16/2018					14	9.8
3/26/2019					15	
3/27/2019						9.2
10/7/2019					14	8.9
4/6/2020						9.5
4/7/2020					14	
6/24/2020	81	89				
6/25/2020					14	9.6
9/29/2020					12	
9/30/2020	100					9.9
10/1/2020		91				
11/30/2020			260			
12/1/2020				81		
2/9/2021					9.7	9.2
2/10/2021	93					
2/11/2021		100	290	75		
9/7/2021					9.2	
9/8/2021						11
9/9/2021	93			71		
9/10/2021		130	290			
2/1/2022					8	8.3
2/2/2022			300			
2/3/2022	93	99		71		
9/1/2022					8.52	
9/2/2022	80.5	89.2		61.4		9.48
9/7/2022			264			

Time Series

Constituent: Calcium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	46		
10/26/2016	44.3		
1/25/2017	50		
4/10/2017	52		
6/19/2017	55		
10/24/2017	56		
4/10/2018	51		
10/16/2018	57		
3/27/2019	58		
10/8/2019	60		
12/16/2019		200	69
1/14/2020		210	65
2/11/2020		180	10
3/9/2020		180	46
4/7/2020	69	190	65
5/27/2020		200	69
6/24/2020		180	
6/25/2020	80		72
7/15/2020		190	68
8/19/2020		220	
8/20/2020			69
9/22/2020		190	66
9/30/2020		200	
10/1/2020	79		73
2/10/2021	76	200	67
9/8/2021	81		
9/9/2021			70
9/10/2021		200	
2/1/2022	75		
2/2/2022		190	
2/3/2022			71
9/1/2022	71.5		
9/6/2022		162	65.2

Time Series

Constituent: Chloride (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
5/5/2009					11.1	
5/15/2009						6.86
12/5/2009					9.46	5.06
6/1/2010					6.32	5.47
11/11/2010					7.16	5.26
5/17/2011					6.84	4.8
11/8/2011					9.13	5.62
5/16/2012					10.8	5.1
5/14/2013					16.2	5.25
11/5/2013					14.8	5.19
6/9/2014					13.6	5.55
4/14/2015					10.4	5.39
11/4/2015					9.19	5.38
6/22/2016					8.4	5.7
8/29/2016					8.4	5.3
10/24/2016					9.6	5.4
1/25/2017					8.7	5.1
4/10/2017					8	4.9
6/19/2017					7.6	
6/20/2017						5
10/24/2017					7.2	4.6
4/9/2018						4.7
4/10/2018					7.2	
10/16/2018					10	5.3
3/26/2019					12	
3/27/2019						4.6
10/7/2019					11	5.2
4/6/2020						5.2
4/7/2020					11	
6/24/2020	5.3	4.3				
6/25/2020					11	5.1
9/29/2020					10	
9/30/2020	5.2					5.6
10/1/2020		4.2				
11/30/2020			6.3			
12/1/2020				12		
2/9/2021					8.6	6
2/10/2021	5.3					
2/11/2021		4.4	5.9	12		
9/7/2021					7.4	
9/8/2021						5.9
9/9/2021	4.5			7.4		
9/10/2021		4.2	6.5			
2/1/2022					6.8	5.7
2/2/2022			5.7			
2/3/2022	5.3	4.1		8.1		
9/1/2022					6.27	
9/2/2022	3.5	3.54		5.31		5.44
9/7/2022			5.78			

Time Series

Constituent: Chloride (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
5/14/2009	6.38		
12/5/2009	6.28		
6/2/2010	6.1		
11/11/2010	6.1461		
5/17/2011	6.17		
11/8/2011	6.6		
5/16/2012	6.18		
5/14/2013	6.32		
11/5/2013	5.65		
6/9/2014	6.08		
4/14/2015	5.43		
10/29/2015	5.62		
6/23/2016	5.9		
8/30/2016	5.5		
10/26/2016	6		
1/25/2017	5.4		
4/10/2017	5.1		
6/19/2017	5.2		
10/24/2017	4.9		
4/10/2018	4.8		
10/16/2018	5.1		
3/27/2019	4.4		
10/8/2019	4.5		
12/16/2019		5.8	3.9
1/14/2020		5.5	4
2/11/2020		9	4.7
3/9/2020		11	3.7
4/7/2020	4.2	8.1	3.8
5/27/2020		7.3	4
6/24/2020		5.7	
6/25/2020	3.7		3.4
7/15/2020		6	3.9
8/19/2020		5.7	
8/20/2020			3.9
9/22/2020		7.1	3.6
9/30/2020		8	
10/1/2020	4.3		3.8
2/10/2021	4.3	7.4	4.6
9/8/2021	4		
9/9/2021			4.7
9/10/2021		6.7	
2/1/2022	3.4		
2/2/2022		6.3	
2/3/2022			4.4
9/1/2022	3.34		
9/6/2022		8.34	3.73

Time Series

Constituent: Chromium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					0.0011 (J)	0.0052
10/24/2016					0.001 (J)	0.0053 (J)
1/25/2017					0.0013 (J)	0.0056
4/10/2017					<0.01	0.0047
6/19/2017					0.0013 (J)	
6/20/2017						0.0051
10/24/2017					0.0012 (J)	0.0056
4/9/2018						0.0071
4/10/2018					0.0015 (J)	
10/16/2018					0.0014 (J)	0.0071
8/20/2019					0.0024	0.0078
10/7/2019					<0.01	0.0059
4/6/2020						0.0057
4/7/2020					<0.01	
8/19/2020					<0.01	0.0063
8/20/2020	<0.01	<0.01				
9/29/2020					<0.01	
9/30/2020	<0.01					0.0057
10/1/2020		<0.01				
2/9/2021					0.0015 (J)	0.0059
2/10/2021	<0.01					
2/11/2021		<0.01	<0.01	<0.01		
9/7/2021					<0.01	
9/8/2021						0.0059
9/9/2021	<0.01			<0.01		
9/10/2021		<0.01	<0.01			
2/1/2022					0.0029	0.0054
2/2/2022			<0.01			
2/3/2022	<0.01	<0.01		<0.01		
9/1/2022					<0.01	
9/2/2022	<0.01	<0.01		<0.01		0.00578 (J)
9/7/2022			<0.01			

Time Series

Constituent: Chromium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	<0.01		
10/26/2016	<0.01		
1/25/2017	<0.01		
4/10/2017	<0.01		
6/19/2017	<0.01		
10/24/2017	<0.01		
4/10/2018	<0.01		
10/16/2018	<0.01		
8/20/2019	0.0017 (J)		
10/8/2019	<0.01		
12/16/2019		<0.01	<0.01
1/14/2020		<0.01	<0.01
2/11/2020		0.0048	<0.01
3/9/2020		<0.01	<0.01
4/7/2020	<0.01	<0.01	<0.01
5/27/2020		<0.01	<0.01
7/15/2020		<0.01	<0.01
8/19/2020		<0.01	
8/20/2020			<0.01
8/21/2020	<0.01		
9/22/2020		<0.01	<0.01
9/30/2020		<0.01	
10/1/2020	<0.01		<0.01
2/10/2021	<0.01	<0.01	<0.01
9/8/2021	<0.01		
9/9/2021			<0.01
9/10/2021		<0.01	
2/1/2022	<0.01		
2/2/2022		<0.01	
2/3/2022			<0.01
9/1/2022	<0.01		
9/6/2022		<0.01	<0.01

Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					<0.001	<0.001
10/24/2016					<0.001	<0.001
1/25/2017					<0.001	0.00076 (J)
4/10/2017					<0.001	<0.001
6/19/2017					<0.001	
6/20/2017						<0.001
10/24/2017					<0.001	<0.001
4/9/2018						<0.001
4/10/2018					<0.001	
10/16/2018					<0.001	<0.001
8/20/2019					0.00011 (J)	0.00015 (J)
10/7/2019					0.00011 (J)	<0.001
4/6/2020						0.00039 (J)
4/7/2020					0.00038 (J)	
6/24/2020	0.00097 (J)	0.0027				
6/25/2020					<0.001	0.00015 (J)
8/19/2020					<0.001	0.00064 (J)
8/20/2020	0.001 (J)	0.0022 (J)				
9/29/2020					<0.001	
9/30/2020	0.001 (J)					0.00031 (J)
10/1/2020		0.0036				
11/30/2020			0.028			
12/1/2020				0.0054		
2/9/2021					0.00016 (J)	0.00038 (J)
2/10/2021	0.00082 (J)					
2/11/2021		0.0028	0.017	0.0061		
9/7/2021					<0.001	
9/8/2021						0.0005 (J)
9/9/2021	0.00072 (J)			0.0046		
9/10/2021		0.0022 (J)	0.075			
2/1/2022					<0.001	<0.001
2/2/2022			0.077			
2/3/2022	0.00045 (J)	0.0028		0.0028		
9/1/2022					<0.001	
9/2/2022	0.000449 (J)	0.002		0.00292		<0.001
9/7/2022			0.0737			

Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	0.0018 (J)		
10/26/2016	0.0018 (J)		
1/25/2017	0.0017 (J)		
4/10/2017	0.0016 (J)		
6/19/2017	0.0021 (J)		
10/24/2017	0.0019 (J)		
4/10/2018	0.0019 (J)		
10/16/2018	0.0019 (J)		
8/20/2019	0.0023		
10/8/2019	0.0018		
12/16/2019		0.018	0.0023
1/14/2020		0.0072	0.0031
2/11/2020		0.013	0.00056
3/9/2020		0.015	0.00061 (J)
4/7/2020	0.00087	0.009	0.0016
5/27/2020		0.0059	0.0017 (J)
6/24/2020		0.0047	
6/25/2020	0.00097 (J)		0.0014 (J)
7/15/2020		0.0027	0.0017 (J)
8/19/2020		0.0032	
8/20/2020			0.0023 (J)
8/21/2020	0.00066 (J)		
9/22/2020		0.0085	0.0036
9/30/2020		0.0055	
10/1/2020	0.00082 (J)		0.0052
2/10/2021	0.00063 (J)	0.0015 (J)	0.00072 (J)
9/8/2021	0.0007 (J)		
9/9/2021			0.0009 (J)
9/10/2021		0.0015 (J)	
2/1/2022	0.0007 (J)		
2/2/2022		0.001 (J)	
2/3/2022			0.00063 (J)
9/1/2022	0.00069 (J)		
9/6/2022		0.00198	0.000588 (J)

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					0.324 (U)	0.508 (U)
10/24/2016					1.17 (U)	1.46
1/25/2017					0.443 (U)	0.377 (U)
4/10/2017					0.483	0.132 (U)
6/19/2017					0.478	
6/20/2017						1.17
10/24/2017					0.764	0.704
4/9/2018						0.539
4/10/2018					0.3 (U)	
10/16/2018					0.991	0.354 (U)
8/20/2019					0.498	0.53
10/7/2019					0.476 (U)	0.621 (U)
4/6/2020						0.072 (U)
4/7/2020					0.651	
8/19/2020					0.294 (U)	0.94
8/20/2020	0.527	4.13				
9/29/2020					0.372 (U)	
9/30/2020	0.249 (U)					0.679
10/1/2020		2.86				
2/9/2021					0.466 (U)	-0.0396 (U)
2/10/2021	0.949					
2/11/2021		2.09	5.1	0.285 (U)		
9/7/2021					0.31 (U)	
9/8/2021						0.44 (U)
9/9/2021	0.972			0.16 (U)		
9/10/2021		3.4	4.23			
2/1/2022					0.319 (U)	-0.00713 (U)
2/2/2022			4.48			
2/3/2022	1.04	2.69		0.51		
9/1/2022					0.913	
9/2/2022	3.41	4.18		1.89		0.783
9/7/2022			4.29			

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	0.832		
10/26/2016	1.27		
1/25/2017	0.549		
4/10/2017	0.556		
6/19/2017	0.976		
10/24/2017	0.504		
4/10/2018	0.621		
10/16/2018	0.796		
8/20/2019	0.978		
10/8/2019	0.588		
12/16/2019		0.229 (U)	0.166 (U)
1/14/2020		0.783	0.869
2/11/2020		0.229 (U)	0.0291 (U)
3/9/2020		0.365	0.626
4/7/2020	0.433 (U)	0.567	0.296 (U)
5/27/2020		0.143 (U)	0.192 (U)
7/15/2020		0.97	0.279 (U)
8/19/2020		0.587 (U)	
8/20/2020			0.242 (U)
8/21/2020	0.472		
9/22/2020		0.884	0.0177 (U)
9/30/2020		0.602	
10/1/2020	0.496 (U)		0.749
2/10/2021	0.625	0.233 (U)	0.0408 (U)
9/8/2021	1.12		
9/9/2021			0.498
9/10/2021		0.713	
2/1/2022	0.331 (U)		
2/2/2022		0.195 (U)	
2/3/2022			0.248 (U)
9/1/2022	1.57		
9/6/2022		2.58	2.36

Time Series

Constituent: Fluoride (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					<0.1	<0.1
10/24/2016					0.07 (J)	0.04 (J)
1/25/2017					<0.1	<0.1
4/10/2017					<0.1	<0.1
6/19/2017					<0.1	
6/20/2017						<0.1
10/24/2017					<0.1	<0.1
4/9/2018						<0.1
4/10/2018					<0.1	
10/16/2018					0.083 (J)	<0.1
3/26/2019					0.041 (J)	
3/27/2019						<0.1
8/20/2019					0.045 (J)	0.042 (J)
10/7/2019					0.049 (J)	0.036 (J)
4/6/2020						0.059 (J)
4/7/2020					0.14	
6/24/2020	0.21	0.11				
6/25/2020					0.03 (J)	<0.1
8/19/2020					<0.1	<0.1
8/20/2020	0.23	<0.1				
9/29/2020					0.051 (J)	
9/30/2020	0.2					0.032 (J)
10/1/2020		0.098 (J)				
11/30/2020			0.044 (J)			
12/1/2020				0.14		
2/9/2021					0.059 (J)	0.048 (J)
2/10/2021	0.21					
2/11/2021		0.12	0.054 (J)	0.24		
9/7/2021					0.1	
9/8/2021						0.067 (J)
9/9/2021	0.21			0.19		
9/10/2021		0.13	0.032 (J)			
2/1/2022					0.076 (J)	0.028 (J)
2/2/2022			<0.1			
2/3/2022	0.16	0.095 (J)		0.17		
9/1/2022					0.148	
9/2/2022	0.18	0.146		0.206		0.122
9/7/2022			<0.1			

Time Series

Constituent: Fluoride (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	0.099 (J)		
10/26/2016	0.57		
1/25/2017	0.12 (J)		
4/10/2017	0.11 (J)		
6/19/2017	0.11 (J)		
10/24/2017	0.1 (J)		
4/10/2018	0.094 (J)		
10/16/2018	0.17 (J)		
3/27/2019	0.05 (J)		
8/20/2019	0.098 (J)		
10/8/2019	0.065 (J)		
12/16/2019		0.026 (J)	0.18 (J)
1/14/2020		<0.1	0.21
2/11/2020		0.056	0.13
3/9/2020		0.064 (J)	0.089 (J)
4/7/2020	0.12	0.068 (J)	0.18
5/27/2020		0.06 (J)	0.25
6/24/2020		0.048 (J)	
6/25/2020	0.041 (J)		0.25
7/15/2020		0.04 (J)	0.28
8/19/2020		<0.1	
8/20/2020			0.19
8/21/2020	0.084 (J)		
9/22/2020		0.049 (J)	0.33
9/30/2020		0.045 (J)	
10/1/2020	0.098 (J)		0.32
2/10/2021	0.14	0.055 (J)	0.41
9/8/2021	0.16		
9/9/2021			0.48
9/10/2021		0.035 (J)	
2/1/2022	0.11		
2/2/2022		0.04 (J)	
2/3/2022			0.4
9/1/2022	0.161		
9/6/2022		0.056 (J)	0.362

Time Series

Constituent: Lead (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
5/5/2009					<0.002	
5/15/2009						<0.002
12/5/2009					<0.002	<0.002
6/1/2010					<0.002	<0.002
11/11/2010					<0.002	<0.002
5/17/2011					<0.002	<0.002
11/8/2011					<0.002	<0.002
5/16/2012					<0.002	<0.002
5/14/2013					<0.002	<0.002
11/5/2013					<0.002	<0.002
6/9/2014					<0.002	<0.002
11/18/2014						<0.002
11/19/2014					<0.002	
4/14/2015					<0.002	<0.002
11/4/2015					<0.002	<0.002
6/22/2016					<0.002	<0.002
8/29/2016					<0.002	<0.002
10/24/2016					<0.002	<0.002
1/25/2017					<0.002	0.00037 (J)
4/10/2017					<0.002	<0.002
6/19/2017					<0.002	
6/20/2017						<0.002
10/24/2017					<0.002	<0.002
4/9/2018						<0.002
4/10/2018					<0.002	
10/16/2018					<0.002	<0.002
3/26/2019					<0.002	
3/27/2019						<0.002
8/20/2019					<0.002	<0.002
10/7/2019					0.00018 (J)	0.00014 (J)
4/6/2020						0.00033 (J)
4/7/2020					0.00037 (J)	
8/19/2020					<0.002	0.00039 (J)
8/20/2020	<0.002	<0.002				
9/29/2020					<0.002	
9/30/2020	<0.002					0.00022 (J)
10/1/2020		<0.002				
2/9/2021					<0.002	0.00033 (J)
2/10/2021	<0.002					
2/11/2021		<0.002	0.00013 (J)	<0.002		
9/7/2021					<0.002	
9/8/2021						0.00024 (J)
9/9/2021	<0.002			<0.002		
9/10/2021		<0.002	<0.002			
2/1/2022					<0.002	<0.002
2/2/2022			<0.002			
2/3/2022	<0.002	<0.002		<0.002		
9/1/2022					<0.002	
9/2/2022	<0.002	<0.002		<0.002		<0.002
9/7/2022			<0.002			

Time Series

Constituent: Lead (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
5/14/2009	<0.002		
12/5/2009	<0.002		
6/2/2010	<0.002		
11/11/2010	<0.002		
5/17/2011	<0.002		
11/8/2011	<0.002		
5/16/2012	<0.002		
5/14/2013	<0.002		
11/5/2013	<0.002		
6/9/2014	<0.002		
11/18/2014	<0.002		
4/14/2015	<0.002		
10/29/2015	<0.002		
6/23/2016	<0.002		
8/30/2016	<0.002		
10/26/2016	<0.002		
1/25/2017	<0.002		
4/10/2017	<0.002		
6/19/2017	<0.002		
10/24/2017	<0.002		
4/10/2018	<0.002		
10/16/2018	<0.002		
3/27/2019	<0.002		
8/20/2019	<0.002		
10/8/2019	0.00015 (J)		
12/16/2019		<0.002	<0.002
1/14/2020		0.00022 (J)	0.00018 (J)
2/11/2020		<0.002	0.00026 (J)
3/9/2020		<0.002	<0.002
4/7/2020	0.00026 (J)	0.00014 (J)	<0.002
5/27/2020		<0.002	<0.002
7/15/2020		<0.002	<0.002
8/19/2020		<0.002	
8/20/2020			<0.002
8/21/2020	<0.002		
9/22/2020		<0.002	<0.002
9/30/2020		<0.002	
10/1/2020	<0.002		<0.002
2/10/2021	<0.002	<0.002	<0.002
9/8/2021	<0.002		
9/9/2021			<0.002
9/10/2021		<0.002	
2/1/2022	<0.002		
2/2/2022		<0.002	
2/3/2022			<0.002
9/1/2022	<0.002		
9/6/2022		<0.002	<0.002

Time Series

Constituent: Lithium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					0.0048 (J)	<0.01
10/24/2016					<0.01	<0.01
1/25/2017					0.0052	<0.01
4/10/2017					0.0034 (J)	<0.01
6/19/2017					0.0036 (J)	
6/20/2017						<0.01
10/24/2017					0.0051	<0.01
4/9/2018						0.0021 (J)
4/10/2018					0.0057	
10/16/2018					0.0048 (J)	0.0018 (J)
8/20/2019					0.0044 (J)	<0.01
10/7/2019					0.013	0.0066
1/14/2020	0.009	0.086				
4/6/2020						<0.01
4/7/2020					0.0053	
6/24/2020	0.0084	0.018				
6/25/2020					0.0053	<0.01
8/19/2020					0.0038 (J)	<0.01
8/20/2020	0.0066	0.036				
9/29/2020					0.0041 (J)	
9/30/2020	0.0091					<0.01
10/1/2020		0.019				
11/30/2020			0.061			
12/1/2020				0.0044 (J)		
2/9/2021					0.0038 (J)	<0.01
2/10/2021	0.0097					
2/11/2021		0.021	0.061	0.0055		
9/7/2021					0.0034 (J)	
9/8/2021						<0.01
9/9/2021	0.0095			0.0062		
9/10/2021		0.025	0.06			
2/1/2022					0.0039 (J)	0.0015 (J)
2/2/2022			0.06			
2/3/2022	0.0099	0.021		0.0063		
9/1/2022					0.00359 (J)	
9/2/2022	0.0097 (J)	0.0232		0.00654 (J)		<0.01
9/7/2022			0.0634			

Time Series

Constituent: Lithium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	0.0092		
10/26/2016	0.0071 (J)		
1/25/2017	0.0087		
4/10/2017	0.0074		
6/19/2017	0.0079		
10/24/2017	0.0097		
4/10/2018	0.012		
10/16/2018	0.01		
8/20/2019	0.0098		
10/8/2019	0.015		
12/16/2019		0.027	0.02
1/14/2020		0.034	0.022
2/11/2020		0.01	0.0078
3/9/2020		0.0071	0.013
4/7/2020	0.011	0.012	0.032
5/27/2020		0.017	0.037
6/24/2020		0.023	
6/25/2020	0.013		0.043
7/15/2020		0.021	0.042
8/19/2020		0.026	
8/20/2020			0.036
8/21/2020	0.013		
9/22/2020		0.014	0.039
9/30/2020		0.014	
10/1/2020	0.012		0.04
2/10/2021	0.012	0.022	0.044
9/8/2021	0.012		
9/9/2021			0.045
9/10/2021		0.021	
2/1/2022	0.012		
2/2/2022		0.02	
2/3/2022			0.052
9/1/2022	0.0116		
9/6/2022		0.0136	0.0578

Time Series

Constituent: Mercury (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					<0.0002	<0.0002
10/24/2016					<0.0002	<0.0002
1/25/2017					7.7E-05 (J)	7.2E-05 (J)
4/10/2017					<0.0002	<0.0002
6/19/2017					<0.0002	
6/20/2017						<0.0002
10/24/2017					<0.0002	<0.0002
4/9/2018						<0.0002
4/10/2018					<0.0002	
10/16/2018					<0.0002	<0.0002
8/20/2019					<0.0002	<0.0002
8/19/2020					<0.0002	<0.0002
8/20/2020	<0.0002	<0.0002				
9/7/2021					<0.0002	
9/8/2021						<0.0002
9/9/2021	<0.0002			<0.0002		
9/10/2021		<0.0002	<0.0002			
2/1/2022					<0.0002	<0.0002
2/2/2022			<0.0002			
2/3/2022	<0.0002	<0.0002		<0.0002		
9/1/2022					<0.0002	
9/2/2022	<0.0002	<0.0002		<0.0002		<0.0002
9/7/2022			<0.0002			

Time Series

Constituent: Mercury (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	<0.0002		
10/26/2016	<0.0002		
1/25/2017	7.3E-05 (J)		
4/10/2017	<0.0002		
6/19/2017	<0.0002		
10/24/2017	<0.0002		
4/10/2018	<0.0002		
10/16/2018	<0.0002		
8/20/2019	<0.0002		
12/16/2019		<0.0002	<0.0002
1/14/2020		<0.0002	<0.0002
2/11/2020		<0.0002	<0.0002
3/9/2020		<0.0002	<0.0002
5/27/2020		<0.0002	<0.0002
7/15/2020		<0.0002	<0.0002
8/19/2020		<0.0002	
8/20/2020			<0.0002
8/21/2020	<0.0002		
9/22/2020		<0.0002	<0.0002
10/1/2020			<0.0002
9/8/2021	<0.0002		
9/9/2021			<0.0002
9/10/2021		<0.0002	
2/1/2022	<0.0002		
2/2/2022		<0.0002	
2/3/2022			<0.0002
9/1/2022	<0.0002		
9/6/2022		<0.0002	<0.0002

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					<0.001	<0.001
10/24/2016					<0.001	<0.001
1/25/2017					<0.001	<0.001
4/10/2017					<0.001	<0.001
6/19/2017					<0.001	
6/20/2017						<0.001
10/24/2017					<0.001	<0.001
4/9/2018						<0.001
4/10/2018					0.00096 (J)	
10/16/2018					<0.001	<0.001
8/20/2019					<0.001	<0.001
6/24/2020	0.0051 (J)	<0.001				
6/25/2020					<0.001	<0.001
8/19/2020					<0.001	<0.001
8/20/2020	0.0076 (J)	0.0013 (J)				
9/29/2020					<0.001	
9/30/2020	0.0054 (J)					<0.001
10/1/2020		<0.001				
11/30/2020			0.0012 (J)			
12/1/2020				0.056		
2/9/2021					<0.001	<0.001
2/10/2021	0.0043 (J)					
2/11/2021		<0.001	<0.001	0.038		
9/7/2021					<0.001	
9/8/2021						<0.001
9/9/2021	0.0059 (J)			0.12		
9/10/2021		<0.001	<0.001			
2/1/2022					0.00067 (J)	<0.001
2/2/2022			<0.001			
2/3/2022	0.0049 (J)	<0.001		0.16		
9/1/2022					0.000501 (J)	
9/2/2022	0.00785	0.000603 (J)		0.175		<0.001
9/7/2022			0.000379 (J)			

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	<0.001		
10/26/2016	<0.001		
1/25/2017	<0.001		
4/10/2017	<0.001		
6/19/2017	<0.001		
10/24/2017	<0.001		
4/10/2018	<0.001		
10/16/2018	<0.001		
8/20/2019	<0.001		
12/16/2019		0.0018 (J)	0.025
1/14/2020		0.0012 (J)	0.032
2/11/2020		0.00093	0.021
3/9/2020		0.00067	0.013 (J)
5/27/2020		<0.001	0.048
6/24/2020		<0.001	
6/25/2020	<0.001		0.055
7/15/2020		<0.001	0.055
8/19/2020		<0.001	
8/20/2020			0.061
8/21/2020	<0.001		
9/22/2020		<0.001	0.053
9/30/2020		<0.001	
10/1/2020	<0.001		0.064
2/10/2021	<0.001	<0.001	0.063
9/8/2021	<0.001		
9/9/2021			0.071
9/10/2021		<0.001	
2/1/2022	<0.001		
2/2/2022		<0.001	
2/3/2022			0.065
9/1/2022	<0.001		
9/6/2022		0.000203 (J)	0.067

Time Series

Constituent: pH (SU) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					6.75 (o)	5.64
10/24/2016					5.81	5.6
1/25/2017					5.91	5.65
4/10/2017					5.74	5.42
6/19/2017					5.54	
6/20/2017						5.59
10/24/2017					5.82	5.58
4/9/2018						5.78
4/10/2018					5.92	
10/16/2018					5.94	5.69
3/26/2019					5.85	
3/27/2019						5.96
8/20/2019					5.9	5.57
10/7/2019					5.89	5.65
1/14/2020	6.07	6.12				
4/6/2020						5.53
4/7/2020					5.72	
6/24/2020	6.31	6.19				
6/25/2020					5.8	5.61
8/19/2020					6.25	6.16
8/20/2020	6.09	5.99				
9/29/2020					5.83	
9/30/2020	6.16					5.65
10/1/2020		5.96				
11/30/2020			6			
12/1/2020				7.05		
2/9/2021					5.97	5.66
2/10/2021	6.16					
2/11/2021		6	5.67	6.95		
9/7/2021					5.85	
9/8/2021						5.59
9/9/2021	6.1			6.56		
9/10/2021		6.01	5.7			
2/1/2022					5.52	5.14
2/2/2022			5.58			
2/3/2022	6.11	6.01		6.59		
9/1/2022					5.88	
9/2/2022	6.04	6		6.44		5.68
9/7/2022			5.57			

Time Series

Constituent: pH (SU) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	6.38		
10/26/2016	6.23		
1/25/2017	6.15		
4/10/2017	5.99		
6/19/2017	5.95		
10/24/2017	6.02		
4/10/2018	6.12		
10/16/2018	6.12		
3/27/2019	6.2		
8/20/2019	6.08		
10/8/2019	6.11		
12/16/2019		5.74	6.41
1/14/2020		5.91	6.62
2/11/2020		5.9	6.71
3/9/2020		5.97	6.32
4/7/2020	5.96	5.84	6.4
5/27/2020		5.69	6.3
6/24/2020		5.82	
6/25/2020	5.98		6.37
7/15/2020		5.58	6.36
8/19/2020		6.21	
8/20/2020			6.33
8/21/2020	5.89		
9/22/2020		5.77	6.29
9/30/2020		5.81	
10/1/2020	5.99		6.38
2/10/2021	6.01	5.68	6.37
9/8/2021	5.94		
9/9/2021			6.35
9/10/2021		5.62	
2/1/2022	5.65		
2/2/2022		5.7	
2/3/2022			6.44
9/1/2022	5.97		
9/6/2022		5.88	6.41

Time Series

Constituent: Selenium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
5/5/2009					0.0043	
5/15/2009						0.007 (o)
12/5/2009					<0.005	<0.005
6/1/2010					<0.005	<0.005
11/11/2010					<0.005	<0.005
5/17/2011					<0.005	<0.005
11/8/2011					<0.005	<0.005
5/16/2012					<0.005	0.0024 (J)
5/14/2013					<0.005	<0.005
11/5/2013					<0.005	<0.005
6/9/2014					<0.005	<0.005
11/18/2014						<0.005
11/19/2014					<0.005	
4/14/2015					<0.005	<0.005
11/4/2015					<0.005	<0.005
6/22/2016					0.00025 (J)	0.0019
8/29/2016					0.0004 (J)	0.0019
10/24/2016					<0.005	0.0023 (J)
1/25/2017					<0.005	0.0015
4/10/2017					<0.005	0.0011 (J)
6/19/2017					0.00025 (J)	
6/20/2017						0.0016
10/24/2017					<0.005	0.0012 (J)
4/9/2018						0.0012 (J)
4/10/2018					0.00074 (J)	
10/16/2018					<0.005	0.0015
3/26/2019					<0.005	
3/27/2019						0.0015
8/20/2019					<0.005	0.0015 (J)
10/7/2019					<0.005	0.0016 (J)
4/6/2020						0.0017 (J)
4/7/2020					<0.005	
8/19/2020					<0.005	0.0015 (J)
8/20/2020	<0.005	<0.005				
9/29/2020					<0.005	
9/30/2020	<0.005					0.0016 (J)
10/1/2020		<0.005				
2/9/2021					<0.005	0.0016 (J)
2/10/2021	<0.005					
2/11/2021		<0.005	<0.005	<0.005		
9/7/2021					<0.005	
9/8/2021						<0.005
9/9/2021	<0.005			<0.005		
9/10/2021		<0.005	<0.005			
2/1/2022					<0.005	0.0015 (J)
2/2/2022			<0.005			
2/3/2022	<0.005	<0.005		<0.005		
9/1/2022					<0.005	
9/2/2022	<0.005	<0.005		<0.005		<0.005
9/7/2022			<0.005			

Time Series

Constituent: Selenium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
5/14/2009	0.0058 (o)		
12/5/2009	<0.005		
6/2/2010	<0.005		
11/11/2010	<0.005		
5/17/2011	<0.005		
11/8/2011	<0.005		
5/16/2012	<0.005		
5/14/2013	<0.005		
11/5/2013	<0.005		
6/9/2014	<0.005		
11/18/2014	<0.005		
4/14/2015	<0.005		
10/29/2015	<0.005		
6/23/2016	<0.005		
8/30/2016	<0.005		
10/26/2016	<0.005		
1/25/2017	<0.005		
4/10/2017	<0.005		
6/19/2017	<0.005		
10/24/2017	<0.005		
4/10/2018	<0.005		
10/16/2018	<0.005		
3/27/2019	<0.005		
8/20/2019	<0.005		
10/8/2019	<0.005		
12/16/2019		<0.005	<0.005
1/14/2020		<0.005	<0.005
2/11/2020		<0.005	<0.005
3/9/2020		<0.005	<0.005
4/7/2020	<0.005	<0.005	<0.005
5/27/2020		<0.005	<0.005
7/15/2020		<0.005	<0.005
8/19/2020		<0.005	
8/20/2020			<0.005
8/21/2020	<0.005		
9/22/2020		<0.005	<0.005
9/30/2020		<0.005	
10/1/2020	<0.005		<0.005
2/10/2021	<0.005	<0.005	<0.005
9/8/2021	<0.005		
9/9/2021			<0.005
9/10/2021		0.002 (J)	
2/1/2022	<0.005		
2/2/2022		<0.005	
2/3/2022			<0.005
9/1/2022	<0.005		
9/6/2022		<0.005	<0.005

Time Series

Constituent: Silver (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
5/5/2009					<0.001	
5/15/2009						<0.001
12/5/2009					0.00075	0.00043
6/1/2010					<0.001	<0.001
11/11/2010					<0.001	<0.001
5/17/2011					<0.001	<0.001
11/8/2011					<0.001	<0.001
5/16/2012					<0.001	<0.001
5/14/2013					<0.001	<0.001
11/5/2013					<0.001	<0.001
6/9/2014					<0.001	<0.001
11/18/2014						<0.001
11/19/2014					<0.001	
4/14/2015					<0.001	<0.001
11/4/2015					<0.001	<0.001
6/22/2016					<0.001	<0.001
10/24/2016					<0.001	<0.001
4/10/2017					<0.001	<0.001
10/24/2017					<0.001	<0.001
4/9/2018						<0.001
4/10/2018					<0.001	
10/16/2018					<0.001	<0.001
3/26/2019					<0.001	
3/27/2019						<0.001
10/7/2019					0.00056 (J)	0.00031 (J)
4/6/2020						<0.001
4/7/2020					0.00018 (J)	
9/29/2020					<0.001	
9/30/2020	<0.001					<0.001
10/1/2020		<0.001				
2/9/2021					<0.001	<0.001
2/10/2021	<0.001					
2/11/2021		<0.001	<0.001	<0.001		
9/7/2021					<0.001	
9/8/2021						<0.001
9/9/2021	<0.001			<0.001		
9/10/2021		<0.001	<0.001			
2/1/2022					<0.001	<0.001
2/2/2022			<0.001			
2/3/2022	<0.001	<0.001		<0.001		
9/1/2022					<0.001	
9/2/2022	<0.001	<0.001		<0.001		<0.001
9/7/2022			<0.001			

Time Series

Constituent: Silver (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
5/14/2009	<0.001		
12/5/2009	0.001		
6/2/2010	<0.001		
11/11/2010	<0.001		
5/17/2011	<0.001		
11/8/2011	<0.001		
5/16/2012	<0.001		
5/14/2013	<0.001		
11/5/2013	<0.001		
6/9/2014	<0.001		
11/18/2014	<0.001		
4/14/2015	<0.001		
10/29/2015	<0.001		
6/23/2016	<0.001		
10/26/2016	<0.001		
4/10/2017	<0.001		
10/24/2017	<0.001		
4/10/2018	<0.001		
10/16/2018	<0.001		
3/27/2019	<0.001		
10/8/2019	0.00043 (J)		
4/7/2020	<0.001	<0.001	<0.001
9/30/2020		<0.001	
10/1/2020	<0.001		<0.001
2/10/2021	<0.001	<0.001	<0.001
9/8/2021	<0.001		
9/9/2021			<0.001
9/10/2021		<0.001	
2/1/2022	<0.001		
2/2/2022		<0.001	
2/3/2022			<0.001
9/1/2022	<0.001		
9/6/2022		<0.001	<0.001

Time Series

Constituent: Sulfate (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
5/5/2009					15.9	
5/15/2009						41.3 (o)
12/5/2009					15.1	16.2
6/1/2010					12.7	18.2
11/11/2010					11.5	16.5
5/17/2011					11.2	16
11/8/2011					11.3	21
5/16/2012					9.38	17.7
5/14/2013					8.74	19.5
11/5/2013					9.12	18.3
6/9/2014					8.61	18.6
4/14/2015					8.45	18.8
11/4/2015					9.01	17.4
6/22/2016					9.3	18
8/29/2016					8.7	18
10/24/2016					9.3	18
1/25/2017					8.8	19
4/10/2017					7.8	16
6/19/2017					8.6	
6/20/2017						18
10/24/2017					9.1	19
4/9/2018						18
4/10/2018					7.9	
10/16/2018					8.2	18
3/26/2019					6.1	
3/27/2019						15
10/7/2019					7.4	17
4/6/2020						15
4/7/2020					8.4	
6/24/2020	250	290				
6/25/2020					9.8	16
9/29/2020					8.4	
9/30/2020	230					15
10/1/2020		270				
11/30/2020			990			
12/1/2020				120		
2/9/2021					10	16
2/10/2021	260					
2/11/2021		290	980	110		
9/7/2021					9.9	
9/8/2021						16
9/9/2021	210			100		
9/10/2021		440	1100			
2/1/2022					10	18
2/2/2022			1100			
2/3/2022	250	310		110		
9/1/2022					8.38	
9/2/2022	223	315		108		18.5
9/7/2022			1050			

Time Series

Constituent: Sulfate (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
5/14/2009	129		
12/5/2009	136		
6/2/2010	138		
11/11/2010	131.49		
5/17/2011	132		
11/8/2011	138		
5/16/2012	132		
5/14/2013	129		
11/5/2013	122		
6/9/2014	131		
4/14/2015	128		
10/29/2015	134		
6/23/2016	150		
8/30/2016	140		
10/26/2016	160		
1/25/2017	150		
4/10/2017	140		
6/19/2017	160		
10/24/2017	160		
4/10/2018	170		
10/16/2018	170		
3/27/2019	170		
10/8/2019	170		
12/16/2019		770	66
1/14/2020		930	68
2/11/2020		660	18
3/9/2020		630	49
4/7/2020	180	710	58
5/27/2020		720	65
6/24/2020		810	
6/25/2020	210		77
7/15/2020		820	78
8/19/2020		1000	
8/20/2020			69
9/22/2020		720	68
9/30/2020		650	
10/1/2020	210		64
2/10/2021	220	750	67
9/8/2021	230		
9/9/2021			72
9/10/2021		760	
2/1/2022	230		
2/2/2022		720	
2/3/2022			64
9/1/2022	221		
9/6/2022		667	65.3

Time Series

Constituent: Thallium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					<0.002	<0.002
10/24/2016					<0.002	<0.002
1/25/2017					<0.002	<0.002
4/10/2017					<0.002	<0.002
6/19/2017					<0.002	
6/20/2017						<0.002
10/24/2017					<0.002	<0.002
4/9/2018						<0.002
4/10/2018					<0.002	
10/16/2018					<0.002	<0.002
8/20/2019					<0.002	<0.002
8/19/2020					<0.002	<0.002
8/20/2020	<0.002	<0.002				
9/7/2021					<0.002	
9/8/2021						<0.002
9/9/2021	<0.002			<0.002		
9/10/2021		<0.002	<0.002			
2/1/2022					0.00057 (J)	<0.002
2/2/2022			<0.002			
2/3/2022	<0.002	<0.002		<0.002		
9/1/2022					<0.002	
9/2/2022	<0.002	<0.002		<0.002		<0.002
9/7/2022			<0.002			

Time Series

Constituent: Thallium (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	<0.002		
10/26/2016	<0.002		
1/25/2017	<0.002		
4/10/2017	<0.002		
6/19/2017	<0.002		
10/24/2017	<0.002		
4/10/2018	<0.002		
10/16/2018	<0.002		
8/20/2019	<0.002		
12/16/2019		0.00078 (J)	<0.002
1/14/2020		0.00027 (J)	<0.002
2/11/2020		0.00034	0.00028 (J)
3/9/2020		0.00035 (J)	0.00026 (J)
5/27/2020		<0.002	0.00026 (J)
7/15/2020		<0.002	<0.002
8/19/2020		<0.002	
8/20/2020			<0.002
8/21/2020	<0.002		
9/22/2020		<0.002	<0.002
9/8/2021	<0.002		
9/9/2021			<0.002
9/10/2021		<0.002	
2/1/2022	<0.002		
2/2/2022		<0.002	
2/3/2022			<0.002
9/1/2022	<0.002		
9/6/2022		<0.002	<0.002

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWA-19 (bg)	ARGWA-20 (bg)
8/29/2016					130	100
10/24/2016					108	91
1/25/2017					120	90
4/10/2017					128 (D)	110
6/19/2017					86	
6/20/2017						72
10/24/2017					120	110
4/9/2018						100
4/10/2018					120	
10/16/2018					140	110
3/26/2019					170	
3/27/2019						100
10/7/2019					150	87
4/6/2020						90
4/7/2020					120	
9/29/2020					110	
9/30/2020	520					82
10/1/2020		530				
11/30/2020			1600			
12/1/2020				420		
2/9/2021					110	100
2/10/2021	560					
2/11/2021		590	1600	380		
9/7/2021					110	
9/8/2021						120
9/9/2021	560			260		
9/10/2021		870	1700			
2/1/2022					91	100
2/2/2022			1700			
2/3/2022	560	590		410		
9/1/2022					81	
9/2/2022	546	664		385		101
9/7/2022			1610			

Time Series

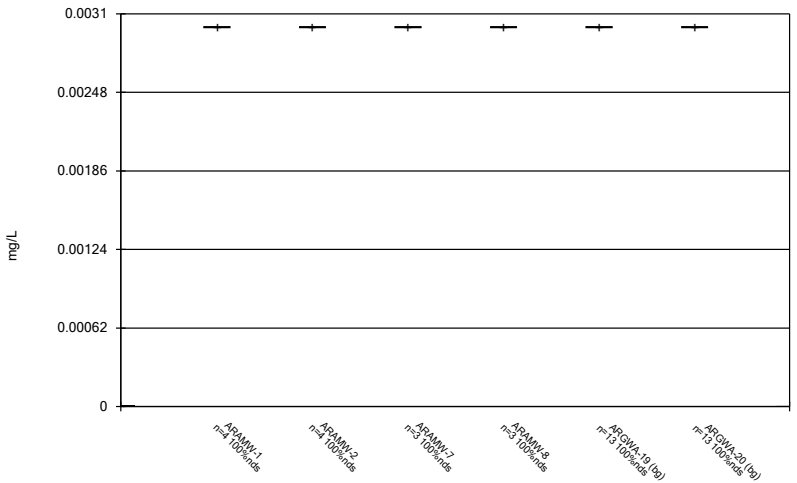
Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/28/2022 5:40 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016	350		
10/26/2016	357		
1/25/2017	320		
4/10/2017	380		
6/19/2017	370		
10/24/2017	420		
4/10/2018	370		
10/16/2018	380		
3/27/2019	400		
10/8/2019	420		
12/16/2019		1300	320
1/14/2020		1400	340
2/11/2020		1300	110
3/9/2020		1200	210
4/7/2020	460	1300	290
5/27/2020		1300	320
7/15/2020		1400	310
8/19/2020		1400	
8/20/2020			310
9/22/2020		1300	310
9/30/2020		1200	
10/1/2020	500		290
2/10/2021	510	1200	290
9/8/2021	560		
9/9/2021			320
9/10/2021		1300	
2/1/2022	520		
2/2/2022		1200	
2/3/2022			320
9/1/2022	537		
9/6/2022		1180	305

FIGURE B.

Box & Whiskers Plot

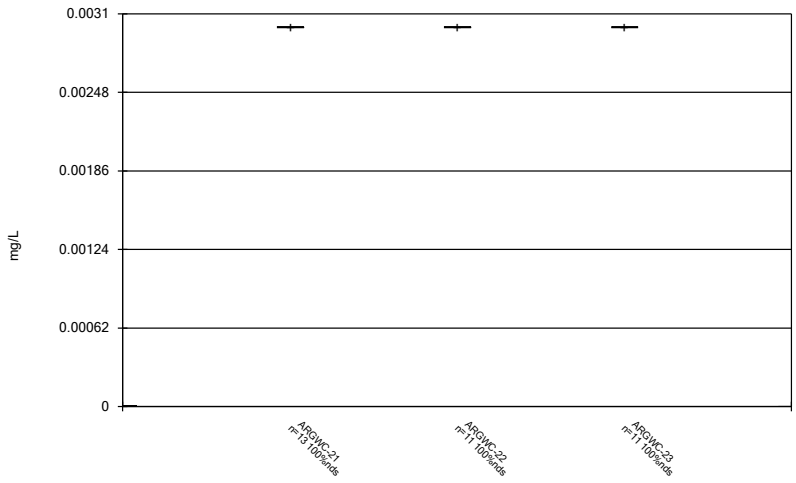


Constituent: Antimony Analysis Run 10/28/2022 5:41 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

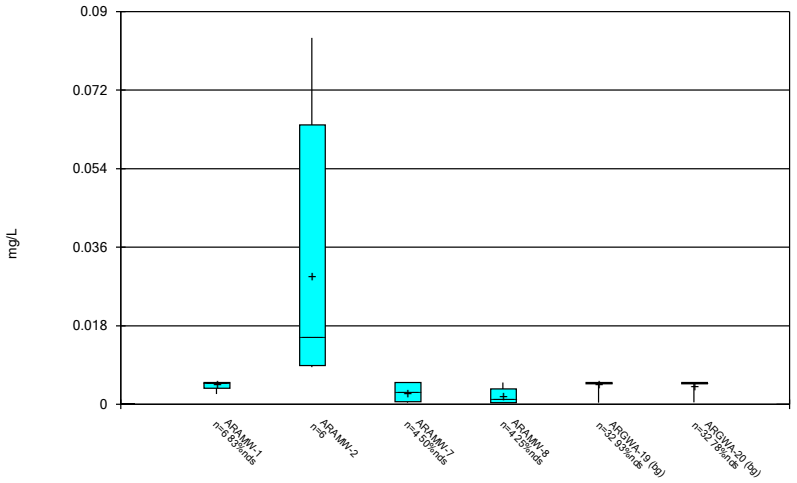


Constituent: Antimony Analysis Run 10/28/2022 5:41 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

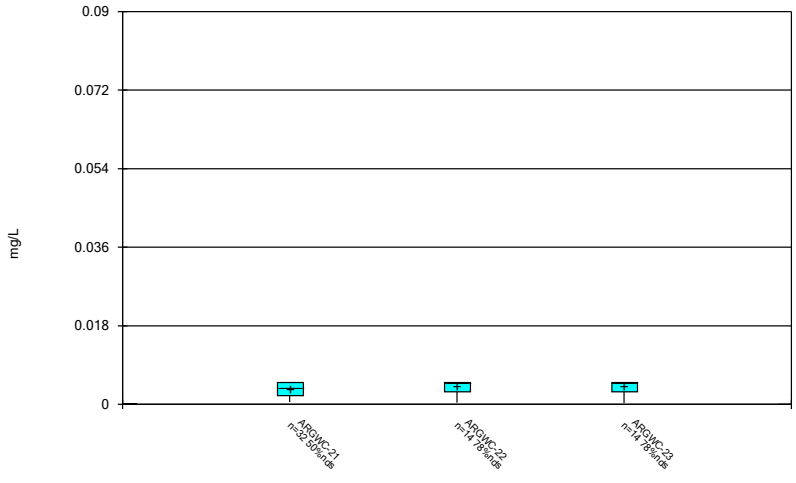


Constituent: Arsenic Analysis Run 10/28/2022 5:41 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

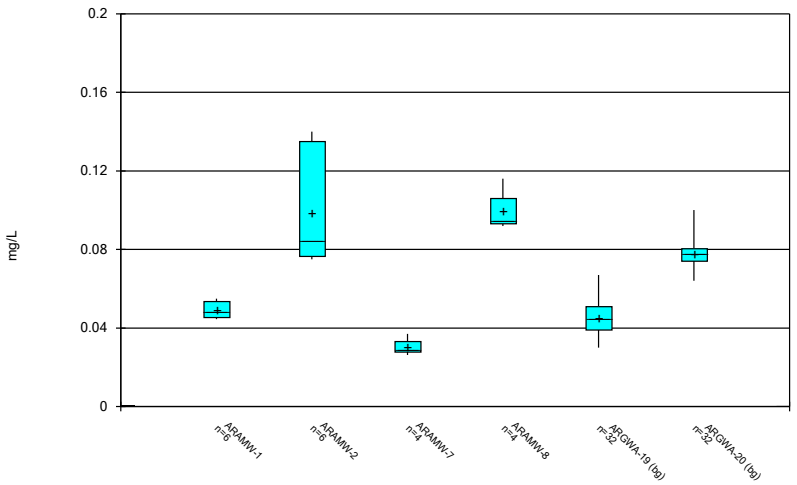
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 10/28/2022 5:41 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

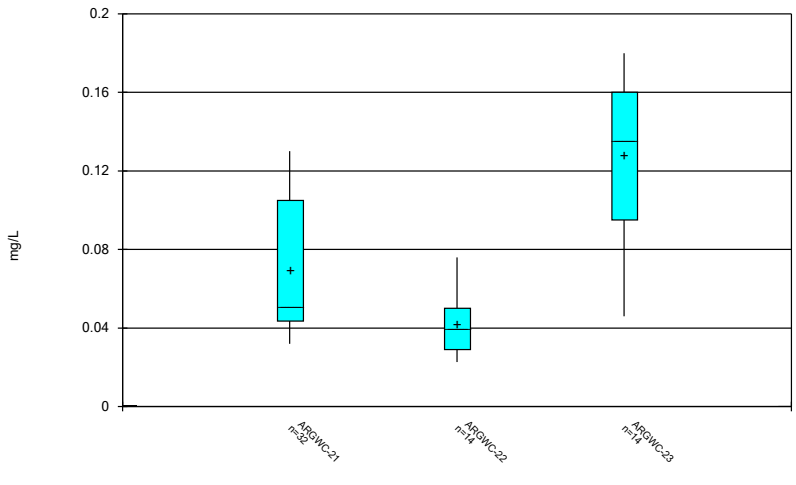
Box & Whiskers Plot



Constituent: Barium Analysis Run 10/28/2022 5:41 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

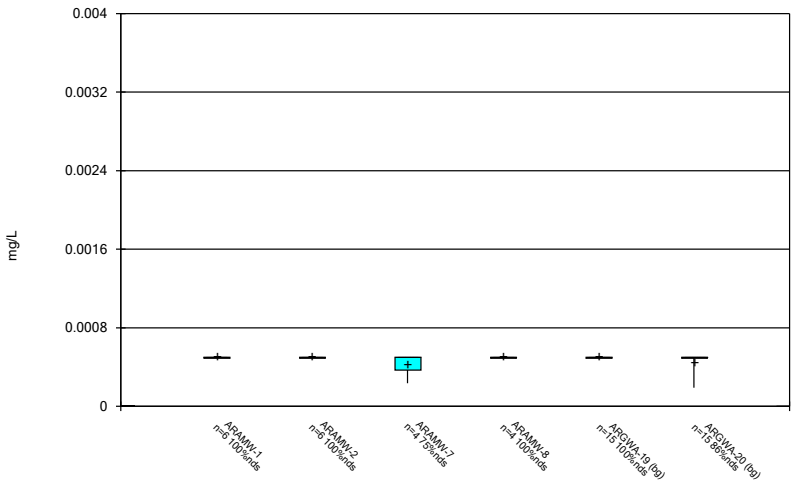
Box & Whiskers Plot



Constituent: Barium Analysis Run 10/28/2022 5:41 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

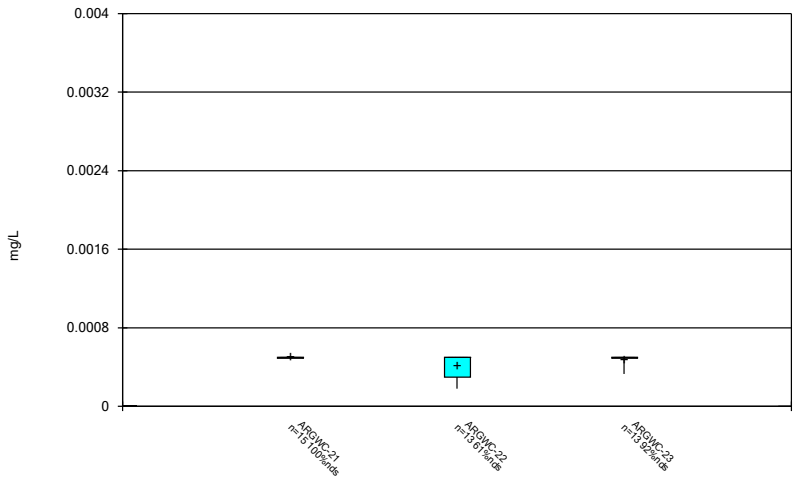
Box & Whiskers Plot



Constituent: Beryllium Analysis Run 10/28/2022 5:41 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

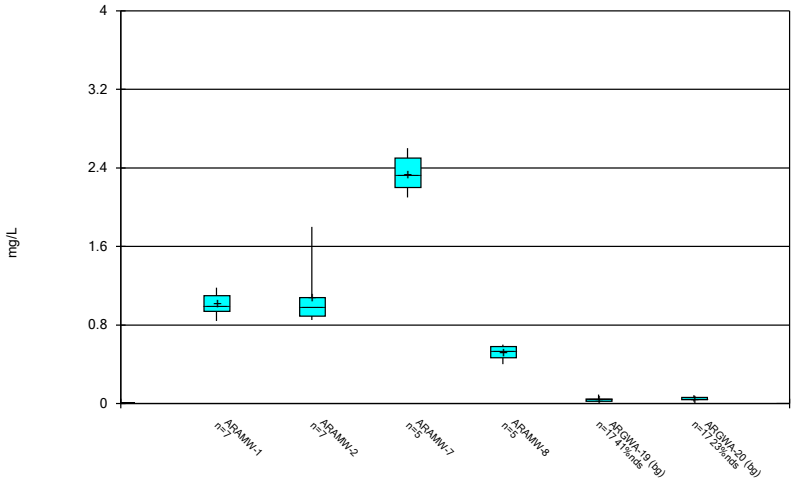
Box & Whiskers Plot



Constituent: Beryllium Analysis Run 10/28/2022 5:41 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

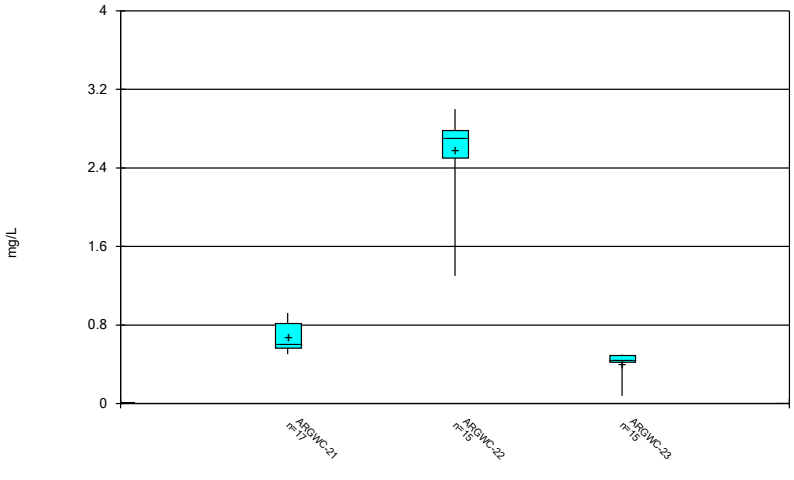


Constituent: Boron Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

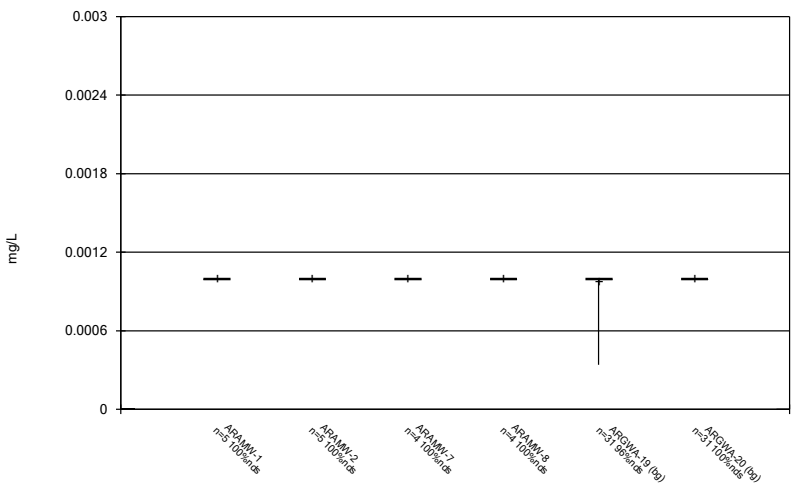


Constituent: Boron Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

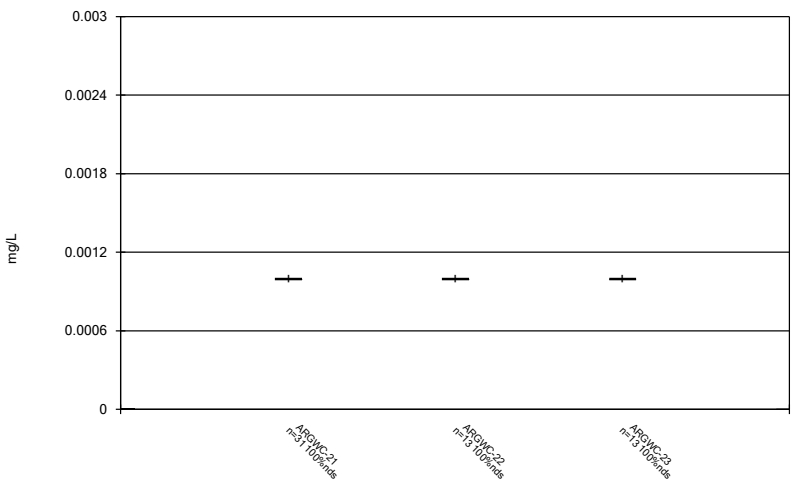


Constituent: Cadmium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

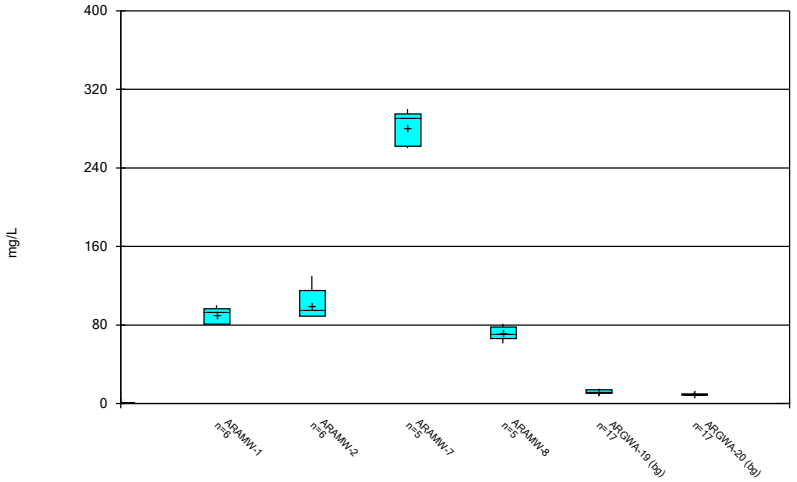
Box & Whiskers Plot



Constituent: Cadmium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

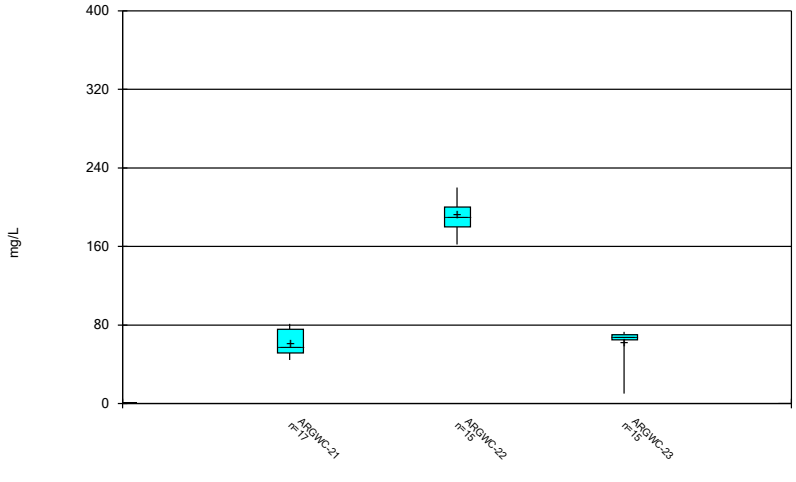
Box & Whiskers Plot



Constituent: Calcium Analysis Run 10/28/2022 5:42 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

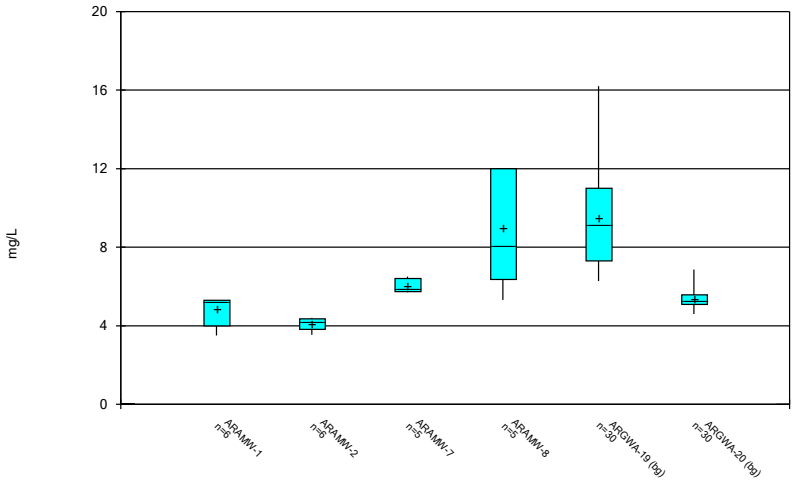
Box & Whiskers Plot



Constituent: Calcium Analysis Run 10/28/2022 5:42 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

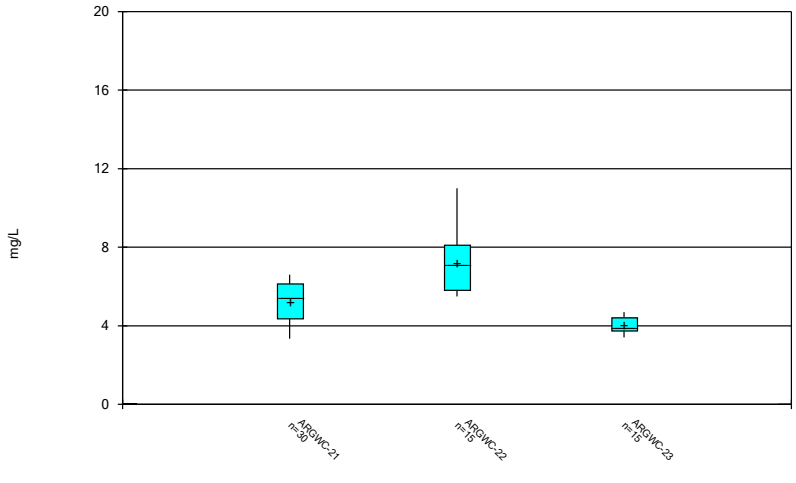
Box & Whiskers Plot



Constituent: Chloride Analysis Run 10/28/2022 5:42 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

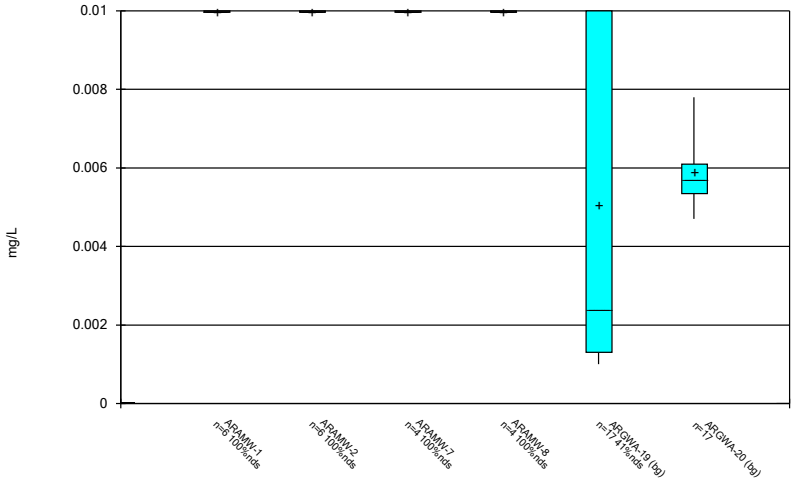
Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Chloride Analysis Run 10/28/2022 5:42 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Box & Whiskers Plot

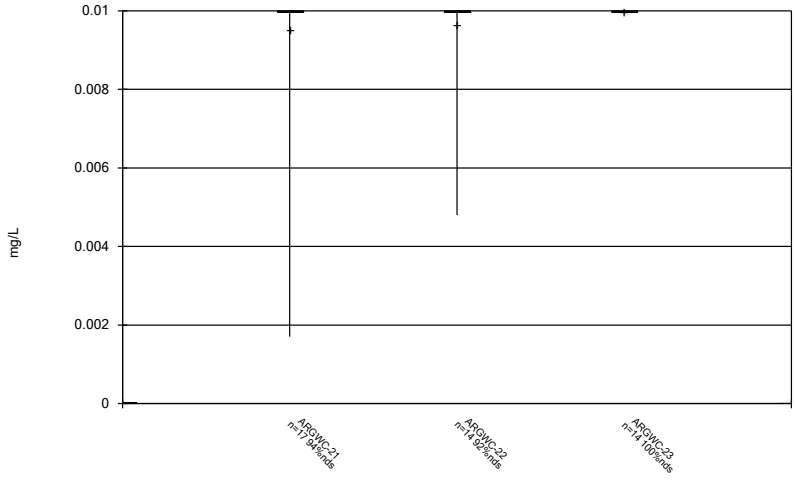


Constituent: Chromium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

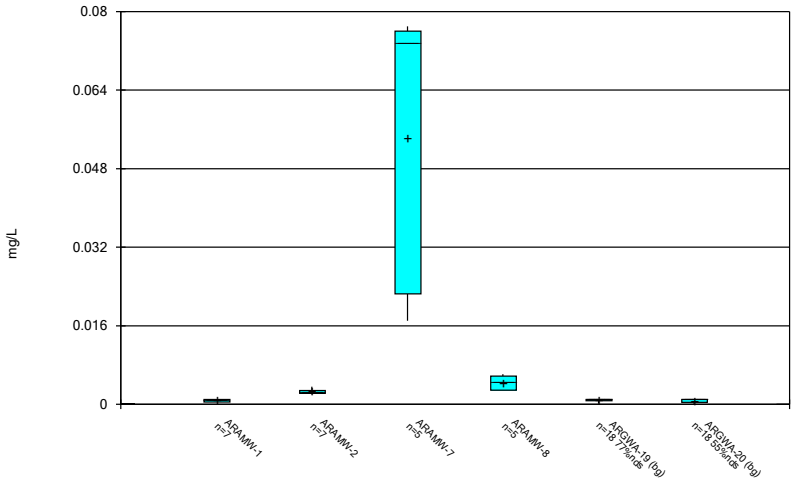


Constituent: Chromium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

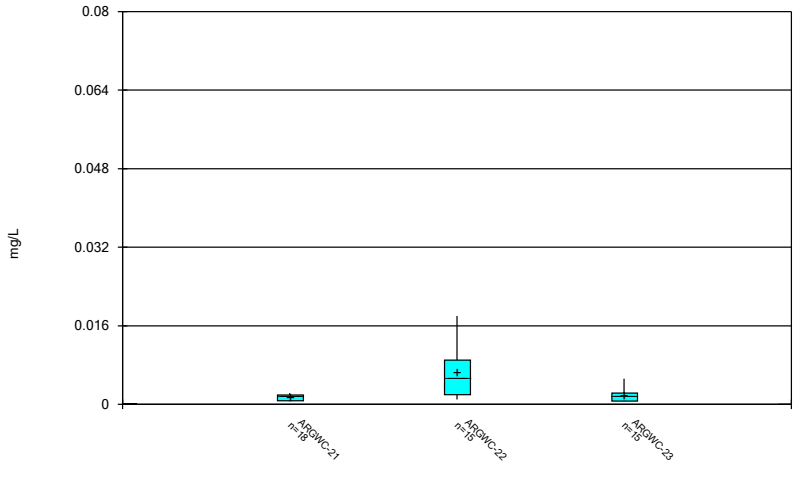


Constituent: Cobalt Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

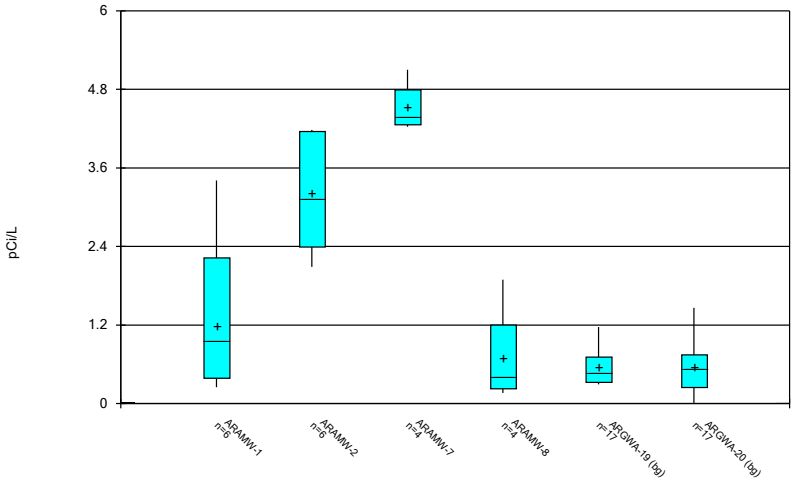
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

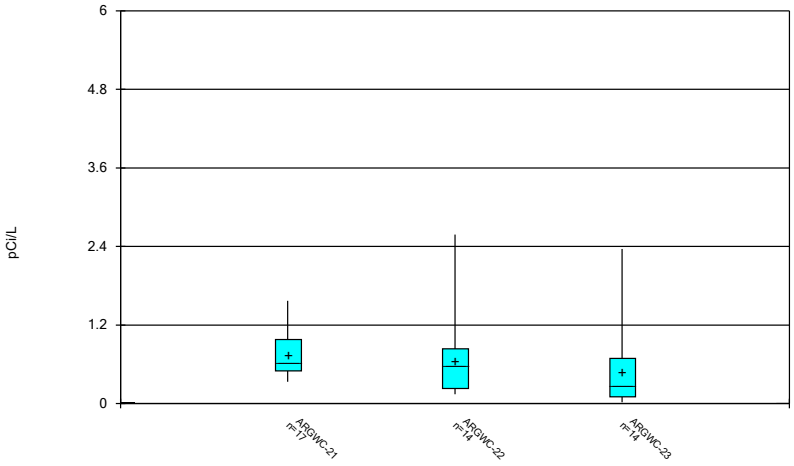
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 10/28/2022 5:42 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

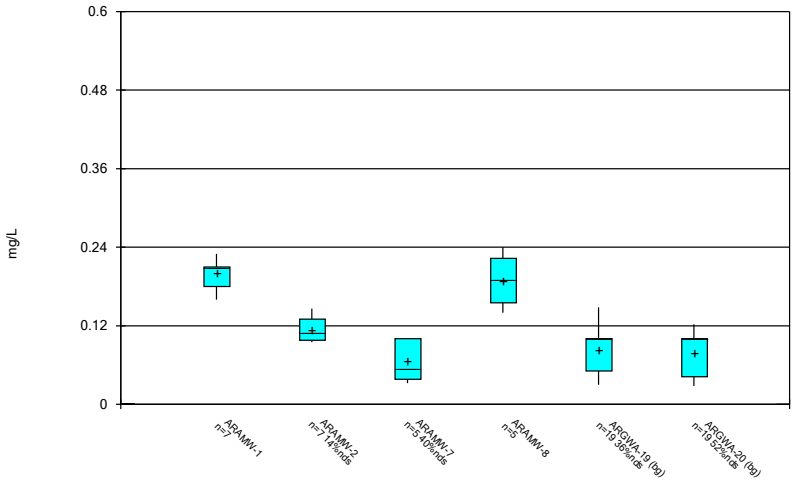
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 10/28/2022 5:42 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

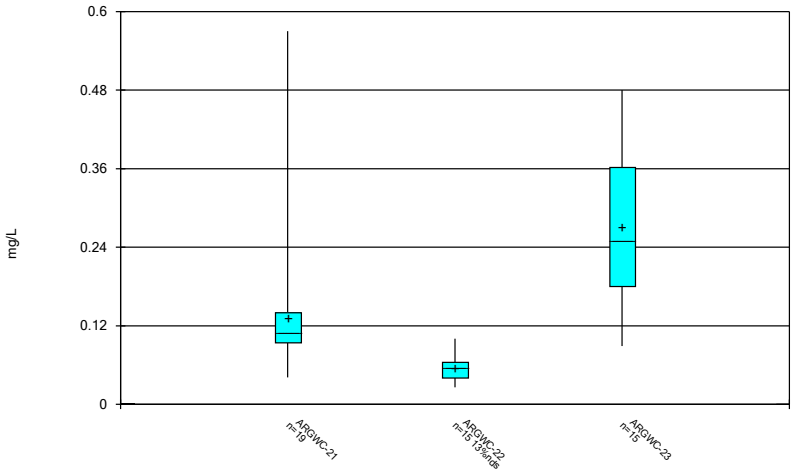
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 10/28/2022 5:42 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

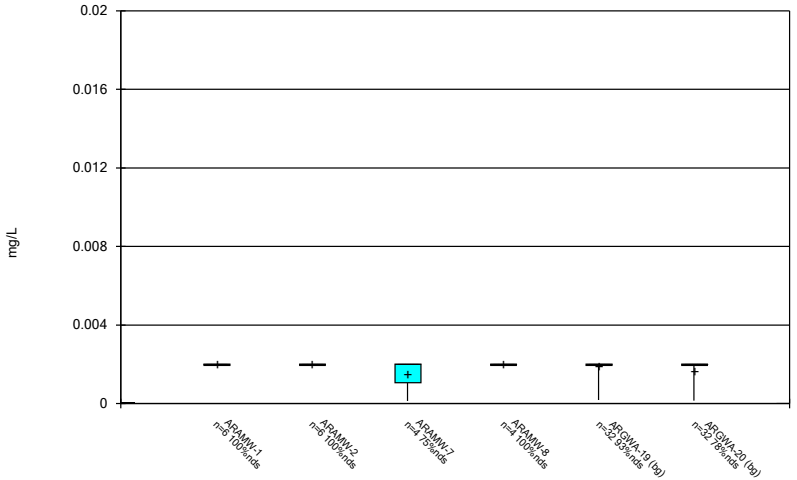
Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Fluoride Analysis Run 10/28/2022 5:42 PM
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Box & Whiskers Plot

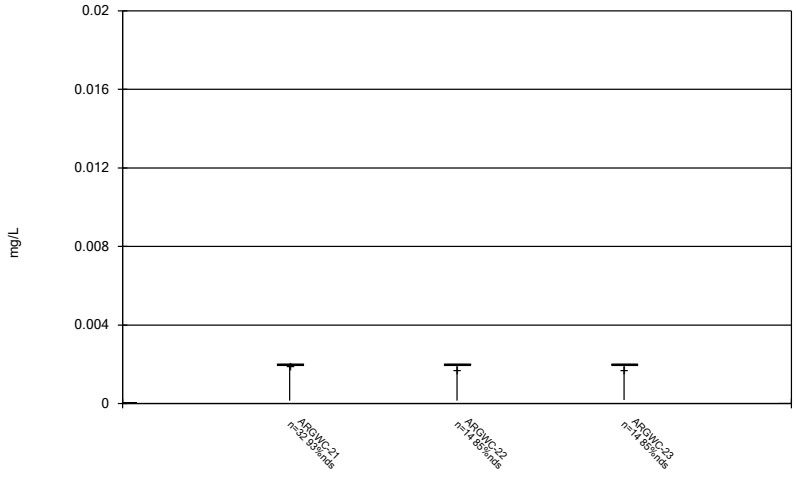


Constituent: Lead Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

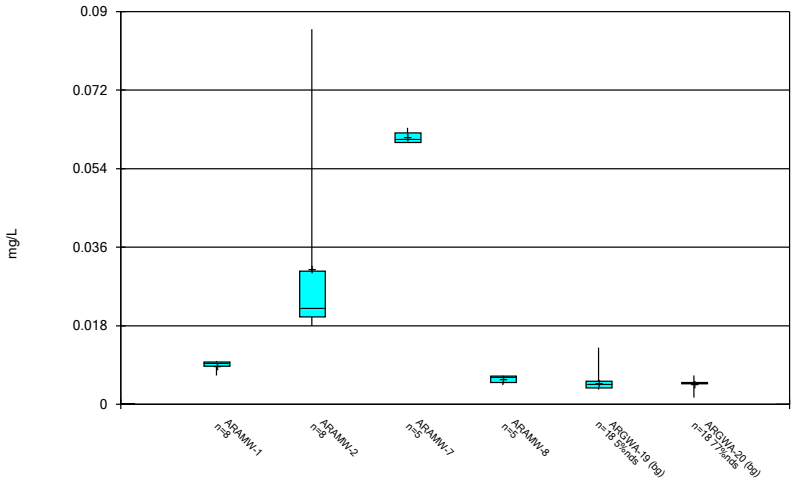


Constituent: Lead Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

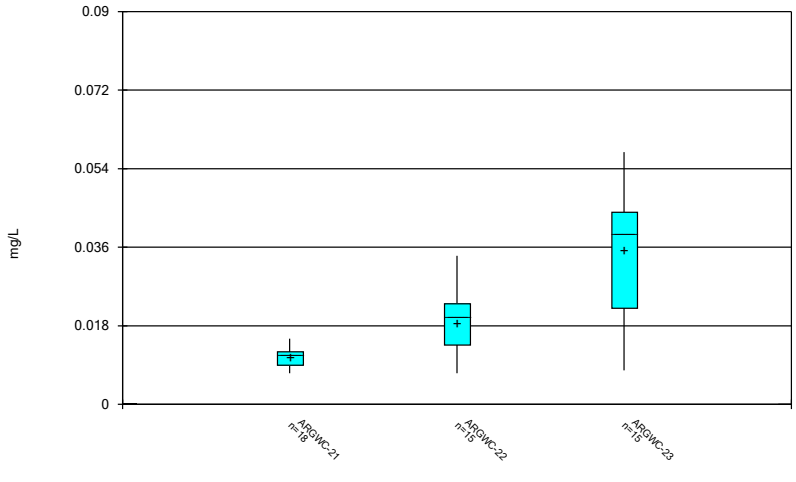


Constituent: Lithium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

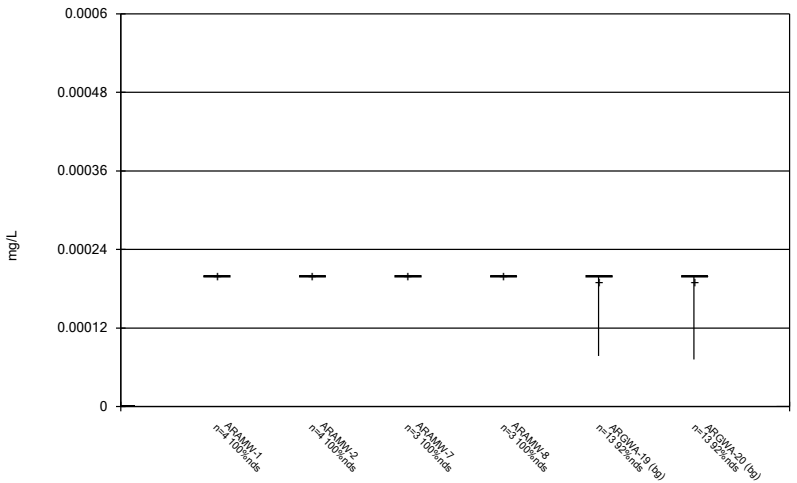
Box & Whiskers Plot



Constituent: Lithium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Box & Whiskers Plot

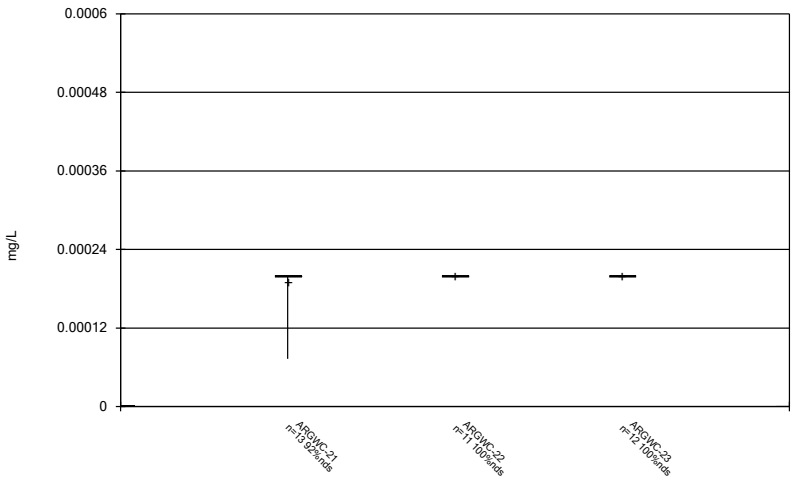


Constituent: Mercury Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

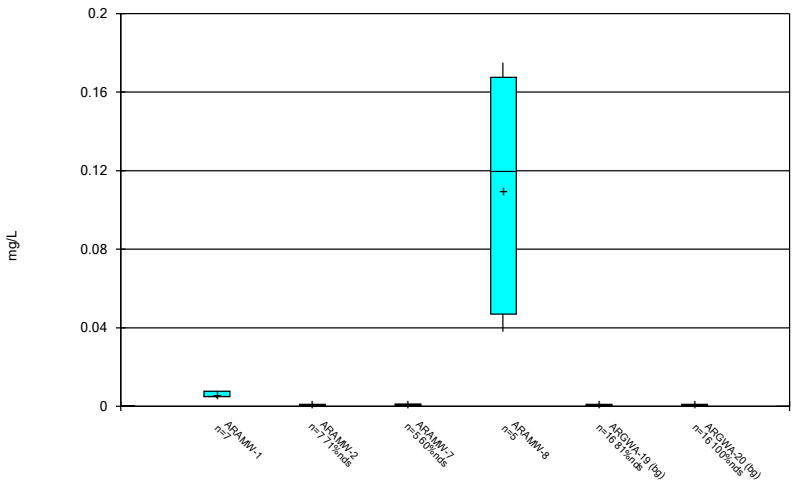


Constituent: Mercury Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

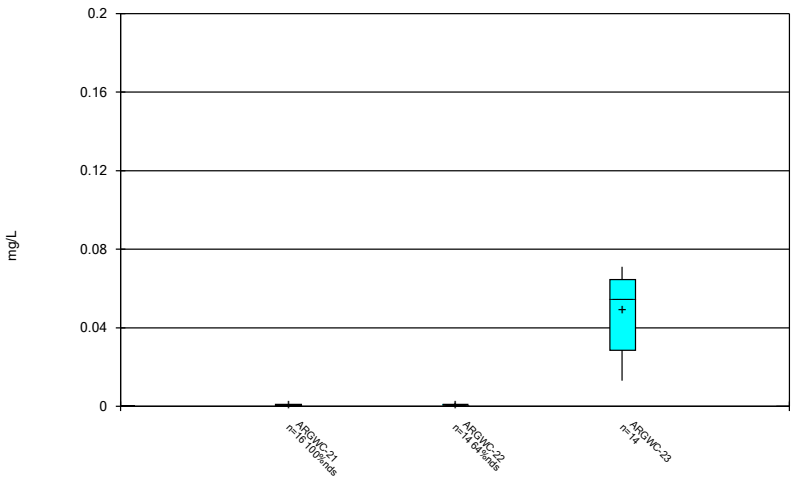


Constituent: Molybdenum Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

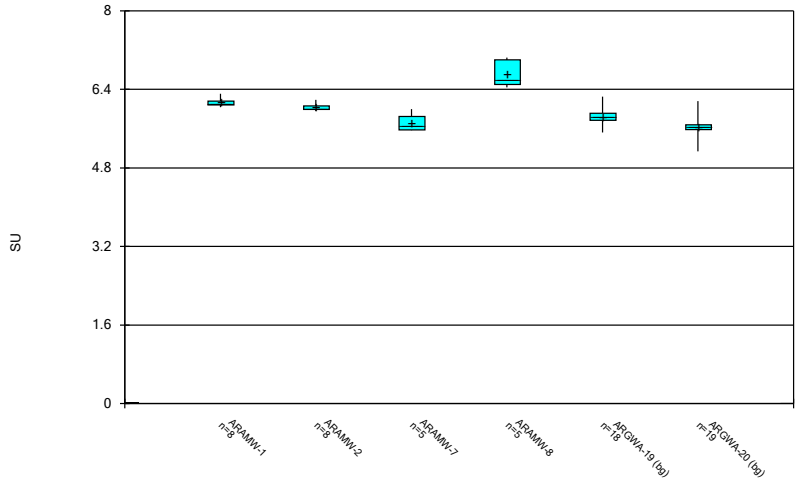
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Box & Whiskers Plot

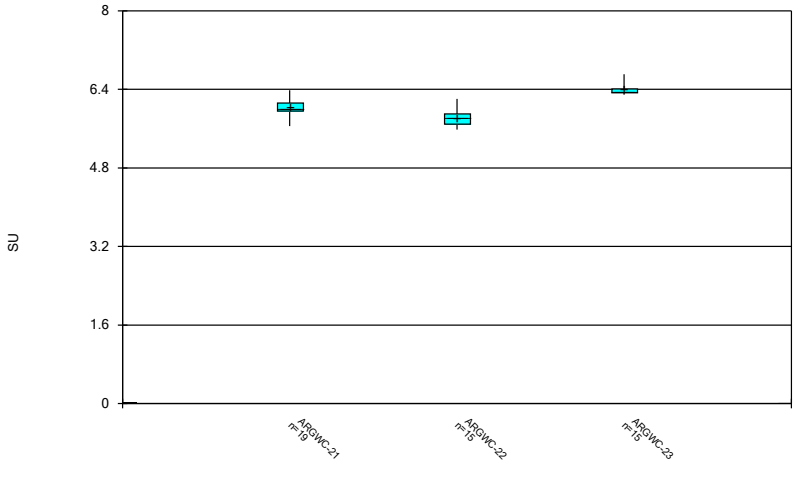


Constituent: pH Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

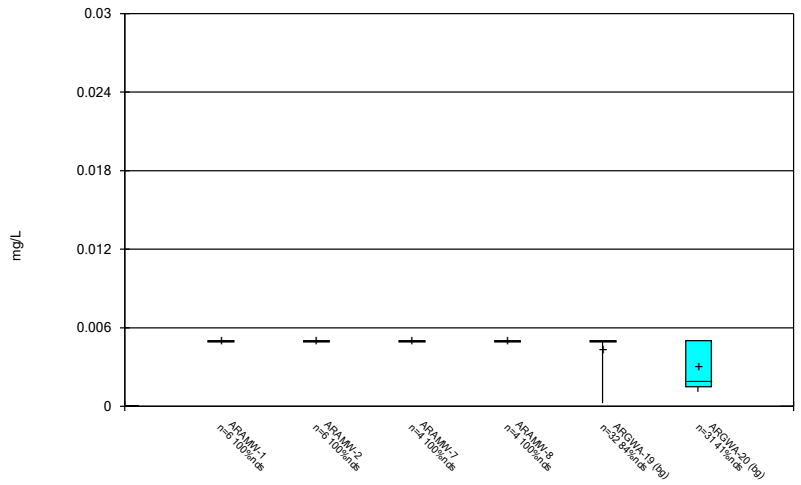


Constituent: pH Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

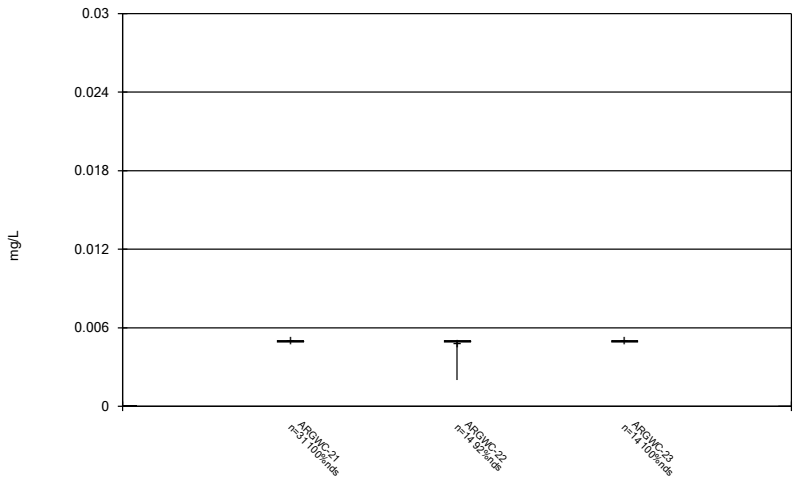


Constituent: Selenium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

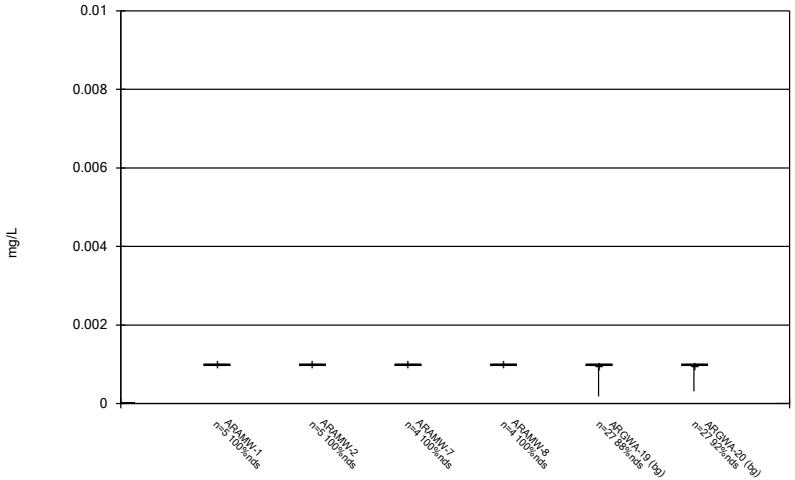


Constituent: Selenium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

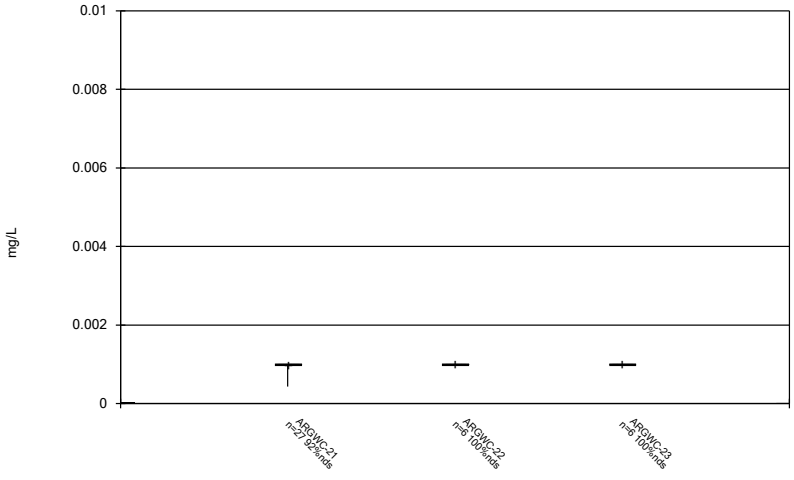


Constituent: Silver Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

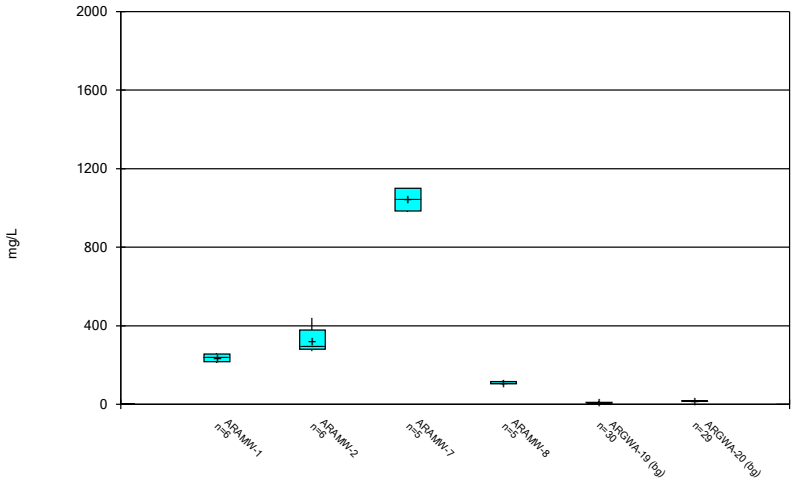


Constituent: Silver Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

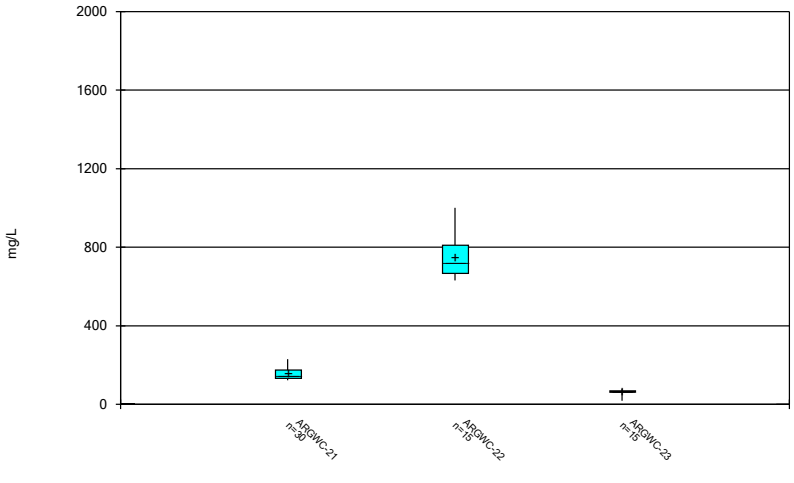


Constituent: Sulfate Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

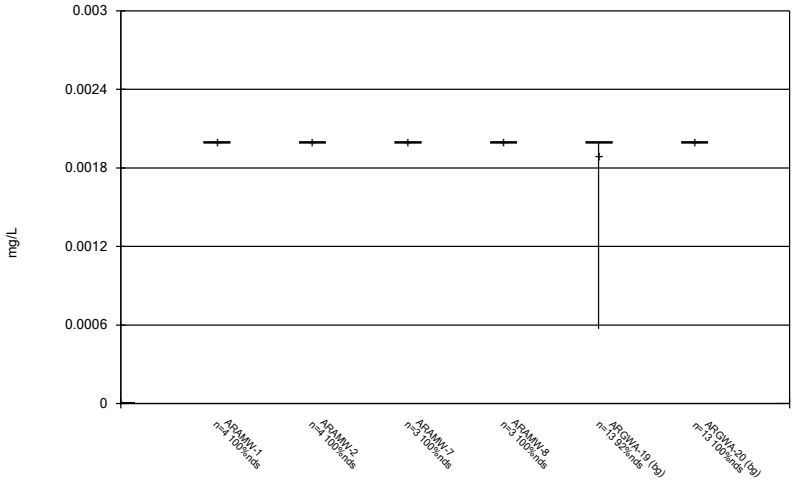
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Box & Whiskers Plot

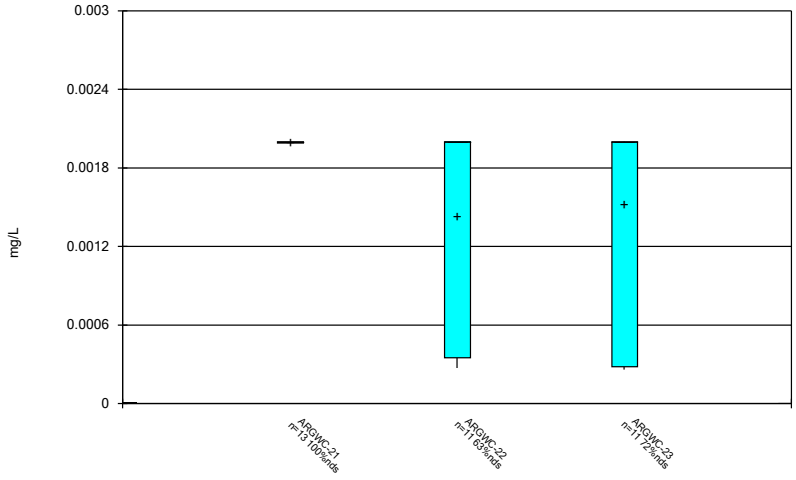


Constituent: Thallium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

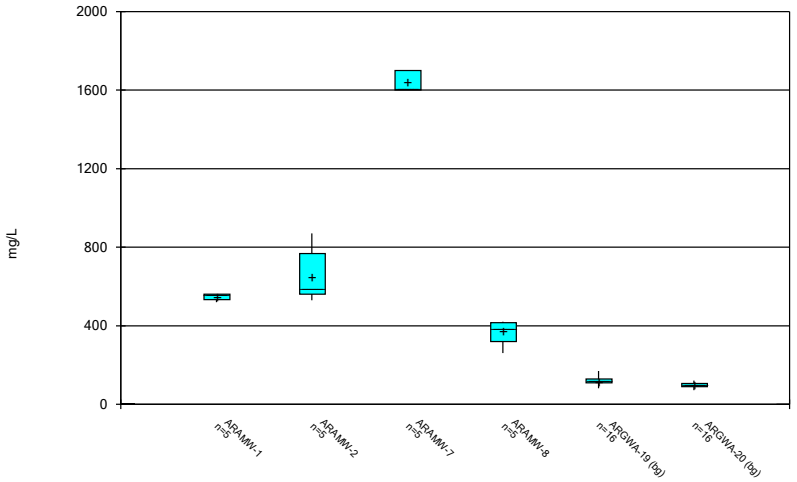


Constituent: Thallium Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot

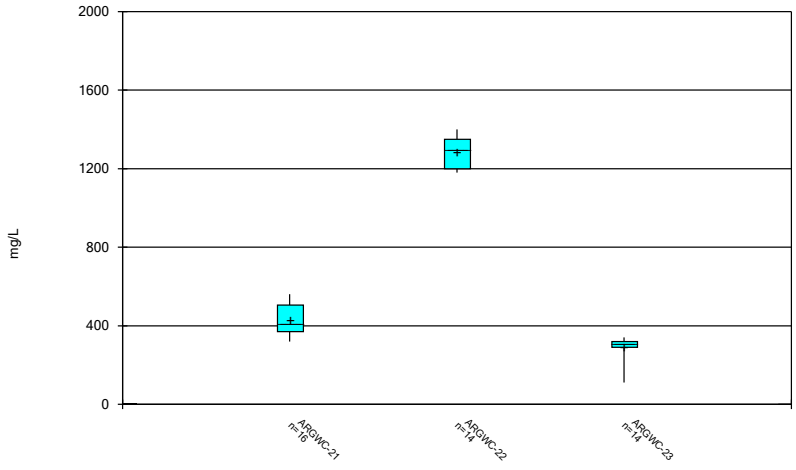


Constituent: Total Dissolved Solids Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 10/28/2022 5:42 PM

Plant Arkwright Client: Southern Company Data: Arkwright No 2

FIGURE C.

Outlier Summary

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:32 PM

	ARGWA-19 pH (SU)	ARGWA-20 Selenium (mg/L)	ARGWC-21 Selenium (mg/L)	ARGWA-20 Sulfate (mg/L)
5/14/2009			0.0058 (o)	
5/15/2009		0.007 (o)		41.3 (o)
8/29/2016	6.75 (o)			

FIGURE D.

Appendix I Interwell Prediction Limits - All Results (No Significant)

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:36 PM

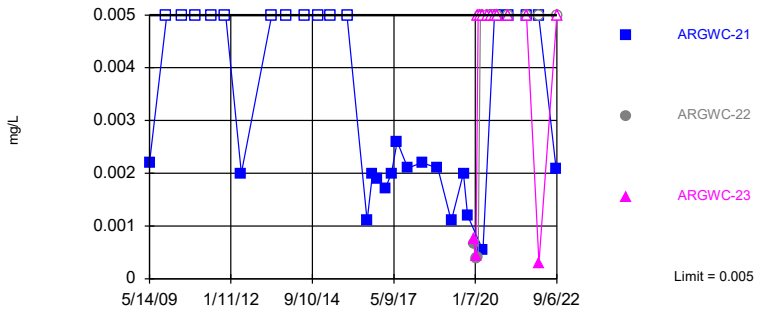
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	ARGWC-21	0.005	n/a	9/1/2022	0.00207J	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	ARGWC-22	0.005	n/a	9/6/2022	0.005ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	ARGWC-23	0.005	n/a	9/6/2022	0.005ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Barium (mg/L)	ARGWC-21	0.1	n/a	9/1/2022	0.0425	No	64	n/a	n/a	0	n/a	n/a	0.0004709	NP Inter (normality) 1 of 2
Barium (mg/L)	ARGWC-22	0.1	n/a	9/6/2022	0.0226	No	64	n/a	n/a	0	n/a	n/a	0.0004709	NP Inter (normality) 1 of 2
Barium (mg/L)	ARGWC-23	0.1	n/a	9/6/2022	0.0939	No	64	n/a	n/a	0	n/a	n/a	0.0004709	NP Inter (normality) 1 of 2
Lead (mg/L)	ARGWC-21	0.002	n/a	9/1/2022	0.002ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Lead (mg/L)	ARGWC-22	0.002	n/a	9/6/2022	0.002ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Lead (mg/L)	ARGWC-23	0.002	n/a	9/6/2022	0.002ND	No	64	n/a	n/a	85.94	n/a	n/a	0.0004709	NP Inter (NDs) 1 of 2
Selenium (mg/L)	ARGWC-22	0.005	n/a	9/6/2022	0.005ND	No	63	n/a	n/a	63.49	n/a	n/a	0.0004845	NP Inter (NDs) 1 of 2
Silver (mg/L)	ARGWC-21	0.001	n/a	9/1/2022	0.001ND	No	54	n/a	n/a	90.74	n/a	n/a	0.0006584	NP Inter (NDs) 1 of 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 64 background values. 85.94% NDs. Annual per-constituent alpha = 0.002822. Individual comparison alpha = 0.0004709 (1 of 2). Comparing 3 points to limit.

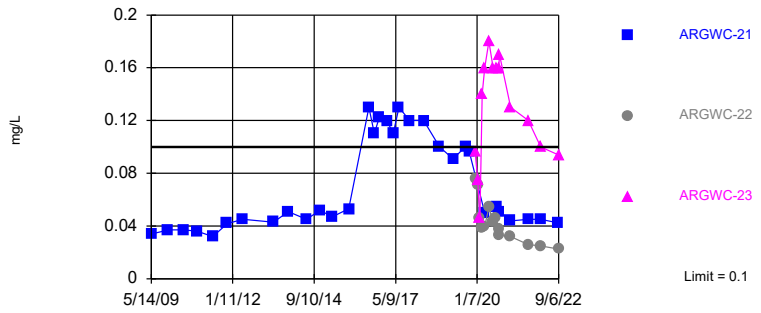
Constituent: Arsenic Analysis Run 10/10/2022 12:34 PM View: Appendix I
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 64 background values. Annual per-constituent alpha = 0.002822. Individual comparison alpha = 0.0004709 (1 of 2). Comparing 3 points to limit.

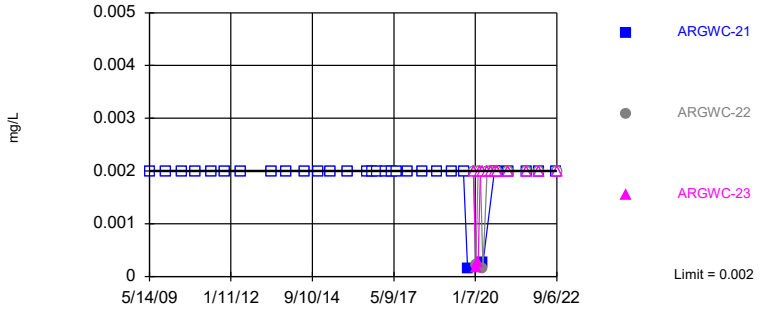
Constituent: Barium Analysis Run 10/10/2022 12:35 PM View: Appendix I
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 64 background values. 85.94% NDs. Annual per-constituent alpha = 0.002822. Individual comparison alpha = 0.0004709 (1 of 2). Comparing 3 points to limit.

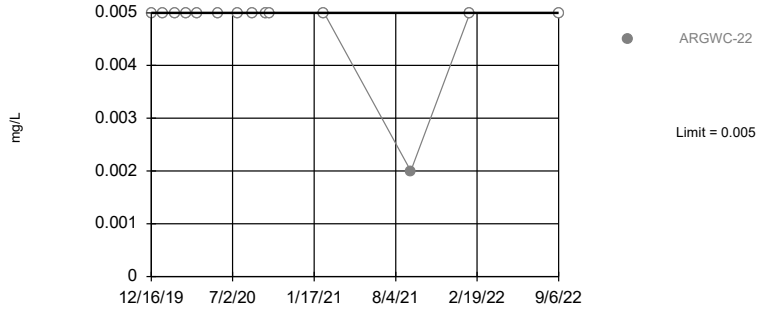
Constituent: Lead Analysis Run 10/10/2022 12:35 PM View: Appendix I
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 63 background values. 63.49% NDs. Annual per-constituent alpha = 0.002904. Individual comparison alpha = 0.0004845 (1 of 2). Assumes 2 future values.

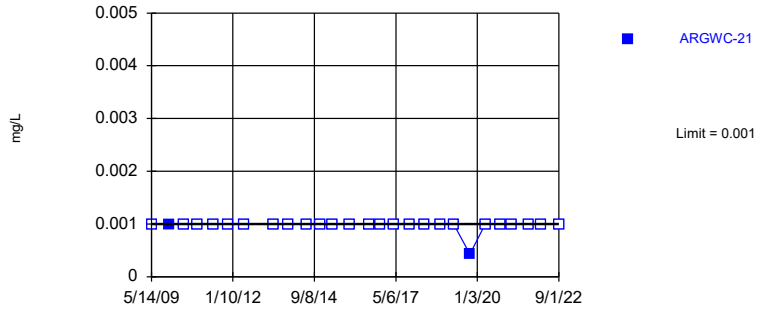
Constituent: Selenium Analysis Run 10/10/2022 12:35 PM View: Appendix I
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 54 background values. 90.74% NDs. Annual per-constituent alpha = 0.003944. Individual comparison alpha = 0.0006584 (1 of 2). Assumes 2 future values.

Constituent: Silver Analysis Run 10/10/2022 12:35 PM View: Appendix I

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Prediction Limit

Constituent: Arsenic (mg/L) Analysis Run 10/10/2022 12:36 PM View: Appendix I

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
5/5/2009	<0.005				
5/14/2009		0.0022			
5/15/2009			0.0015		
12/5/2009	<0.005	<0.005	<0.005		
6/1/2010	<0.005		<0.005		
6/2/2010		<0.005			
11/11/2010	<0.005	<0.005	<0.005		
5/17/2011	<0.005	<0.005	<0.005		
11/8/2011	<0.005	<0.005	<0.005		
5/16/2012	<0.005	0.002 (J)	<0.005		
5/14/2013	<0.005	<0.005	<0.005		
11/5/2013	<0.005	<0.005	<0.005		
6/9/2014	<0.005	<0.005	<0.005		
11/18/2014		<0.005	<0.005		
11/19/2014	<0.005				
4/14/2015	<0.005	<0.005	<0.005		
10/29/2015		<0.005			
11/4/2015	<0.005		<0.005		
6/22/2016	<0.005		0.00084 (J)		
6/23/2016		0.0011 (J)			
8/29/2016	<0.005		0.00049 (J)		
8/30/2016		0.002			
10/24/2016	<0.005		<0.005		
10/26/2016		0.0019 (J)			
1/25/2017	<0.005	0.0017	<0.005		
4/10/2017	<0.005	0.002	0.00056 (J)		
6/19/2017	<0.005	0.0026			
6/20/2017			0.00068 (J)		
10/24/2017	<0.005	0.0021	<0.005		
4/9/2018			<0.005		
4/10/2018	<0.005	0.0022			
10/16/2018	<0.005	0.0021	<0.005		
3/26/2019	<0.005				
3/27/2019		0.0011 (J)	<0.005		
8/20/2019	0.00036 (J)	0.002	0.00047 (J)		
10/7/2019	<0.005		<0.005		
10/8/2019		0.0012 (J)			
12/16/2019				0.00066 (J)	0.00075 (J)
1/14/2020				0.00038 (J)	0.00042 (J)
2/11/2020				0.0004 (J)	<0.005
3/9/2020				<0.005	<0.005
4/6/2020			0.00042 (J)		
4/7/2020	0.0006 (J)	0.00054 (J)		<0.005	<0.005
5/27/2020				<0.005	<0.005
7/15/2020				<0.005	<0.005
8/19/2020	<0.005		<0.005	<0.005	
8/20/2020					<0.005
8/21/2020		<0.005			
9/22/2020				<0.005	<0.005
9/29/2020	<0.005				
9/30/2020			<0.005	<0.005	
10/1/2020		<0.005			<0.005

Prediction Limit

Constituent: Arsenic (mg/L) Analysis Run 10/10/2022 12:36 PM View: Appendix I

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
2/9/2021	<0.005		<0.005		
2/10/2021		<0.005		<0.005	<0.005
9/7/2021	<0.005				
9/8/2021		<0.005	<0.005		
9/9/2021					<0.005
9/10/2021				<0.005	
2/1/2022	<0.005	<0.005	<0.005		
2/2/2022				<0.005	
2/3/2022					0.0003 (J)
9/1/2022	<0.005	0.00207 (J)			
9/2/2022			<0.005		
9/6/2022				<0.005	<0.005

Prediction Limit

Constituent: Barium (mg/L) Analysis Run 10/10/2022 12:36 PM View: Appendix I

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
5/5/2009	0.057				
5/14/2009		0.034			
5/15/2009			0.1		
12/5/2009	0.05	0.037	0.079		
6/1/2010	0.037		0.077		
6/2/2010		0.037			
11/11/2010	0.039	0.036	0.072		
5/17/2011	0.037	0.032	0.064		
11/8/2011	0.045	0.042	0.07		
5/16/2012	0.0518	0.0451	0.0741		
5/14/2013	0.067	0.043	0.074		
11/5/2013	0.066	0.051	0.075		
6/9/2014	0.062	0.045	0.08		
11/18/2014		0.052	0.078		
11/19/2014	0.054				
4/14/2015	0.046	0.047	0.073		
10/29/2015		0.053			
11/4/2015	0.046		0.077		
6/22/2016	0.039		0.078		
6/23/2016		0.13			
8/29/2016	0.04		0.07		
8/30/2016		0.11			
10/24/2016	0.0444		0.0738		
10/26/2016		0.122			
1/25/2017	0.045	0.12	0.084		
4/10/2017	0.039	0.11	0.073		
6/19/2017	0.041	0.13			
6/20/2017			0.078		
10/24/2017	0.041	0.12	0.081		
4/9/2018			0.081		
4/10/2018	0.044	0.12			
10/16/2018	0.047	0.1	0.08		
3/26/2019	0.056				
3/27/2019		0.091	0.082		
8/20/2019	0.052	0.1	0.079		
10/7/2019	0.049		0.076		
10/8/2019		0.096			
12/16/2019				0.076	0.096
1/14/2020				0.071	0.075
2/11/2020				0.046	0.046
3/9/2020				0.039	0.14
4/6/2020			0.075		
4/7/2020	0.047	0.05		0.04	0.16
5/27/2020				0.054	0.18
7/15/2020				0.043	0.16
8/19/2020	0.044		0.085	0.046	
8/20/2020					0.16
8/21/2020		0.054			
9/22/2020				0.038	0.16
9/29/2020	0.04				
9/30/2020			0.08	0.033	
10/1/2020		0.051			0.17

Prediction Limit

Constituent: Barium (mg/L) Analysis Run 10/10/2022 12:36 PM View: Appendix I

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
2/9/2021	0.032		0.078		
2/10/2021		0.044		0.032	0.13
9/7/2021	0.03				
9/8/2021		0.045	0.085		
9/9/2021					0.12
9/10/2021				0.026	
2/1/2022	0.031	0.045	0.079		
2/2/2022				0.025	
2/3/2022					0.1
9/1/2022	0.0303	0.0425			
9/2/2022			0.0806		
9/6/2022				0.0226	0.0939

Prediction Limit

Constituent: Lead (mg/L) Analysis Run 10/10/2022 12:36 PM View: Appendix I

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
5/5/2009	<0.002				
5/14/2009		<0.002			
5/15/2009			<0.002		
12/5/2009	<0.002	<0.002	<0.002		
6/1/2010	<0.002		<0.002		
6/2/2010		<0.002			
11/11/2010	<0.002	<0.002	<0.002		
5/17/2011	<0.002	<0.002	<0.002		
11/8/2011	<0.002	<0.002	<0.002		
5/16/2012	<0.002	<0.002	<0.002		
5/14/2013	<0.002	<0.002	<0.002		
11/5/2013	<0.002	<0.002	<0.002		
6/9/2014	<0.002	<0.002	<0.002		
11/18/2014		<0.002	<0.002		
11/19/2014	<0.002				
4/14/2015	<0.002	<0.002	<0.002		
10/29/2015		<0.002			
11/4/2015	<0.002		<0.002		
6/22/2016	<0.002		<0.002		
6/23/2016		<0.002			
8/29/2016	<0.002		<0.002		
8/30/2016		<0.002			
10/24/2016	<0.002		<0.002		
10/26/2016		<0.002			
1/25/2017	<0.002	<0.002	0.00037 (J)		
4/10/2017	<0.002	<0.002	<0.002		
6/19/2017	<0.002	<0.002			
6/20/2017			<0.002		
10/24/2017	<0.002	<0.002	<0.002		
4/9/2018			<0.002		
4/10/2018	<0.002	<0.002			
10/16/2018	<0.002	<0.002	<0.002		
3/26/2019	<0.002				
3/27/2019		<0.002	<0.002		
8/20/2019	<0.002	<0.002	<0.002		
10/7/2019	0.00018 (J)		0.00014 (J)		
10/8/2019		0.00015 (J)			
12/16/2019				<0.002	<0.002
1/14/2020				0.00022 (J)	0.00018 (J)
2/11/2020				<0.002	0.00026 (J)
3/9/2020				<0.002	<0.002
4/6/2020			0.00033 (J)		
4/7/2020	0.00037 (J)	0.00026 (J)		0.00014 (J)	<0.002
5/27/2020				<0.002	<0.002
7/15/2020				<0.002	<0.002
8/19/2020	<0.002		0.00039 (J)	<0.002	
8/20/2020					<0.002
8/21/2020		<0.002			
9/22/2020				<0.002	<0.002
9/29/2020	<0.002				
9/30/2020			0.00022 (J)	<0.002	
10/1/2020		<0.002			<0.002

Prediction Limit

Constituent: Lead (mg/L) Analysis Run 10/10/2022 12:36 PM View: Appendix I

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
2/9/2021	<0.002		0.00033 (J)		
2/10/2021		<0.002		<0.002	<0.002
9/7/2021	<0.002				
9/8/2021		<0.002	0.00024 (J)		
9/9/2021					<0.002
9/10/2021				<0.002	
2/1/2022	<0.002	<0.002	<0.002		
2/2/2022				<0.002	
2/3/2022					<0.002
9/1/2022	<0.002	<0.002			
9/2/2022			<0.002		
9/6/2022				<0.002	<0.002

Prediction Limit

Constituent: Selenium (mg/L) Analysis Run 10/10/2022 12:36 PM View: Appendix I

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWA-20 (bg)	ARGWC-22
5/5/2009	0.0043		
5/15/2009		0.007 (o)	
12/5/2009	<0.005	<0.005	
6/1/2010	<0.005	<0.005	
11/11/2010	<0.005	<0.005	
5/17/2011	<0.005	<0.005	
11/8/2011	<0.005	<0.005	
5/16/2012	<0.005	0.0024 (J)	
5/14/2013	<0.005	<0.005	
11/5/2013	<0.005	<0.005	
6/9/2014	<0.005	<0.005	
11/18/2014		<0.005	
11/19/2014	<0.005		
4/14/2015	<0.005	<0.005	
11/4/2015	<0.005	<0.005	
6/22/2016	0.00025 (J)	0.0019	
8/29/2016	0.0004 (J)	0.0019	
10/24/2016	<0.005	0.0023 (J)	
1/25/2017	<0.005	0.0015	
4/10/2017	<0.005	0.0011 (J)	
6/19/2017	0.00025 (J)		
6/20/2017		0.0016	
10/24/2017	<0.005	0.0012 (J)	
4/9/2018		0.0012 (J)	
4/10/2018	0.00074 (J)		
10/16/2018	<0.005	0.0015	
3/26/2019	<0.005		
3/27/2019		0.0015	
8/20/2019	<0.005	0.0015 (J)	
10/7/2019	<0.005	0.0016 (J)	
12/16/2019			<0.005
1/14/2020			<0.005
2/11/2020			<0.005
3/9/2020			<0.005
4/6/2020		0.0017 (J)	
4/7/2020	<0.005		<0.005
5/27/2020			<0.005
7/15/2020			<0.005
8/19/2020	<0.005	0.0015 (J)	<0.005
9/22/2020			<0.005
9/29/2020	<0.005		
9/30/2020		0.0016 (J)	<0.005
2/9/2021	<0.005	0.0016 (J)	
2/10/2021			<0.005
9/7/2021	<0.005		
9/8/2021		<0.005	
9/10/2021			0.002 (J)
2/1/2022	<0.005	0.0015 (J)	
2/2/2022			<0.005
9/1/2022	<0.005		
9/2/2022		<0.005	
9/6/2022			<0.005

Prediction Limit

Constituent: Silver (mg/L) Analysis Run 10/10/2022 12:36 PM View: Appendix I

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)
5/5/2009	<0.001		
5/14/2009		<0.001	
5/15/2009			<0.001
12/5/2009	0.00075	0.001	0.00043
6/1/2010	<0.001		<0.001
6/2/2010		<0.001	
11/11/2010	<0.001	<0.001	<0.001
5/17/2011	<0.001	<0.001	<0.001
11/8/2011	<0.001	<0.001	<0.001
5/16/2012	<0.001	<0.001	<0.001
5/14/2013	<0.001	<0.001	<0.001
11/5/2013	<0.001	<0.001	<0.001
6/9/2014	<0.001	<0.001	<0.001
11/18/2014		<0.001	<0.001
11/19/2014	<0.001		
4/14/2015	<0.001	<0.001	<0.001
10/29/2015		<0.001	
11/4/2015	<0.001		<0.001
6/22/2016	<0.001		<0.001
6/23/2016		<0.001	
10/24/2016	<0.001		<0.001
10/26/2016		<0.001	
4/10/2017	<0.001	<0.001	<0.001
10/24/2017	<0.001	<0.001	<0.001
4/9/2018			<0.001
4/10/2018	<0.001	<0.001	
10/16/2018	<0.001	<0.001	<0.001
3/26/2019	<0.001		
3/27/2019		<0.001	<0.001
10/7/2019	0.00056 (J)		0.00031 (J)
10/8/2019		0.00043 (J)	
4/6/2020			<0.001
4/7/2020	0.00018 (J)	<0.001	
9/29/2020	<0.001		
9/30/2020			<0.001
10/1/2020		<0.001	
2/9/2021	<0.001		<0.001
2/10/2021		<0.001	
9/7/2021	<0.001		
9/8/2021		<0.001	<0.001
2/1/2022	<0.001	<0.001	<0.001
9/1/2022	<0.001	<0.001	
9/2/2022			<0.001

FIGURE E.

Appendix III Interwell Prediction Limits - Significant Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	ARGWC-21	0.08782	n/a	9/1/2022	0.921	Yes	34	0.2043	0.05187	32.35	Kaplan-Meier	sqrt(x)	0.002505	Param Inter 1 of 2
Boron (mg/L)	ARGWC-22	0.08782	n/a	9/6/2022	2.78	Yes	34	0.2043	0.05187	32.35	Kaplan-Meier	sqrt(x)	0.002505	Param Inter 1 of 2
Boron (mg/L)	ARGWC-23	0.08782	n/a	9/6/2022	0.458	Yes	34	0.2043	0.05187	32.35	Kaplan-Meier	sqrt(x)	0.002505	Param Inter 1 of 2
Calcium (mg/L)	ARGWC-21	14.12	n/a	9/1/2022	71.5	Yes	34	10.56	2.006	0	None	No	0.002505	Param Inter 1 of 2
Calcium (mg/L)	ARGWC-22	14.12	n/a	9/6/2022	162	Yes	34	10.56	2.006	0	None	No	0.002505	Param Inter 1 of 2
Calcium (mg/L)	ARGWC-23	14.12	n/a	9/6/2022	65.2	Yes	34	10.56	2.006	0	None	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	ARGWC-21	0.148	n/a	9/1/2022	0.161	Yes	38	n/a	n/a	44.74	n/a	n/a	0.001277	NP Inter (normality) 1 of 2
Fluoride (mg/L)	ARGWC-23	0.148	n/a	9/6/2022	0.362	Yes	38	n/a	n/a	44.74	n/a	n/a	0.001277	NP Inter (normality) 1 of 2
pH (SU)	ARGWC-23	6.101	5.374	9/6/2022	6.41	Yes	37	5.738	0.2064	0	None	No	0.001253	Param Inter 1 of 2
Sulfate (mg/L)	ARGWC-21	21	n/a	9/1/2022	221	Yes	59	n/a	n/a	0	n/a	n/a	0.0005475	NP Inter (normality) 1 of 2
Sulfate (mg/L)	ARGWC-22	21	n/a	9/6/2022	667	Yes	59	n/a	n/a	0	n/a	n/a	0.0005475	NP Inter (normality) 1 of 2
Sulfate (mg/L)	ARGWC-23	21	n/a	9/6/2022	65.3	Yes	59	n/a	n/a	0	n/a	n/a	0.0005475	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	ARGWC-21	145.2	n/a	9/1/2022	537	Yes	32	108	20.85	0	None	No	0.002505	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	ARGWC-22	145.2	n/a	9/6/2022	1180	Yes	32	108	20.85	0	None	No	0.002505	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	ARGWC-23	145.2	n/a	9/6/2022	305	Yes	32	108	20.85	0	None	No	0.002505	Param Inter 1 of 2

Appendix III Interwell Prediction Limits - All Results

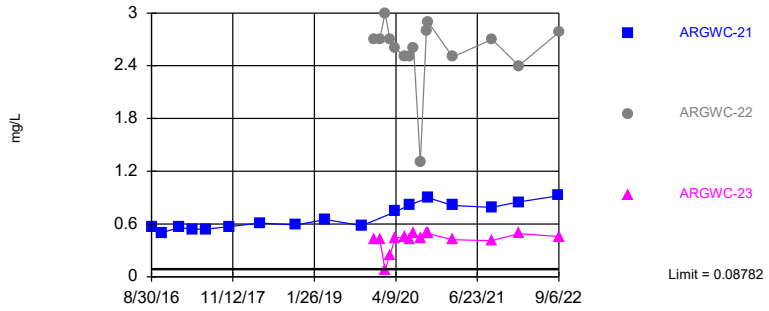
Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**ARGWC-21**	**0.08782**	**n/a**	**9/1/2022**	**0.921**	**Yes**	**34**	**0.2043**	**0.05187**	**32.35**	**Kaplan-Meier**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Boron (mg/L)	**ARGWC-22**	**0.08782**	**n/a**	**9/6/2022**	**2.78**	**Yes**	**34**	**0.2043**	**0.05187**	**32.35**	**Kaplan-Meier**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Boron (mg/L)	**ARGWC-23**	**0.08782**	**n/a**	**9/6/2022**	**0.458**	**Yes**	**34**	**0.2043**	**0.05187**	**32.35**	**Kaplan-Meier**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**ARGWC-21**	**14.12**	**n/a**	**9/1/2022**	**71.5**	**Yes**	**34**	**10.56**	**2.006**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**ARGWC-22**	**14.12**	**n/a**	**9/6/2022**	**162**	**Yes**	**34**	**10.56**	**2.006**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**ARGWC-23**	**14.12**	**n/a**	**9/6/2022**	**65.2**	**Yes**	**34**	**10.56**	**2.006**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	ARGWC-21	16.2	n/a	9/1/2022	3.34	No	60	n/a	n/a	0	n/a	n/a	0.0005253	NP Inter (normality) 1 of 2
Chloride (mg/L)	ARGWC-22	16.2	n/a	9/6/2022	8.34	No	60	n/a	n/a	0	n/a	n/a	0.0005253	NP Inter (normality) 1 of 2
Chloride (mg/L)	ARGWC-23	16.2	n/a	9/6/2022	3.73	No	60	n/a	n/a	0	n/a	n/a	0.0005253	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**ARGWC-21**	**0.148**	**n/a**	**9/1/2022**	**0.161**	**Yes**	**38**	**n/a**	**n/a**	**44.74**	**n/a**	**n/a**	**0.001277**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	ARGWC-22	0.148	n/a	9/6/2022	0.056J	No	38	n/a	n/a	44.74	n/a	n/a	0.001277	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**ARGWC-23**	**0.148**	**n/a**	**9/6/2022**	**0.362**	**Yes**	**38**	**n/a**	**n/a**	**44.74**	**n/a**	**n/a**	**0.001277**	**NP Inter (normality) 1 of 2**
pH (SU)	ARGWC-21	6.101	5.374	9/1/2022	5.97	No	37	5.738	0.2064	0	None	No	0.001253	Param Inter 1 of 2
pH (SU)	ARGWC-22	6.101	5.374	9/6/2022	5.88	No	37	5.738	0.2064	0	None	No	0.001253	Param Inter 1 of 2
pH (SU)	**ARGWC-23**	**6.101**	**5.374**	**9/6/2022**	**6.41**	**Yes**	**37**	**5.738**	**0.2064**	**0**	**None**	**No**	**0.001253**	**Param Inter 1 of 2**
Sulfate (mg/L)	**ARGWC-21**	**21**	**n/a**	**9/1/2022**	**221**	**Yes**	**59**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0005475**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**ARGWC-22**	**21**	**n/a**	**9/6/2022**	**667**	**Yes**	**59**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0005475**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**ARGWC-23**	**21**	**n/a**	**9/6/2022**	**65.3**	**Yes**	**59**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0005475**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	**ARGWC-21**	**145.2**	**n/a**	**9/1/2022**	**537**	**Yes**	**32**	**108**	**20.85**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**ARGWC-22**	**145.2**	**n/a**	**9/6/2022**	**1180**	**Yes**	**32**	**108**	**20.85**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**ARGWC-23**	**145.2**	**n/a**	**9/6/2022**	**305**	**Yes**	**32**	**108**	**20.85**	**0**	**None**	**No**	**0.002505**	**Param Inter 1 of 2**

Exceeds Limit: ARGWC-21, ARGWC-22, ARGWC-23

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=0.2043, Std. Dev.=0.05187, n=34, 32.35% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9317, critical = 0.908. Kappa = 1.775 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

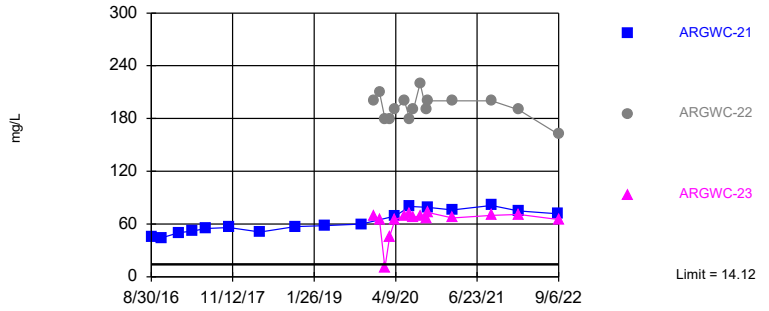
Constituent: Boron Analysis Run 10/10/2022 12:38 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Exceeds Limit: ARGWC-21, ARGWC-22, ARGWC-23

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=10.56, Std. Dev.=2.006, n=34. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9091, critical = 0.908. Kappa = 1.775 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

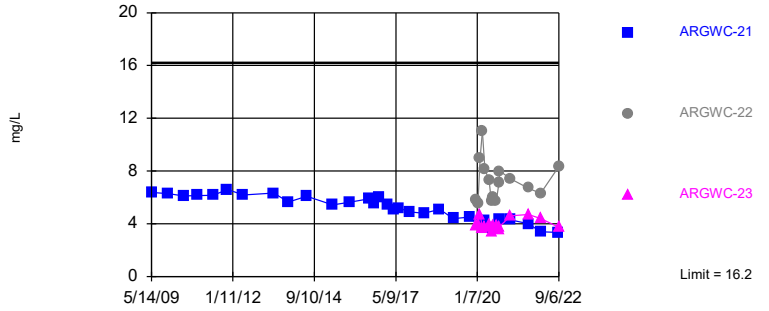
Constituent: Calcium Analysis Run 10/10/2022 12:38 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 60 background values. Annual per-constituent alpha = 0.003148. Individual comparison alpha = 0.0005253 (1 of 2). Comparing 3 points to limit.

Constituent: Chloride Analysis Run 10/10/2022 12:38 PM View: Appendix III - Interwell

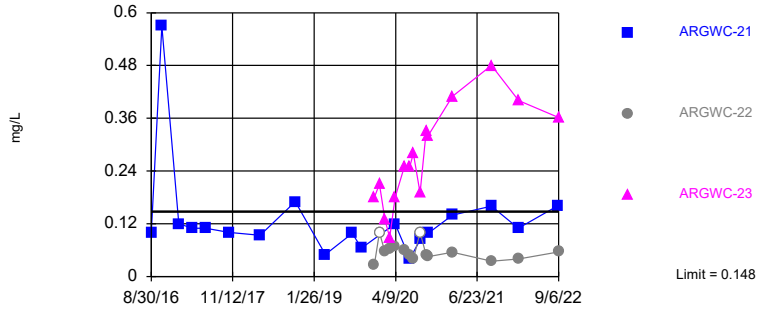
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Hollow symbols indicate censored values.

Exceeds Limit: ARGWC-21, ARGWC-23

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 38 background values. 44.74% NDs. Annual per-constituent alpha = 0.00764. Individual comparison alpha = 0.001277 (1 of 2). Comparing 3 points to limit.

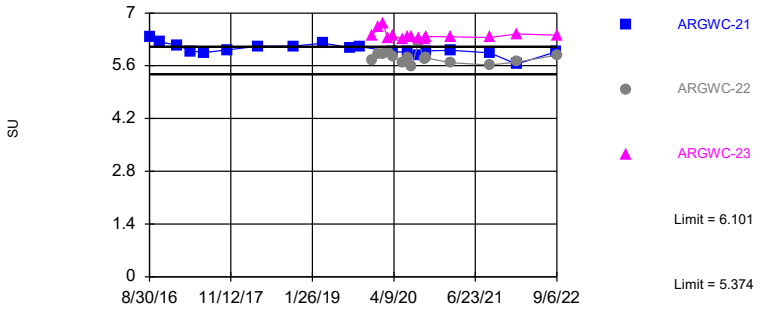
Constituent: Fluoride Analysis Run 10/10/2022 12:38 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Exceeds Limits: ARGWC-23

Prediction Limit

Interwell Parametric



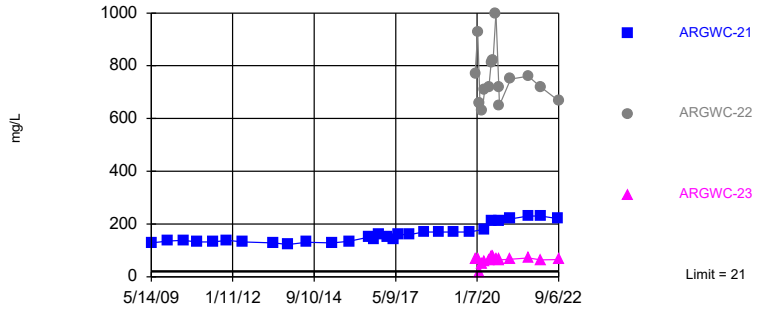
Background Data Summary: Mean=5.738, Std. Dev.=0.2064, n=37. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9713, critical = 0.914. Kappa = 1.762 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001253. Comparing 3 points to limit.

Constituent: pH Analysis Run 10/10/2022 12:38 PM View: Appendix III - Interwell
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Exceeds Limit: ARGWC-21, ARGWC-22, ARGWC-23

Prediction Limit

Interwell Non-parametric



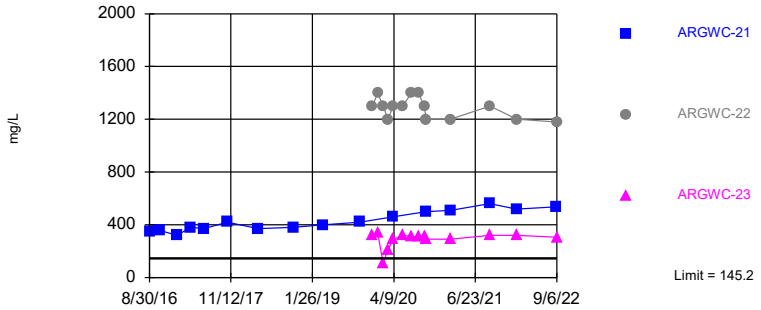
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 59 background values. Annual per-constituent alpha = 0.00328. Individual comparison alpha = 0.0005475 (1 of 2). Comparing 3 points to limit.

Constituent: Sulfate Analysis Run 10/10/2022 12:38 PM View: Appendix III - Interwell
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Exceeds Limit: ARGWC-21, ARGWC-22, ARGWC-23

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=108, Std. Dev.=20.85, n=32. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9451, critical = 0.904. Kappa = 1.784 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Total Dissolved Solids Analysis Run 10/10/2022 12:38 PM View: Appendix III - Interwell
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/10/2022 12:40 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWA-20 (bg)	ARGWC-21	ARGWC-22	ARGWC-23
8/29/2016	0.024 (J)	<0.08			
8/30/2016			0.57		
10/24/2016	0.0339 (J)	0.0194 (J)			
10/26/2016			0.502		
1/25/2017	0.048 (J)	0.026 (J)	0.56		
4/10/2017	0.022 (J)	<0.08	0.54		
6/19/2017	<0.08		0.54		
6/20/2017		0.032 (J)			
10/24/2017	0.021 (J)	0.054	0.57		
4/9/2018		0.06			
4/10/2018	0.022 (J)		0.61		
10/16/2018	<0.08	0.036 (J)	0.59		
3/26/2019	<0.08				
3/27/2019		0.046 (J)	0.65		
10/7/2019	<0.08	<0.08			
10/8/2019			0.58		
12/16/2019				2.7	0.42
1/14/2020				2.7	0.43
2/11/2020				3	0.079 (J)
3/9/2020				2.7	0.25
4/6/2020		0.063 (J)			
4/7/2020	0.072 (J)		0.74	2.6	0.44
5/27/2020				2.5	0.45
6/24/2020				2.5	
6/25/2020	0.091	0.081	0.82		0.42
7/15/2020				2.6	0.49
8/19/2020				1.3	
8/20/2020					0.44
9/22/2020				2.8	0.5
9/29/2020	<0.08				
9/30/2020		0.083		2.9	
10/1/2020			0.9		0.49
2/9/2021	<0.08	0.059 (J)			
2/10/2021			0.81	2.5	0.42
9/7/2021	<0.08				
9/8/2021		0.064 (J)	0.79		
9/9/2021					0.41
9/10/2021				2.7	
2/1/2022	0.092	<0.08	0.85		
2/2/2022				2.4	
2/3/2022					0.49
9/1/2022	0.0238		0.921		
9/2/2022		0.0597			
9/6/2022				2.78	0.458

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/10/2022 12:40 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWA-20 (bg)	ARGWC-21	ARGWC-22	ARGWC-23
8/29/2016	11	8.3			
8/30/2016			46		
10/24/2016	11.5	7.66			
10/26/2016			44.3		
1/25/2017	13	9.4	50		
4/10/2017	11	8.6	52		
6/19/2017	12		55		
6/20/2017		9.4			
10/24/2017	12	9.9	56		
4/9/2018		9.9			
4/10/2018	12		51		
10/16/2018	14	9.8	57		
3/26/2019	15				
3/27/2019		9.2	58		
10/7/2019	14	8.9			
10/8/2019			60		
12/16/2019				200	69
1/14/2020				210	65
2/11/2020				180	10
3/9/2020				180	46
4/6/2020		9.5			
4/7/2020	14		69	190	65
5/27/2020				200	69
6/24/2020				180	
6/25/2020	14	9.6	80		72
7/15/2020				190	68
8/19/2020				220	
8/20/2020					69
9/22/2020				190	66
9/29/2020	12				
9/30/2020		9.9		200	
10/1/2020			79		73
2/9/2021	9.7	9.2			
2/10/2021			76	200	67
9/7/2021	9.2				
9/8/2021		11	81		
9/9/2021					70
9/10/2021				200	
2/1/2022	8	8.3	75		
2/2/2022				190	
2/3/2022					71
9/1/2022	8.52		71.5		
9/2/2022		9.48			
9/6/2022				162	65.2

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/10/2022 12:40 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
5/5/2009	11.1				
5/14/2009		6.38			
5/15/2009			6.86		
12/5/2009	9.46	6.28	5.06		
6/1/2010	6.32		5.47		
6/2/2010		6.1			
11/11/2010	7.16	6.1461	5.26		
5/17/2011	6.84	6.17	4.8		
11/8/2011	9.13	6.6	5.62		
5/16/2012	10.8	6.18	5.1		
5/14/2013	16.2	6.32	5.25		
11/5/2013	14.8	5.65	5.19		
6/9/2014	13.6	6.08	5.55		
4/14/2015	10.4	5.43	5.39		
10/29/2015		5.62			
11/4/2015	9.19		5.38		
6/22/2016	8.4		5.7		
6/23/2016		5.9			
8/29/2016	8.4		5.3		
8/30/2016		5.5			
10/24/2016	9.6		5.4		
10/26/2016		6			
1/25/2017	8.7	5.4	5.1		
4/10/2017	8	5.1	4.9		
6/19/2017	7.6	5.2			
6/20/2017			5		
10/24/2017	7.2	4.9	4.6		
4/9/2018			4.7		
4/10/2018	7.2	4.8			
10/16/2018	10	5.1	5.3		
3/26/2019	12				
3/27/2019		4.4	4.6		
10/7/2019	11		5.2		
10/8/2019		4.5			
12/16/2019				5.8	3.9
1/14/2020				5.5	4
2/11/2020				9	4.7
3/9/2020				11	3.7
4/6/2020			5.2		
4/7/2020	11	4.2		8.1	3.8
5/27/2020				7.3	4
6/24/2020				5.7	
6/25/2020	11	3.7	5.1		3.4
7/15/2020				6	3.9
8/19/2020				5.7	
8/20/2020					3.9
9/22/2020				7.1	3.6
9/29/2020	10				
9/30/2020			5.6	8	
10/1/2020		4.3			3.8
2/9/2021	8.6		6		
2/10/2021		4.3		7.4	4.6

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/10/2022 12:40 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
9/7/2021	7.4				
9/8/2021		4	5.9		
9/9/2021					4.7
9/10/2021				6.7	
2/1/2022	6.8	3.4	5.7		
2/2/2022				6.3	
2/3/2022					4.4
9/1/2022	6.27	3.34			
9/2/2022			5.44		
9/6/2022				8.34	3.73

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/10/2022 12:40 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWA-20 (bg)	ARGWC-21	ARGWC-22	ARGWC-23
8/29/2016	<0.1	<0.1			
8/30/2016			0.099 (J)		
10/24/2016	0.07 (J)	0.04 (J)			
10/26/2016			0.57		
1/25/2017	<0.1	<0.1	0.12 (J)		
4/10/2017	<0.1	<0.1	0.11 (J)		
6/19/2017	<0.1		0.11 (J)		
6/20/2017		<0.1			
10/24/2017	<0.1	<0.1	0.1 (J)		
4/9/2018		<0.1			
4/10/2018	<0.1		0.094 (J)		
10/16/2018	0.083 (J)	<0.1	0.17 (J)		
3/26/2019	0.041 (J)				
3/27/2019		<0.1	0.05 (J)		
8/20/2019	0.045 (J)	0.042 (J)	0.098 (J)		
10/7/2019	0.049 (J)	0.036 (J)			
10/8/2019			0.065 (J)		
12/16/2019				0.026 (J)	0.18 (J)
1/14/2020				<0.1	0.21
2/11/2020				0.056	0.13
3/9/2020				0.064 (J)	0.089 (J)
4/6/2020		0.059 (J)			
4/7/2020	0.14		0.12	0.068 (J)	0.18
5/27/2020				0.06 (J)	0.25
6/24/2020				0.048 (J)	
6/25/2020	0.03 (J)	<0.1	0.041 (J)		0.25
7/15/2020				0.04 (J)	0.28
8/19/2020	<0.1	<0.1		<0.1	
8/20/2020					0.19
8/21/2020			0.084 (J)		
9/22/2020				0.049 (J)	0.33
9/29/2020	0.051 (J)				
9/30/2020		0.032 (J)		0.045 (J)	
10/1/2020			0.098 (J)		0.32
2/9/2021	0.059 (J)	0.048 (J)			
2/10/2021			0.14	0.055 (J)	0.41
9/7/2021	0.1				
9/8/2021		0.067 (J)	0.16		
9/9/2021					0.48
9/10/2021				0.035 (J)	
2/1/2022	0.076 (J)	0.028 (J)	0.11		
2/2/2022				0.04 (J)	
2/3/2022					0.4
9/1/2022	0.148		0.161		
9/2/2022		0.122			
9/6/2022				0.056 (J)	0.362

Prediction Limit

Constituent: pH (SU) Analysis Run 10/10/2022 12:40 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-20 (bg)	ARGWC-21	ARGWA-19 (bg)	ARGWC-22	ARGWC-23
8/29/2016	5.64		6.75 (o)		
8/30/2016		6.38			
10/24/2016	5.6		5.81		
10/26/2016		6.23			
1/25/2017	5.65	6.15	5.91		
4/10/2017	5.42	5.99	5.74		
6/19/2017		5.95	5.54		
6/20/2017	5.59				
10/24/2017	5.58	6.02	5.82		
4/9/2018	5.78				
4/10/2018		6.12	5.92		
10/16/2018	5.69	6.12	5.94		
3/26/2019			5.85		
3/27/2019	5.96	6.2			
8/20/2019	5.57	6.08	5.9		
10/7/2019	5.65		5.89		
10/8/2019		6.11			
12/16/2019				5.74	6.41
1/14/2020				5.91	6.62
2/11/2020				5.9	6.71
3/9/2020				5.97	6.32
4/6/2020	5.53				
4/7/2020		5.96	5.72	5.84	6.4
5/27/2020				5.69	6.3
6/24/2020				5.82	
6/25/2020	5.61	5.98	5.8		6.37
7/15/2020				5.58	6.36
8/19/2020	6.16		6.25	6.21	
8/20/2020					6.33
8/21/2020		5.89			
9/22/2020				5.77	6.29
9/29/2020			5.83		
9/30/2020	5.65			5.81	
10/1/2020		5.99			6.38
2/9/2021	5.66		5.97		
2/10/2021		6.01		5.68	6.37
9/7/2021			5.85		
9/8/2021	5.59	5.94			
9/9/2021					6.35
9/10/2021				5.62	
2/1/2022	5.14	5.65	5.52		
2/2/2022				5.7	
2/3/2022					6.44
9/1/2022		5.97	5.88		
9/2/2022	5.68				
9/6/2022				5.88	6.41

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/10/2022 12:40 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
5/5/2009	15.9				
5/14/2009		129			
5/15/2009			41.3 (o)		
12/5/2009	15.1	136	16.2		
6/1/2010	12.7		18.2		
6/2/2010		138			
11/11/2010	11.5	131.49	16.5		
5/17/2011	11.2	132	16		
11/8/2011	11.3	138	21		
5/16/2012	9.38	132	17.7		
5/14/2013	8.74	129	19.5		
11/5/2013	9.12	122	18.3		
6/9/2014	8.61	131	18.6		
4/14/2015	8.45	128	18.8		
10/29/2015		134			
11/4/2015	9.01		17.4		
6/22/2016	9.3		18		
6/23/2016		150			
8/29/2016	8.7		18		
8/30/2016		140			
10/24/2016	9.3		18		
10/26/2016		160			
1/25/2017	8.8	150	19		
4/10/2017	7.8	140	16		
6/19/2017	8.6	160			
6/20/2017			18		
10/24/2017	9.1	160	19		
4/9/2018			18		
4/10/2018	7.9	170			
10/16/2018	8.2	170	18		
3/26/2019	6.1				
3/27/2019		170	15		
10/7/2019	7.4		17		
10/8/2019		170			
12/16/2019				770	66
1/14/2020				930	68
2/11/2020				660	18
3/9/2020				630	49
4/6/2020			15		
4/7/2020	8.4	180		710	58
5/27/2020				720	65
6/24/2020				810	
6/25/2020	9.8	210	16		77
7/15/2020				820	78
8/19/2020				1000	
8/20/2020					69
9/22/2020				720	68
9/29/2020	8.4				
9/30/2020			15	650	
10/1/2020		210			64
2/9/2021	10		16		
2/10/2021		220		750	67

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/10/2022 12:40 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWC-21	ARGWA-20 (bg)	ARGWC-22	ARGWC-23
9/7/2021	9.9				
9/8/2021		230	16		
9/9/2021					72
9/10/2021				760	
2/1/2022	10	230	18		
2/2/2022				720	
2/3/2022					64
9/1/2022	8.38	221			
9/2/2022			18.5		
9/6/2022				667	65.3

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/10/2022 12:40 PM View: Appendix III - Interwell

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWA-19 (bg)	ARGWA-20 (bg)	ARGWC-21	ARGWC-22	ARGWC-23
8/29/2016	130	100			
8/30/2016			350		
10/24/2016	108	91			
10/26/2016			357		
1/25/2017	120	90	320		
4/10/2017	128 (D)	110	380		
6/19/2017	86		370		
6/20/2017		72			
10/24/2017	120	110	420		
4/9/2018		100			
4/10/2018	120		370		
10/16/2018	140	110	380		
3/26/2019	170				
3/27/2019		100	400		
10/7/2019	150	87			
10/8/2019			420		
12/16/2019				1300	320
1/14/2020				1400	340
2/11/2020				1300	110
3/9/2020				1200	210
4/6/2020		90			
4/7/2020	120		460	1300	290
5/27/2020				1300	320
7/15/2020				1400	310
8/19/2020				1400	
8/20/2020					310
9/22/2020				1300	310
9/29/2020	110				
9/30/2020		82		1200	
10/1/2020			500		290
2/9/2021	110	100			
2/10/2021			510	1200	290
9/7/2021	110				
9/8/2021		120	560		
9/9/2021					320
9/10/2021				1300	
2/1/2022	91	100	520		
2/2/2022				1200	
2/3/2022					320
9/1/2022	81		537		
9/2/2022		101			
9/6/2022				1180	305

FIGURE F.

Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**ARGWA-20 (bg)**	**0.006578**	**66**	**63**	**Yes**	**17**	**23.53**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**ARGWC-21**	**0.06544**	**102**	**63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**ARGWC-21**	**6.037**	**104**	**63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Fluoride (mg/L)	**ARGWC-23**	**0.1703**	**71**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**ARGWA-19 (bg)**	**-0.2346**	**-172**	**-146**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**ARGWC-21**	**7.726**	**327**	**146**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	**ARGWC-21**	**36.03**	**99**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Appendix III Trend Tests - Prediction Limit Exceedances - All Results

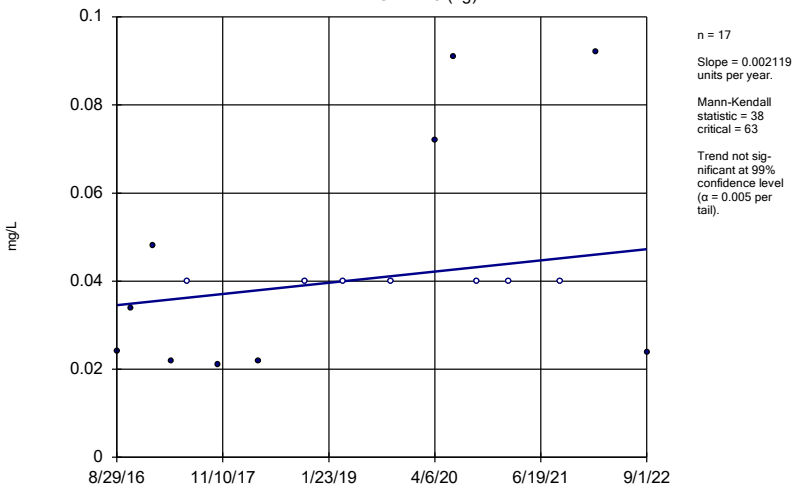
Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 12:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	ARGWA-19 (bg)	0.002119	38	63	No	17	41.18	n/a	n/a	0.01	NP
Boron (mg/L)	**ARGWA-20 (bg)**	**0.006578**	**66**	**63**	**Yes**	**17**	**23.53**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**ARGWC-21**	**0.06544**	**102**	**63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	ARGWC-22	-0.06204	-15	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	ARGWC-23	0.0343	34	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	ARGWA-19 (bg)	-0.3484	-19	-63	No	17	0	n/a	n/a	0.01	NP
Calcium (mg/L)	ARGWA-20 (bg)	0.1596	32	63	No	17	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**ARGWC-21**	**6.037**	**104**	**63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	ARGWC-22	0	-4	-53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	ARGWC-23	2.362	31	53	No	15	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	ARGWA-19 (bg)	0	-7	-74	No	19	36.84	n/a	n/a	0.01	NP
Fluoride (mg/L)	ARGWA-20 (bg)	0	-32	-74	No	19	52.63	n/a	n/a	0.01	NP
Fluoride (mg/L)	ARGWC-21	0	-2	-74	No	19	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	**ARGWC-23**	**0.1703**	**71**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH (SU)	ARGWA-19 (bg)	0.008295	10	68	No	18	0	n/a	n/a	0.01	NP
pH (SU)	ARGWA-20 (bg)	0.00258	9	74	No	19	0	n/a	n/a	0.01	NP
pH (SU)	ARGWC-23	-0.03192	-11	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**ARGWA-19 (bg)**	**-0.2346**	**-172**	**-146**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	ARGWA-20 (bg)	-0.1014	-87	-139	No	29	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**ARGWC-21**	**7.726**	**327**	**146**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	ARGWC-22	-5.757	-4	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	ARGWC-23	2.598	15	53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	ARGWA-19 (bg)	-3.466	-33	-58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	ARGWA-20 (bg)	0	10	58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	**ARGWC-21**	**36.03**	**99**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	ARGWC-22	-44.02	-33	-48	No	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	ARGWC-23	0	3	48	No	14	0	n/a	n/a	0.01	NP

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-19 (bg)



n = 17

Slope = 0.002119 units per year.

Mann-Kendall statistic = 38
critical = 63

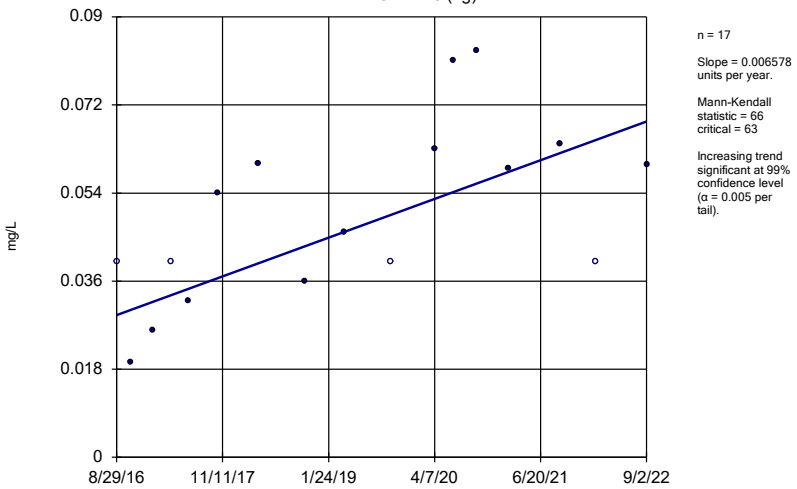
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-20 (bg)



n = 17

Slope = 0.006578 units per year.

Mann-Kendall statistic = 66
critical = 63

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

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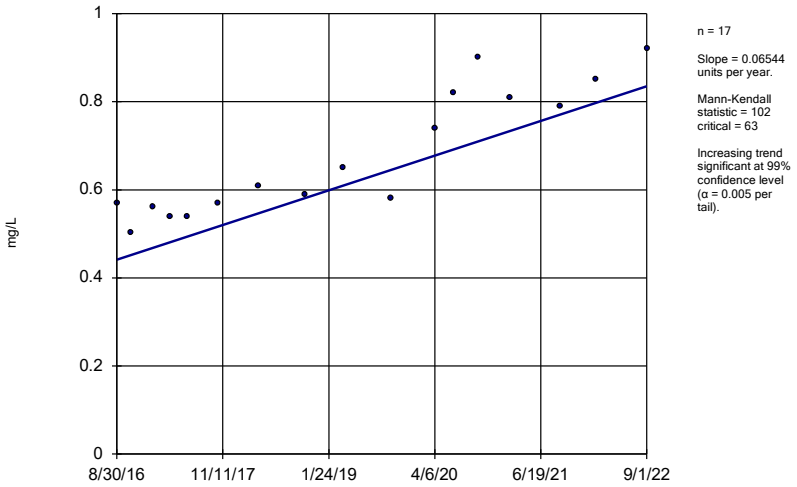
Sen's Slope Estimator

ARGWC-21



n = 17

Slope = 0.06544 units per year.

Mann-Kendall statistic = 102
critical = 63

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

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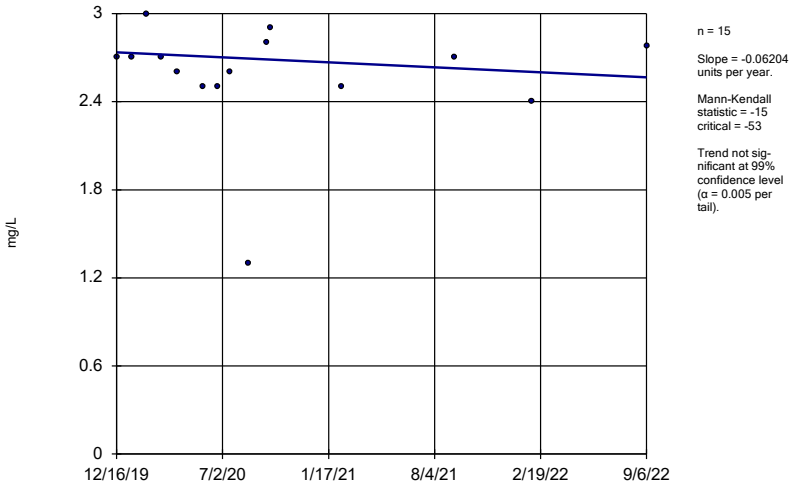
Sen's Slope Estimator

ARGWC-22



n = 15

Slope = -0.06204 units per year.

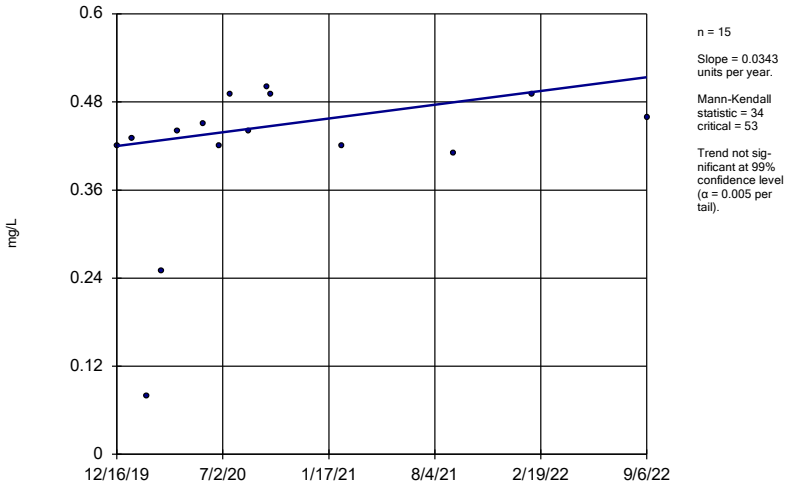
Mann-Kendall statistic = -15
critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sen's Slope Estimator

ARGWC-23



n = 15

Slope = 0.0343 units per year.

Mann-Kendall statistic = 34 critical = 53

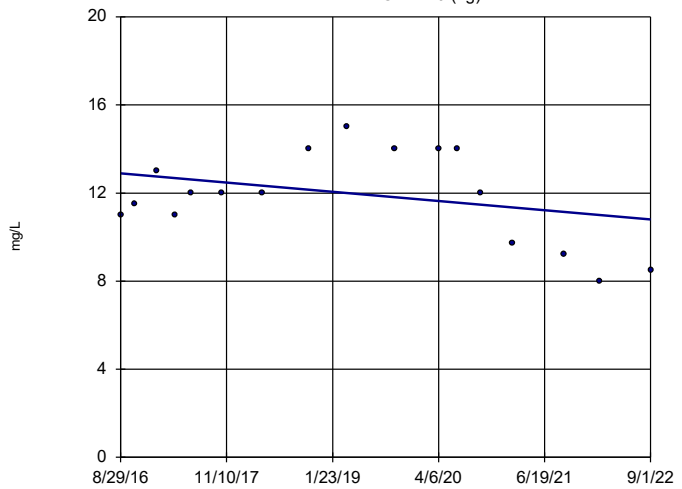
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWA-19 (bg)



n = 17

Slope = -0.3484 units per year.

Mann-Kendall statistic = -19 critical = -63

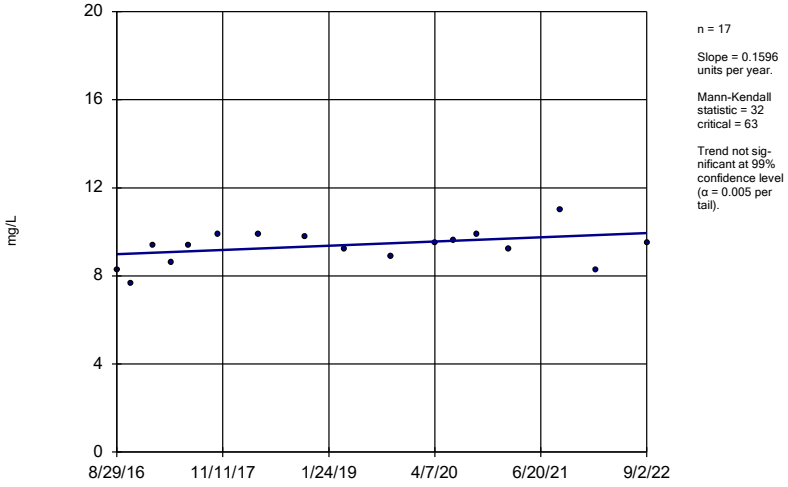
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWA-20 (bg)



n = 17

Slope = 0.1596 units per year.

Mann-Kendall statistic = 32 critical = 63

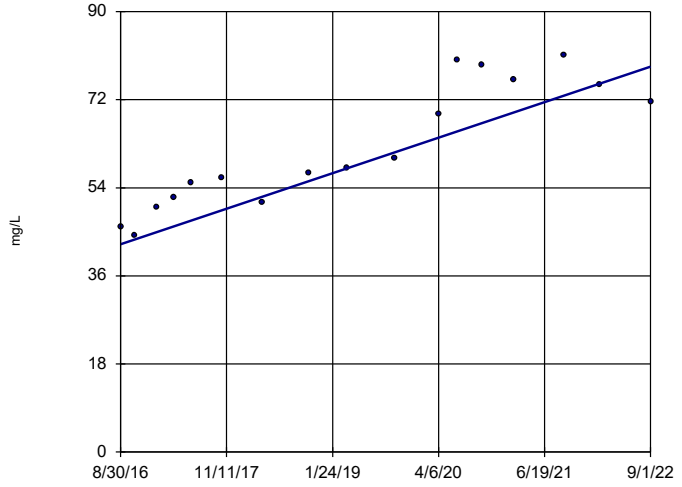
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWC-21



n = 17

Slope = 6.037 units per year.

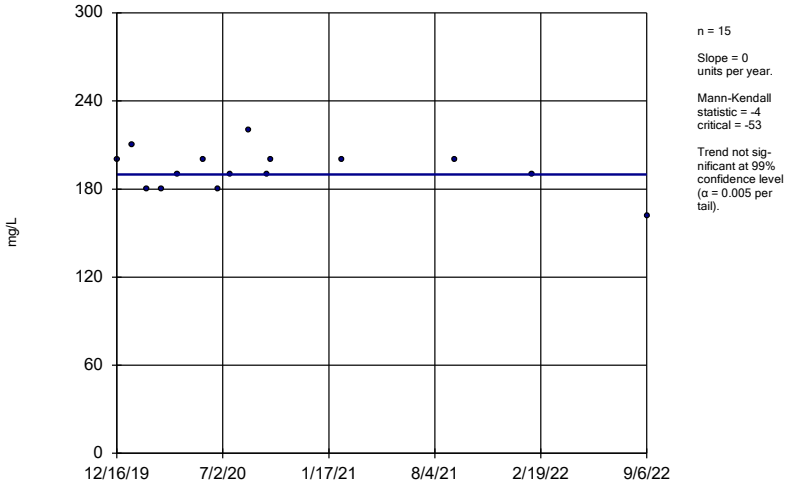
Mann-Kendall statistic = 104 critical = 63

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sen's Slope Estimator

ARGWC-22

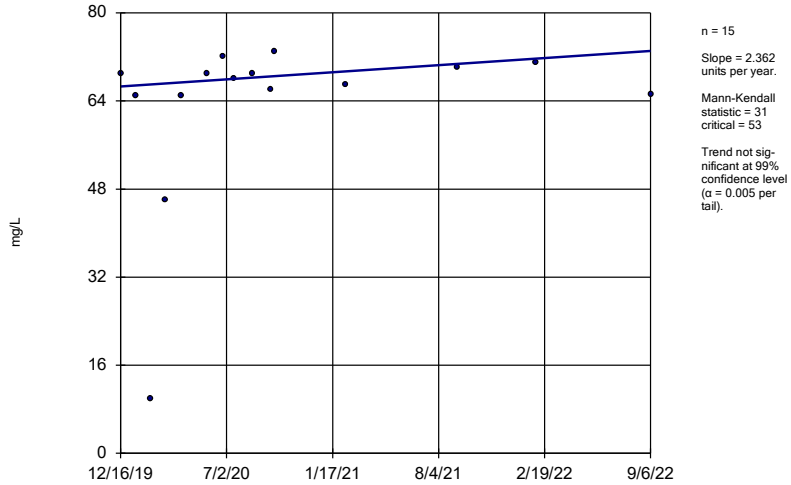


Constituent: Calcium Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sen's Slope Estimator

ARGWC-23

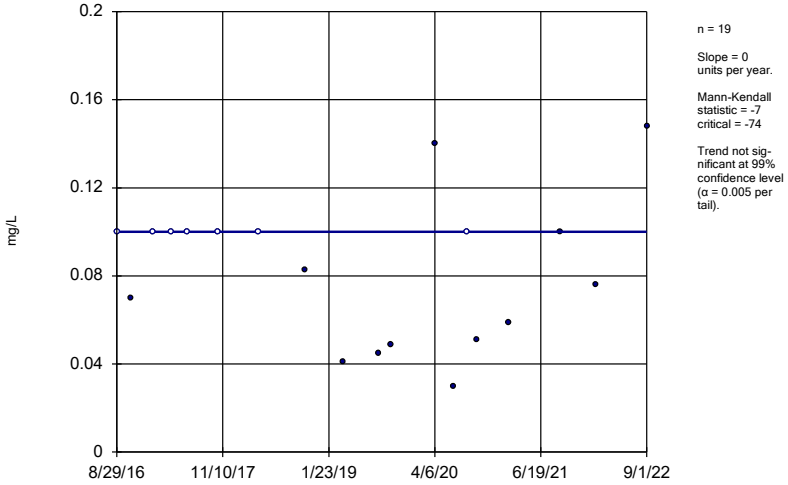


Constituent: Calcium Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sen's Slope Estimator

ARGWA-19 (bg)

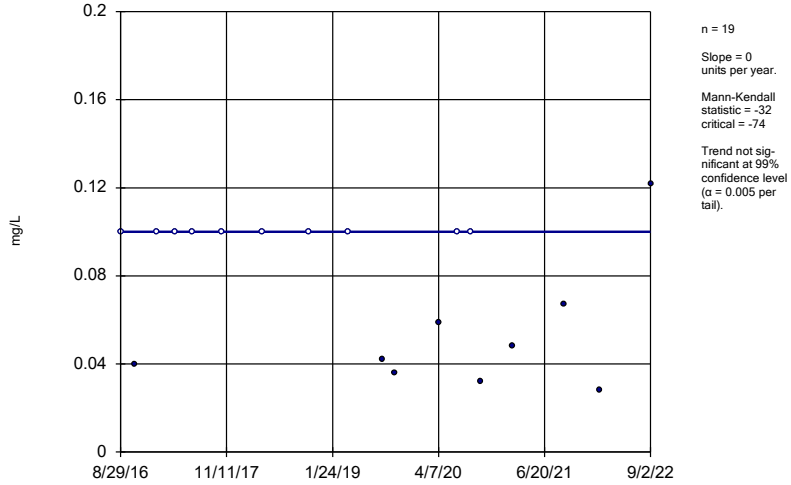


Constituent: Fluoride Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sen's Slope Estimator

ARGWA-20 (bg)

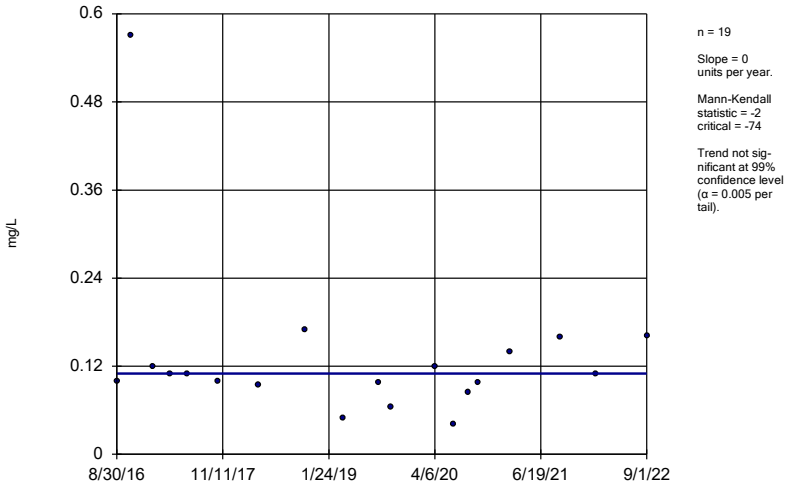


Constituent: Fluoride Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sen's Slope Estimator

ARGWC-21



n = 19

Slope = 0 units per year.

Mann-Kendall statistic = -2 critical = -74

Trend not significant at 99% confidence level (α = 0.005 per tail).

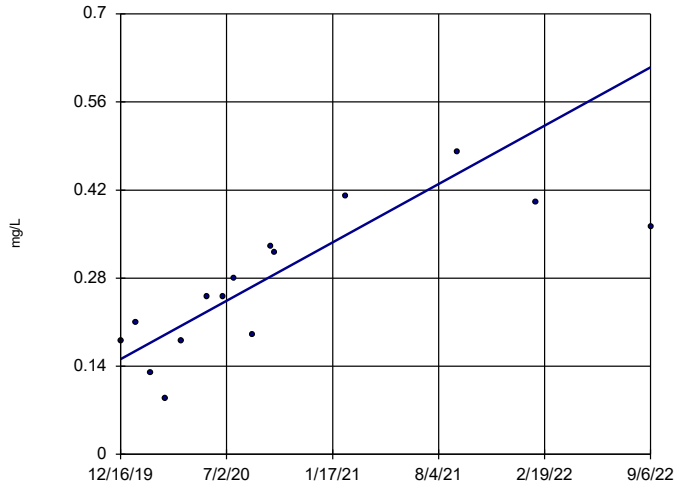
Constituent: Fluoride Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWC-23



n = 15

Slope = 0.1703 units per year.

Mann-Kendall statistic = 71 critical = 53

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

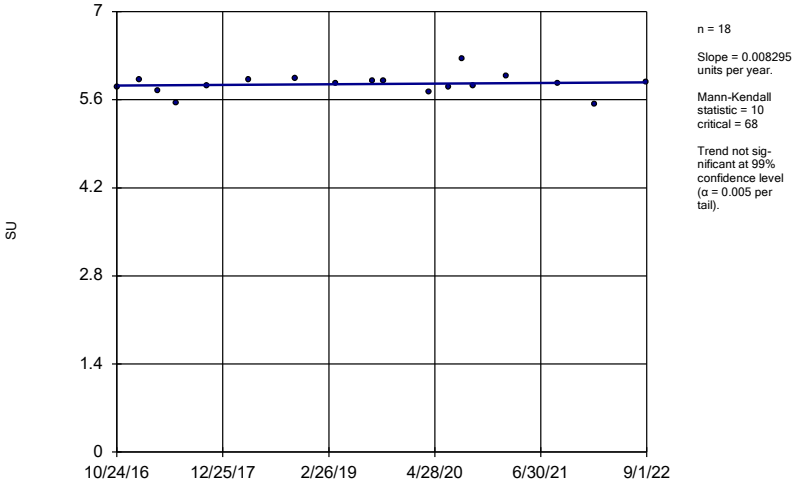
Constituent: Fluoride Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWA-19 (bg)



n = 18

Slope = 0.008295 units per year.

Mann-Kendall statistic = 10 critical = 68

Trend not significant at 99% confidence level (α = 0.005 per tail).

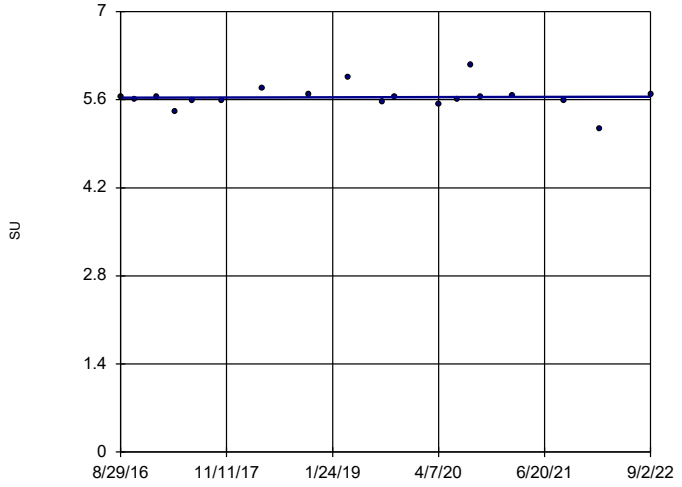
Constituent: pH Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWA-20 (bg)



n = 19

Slope = 0.00258 units per year.

Mann-Kendall statistic = 9 critical = 74

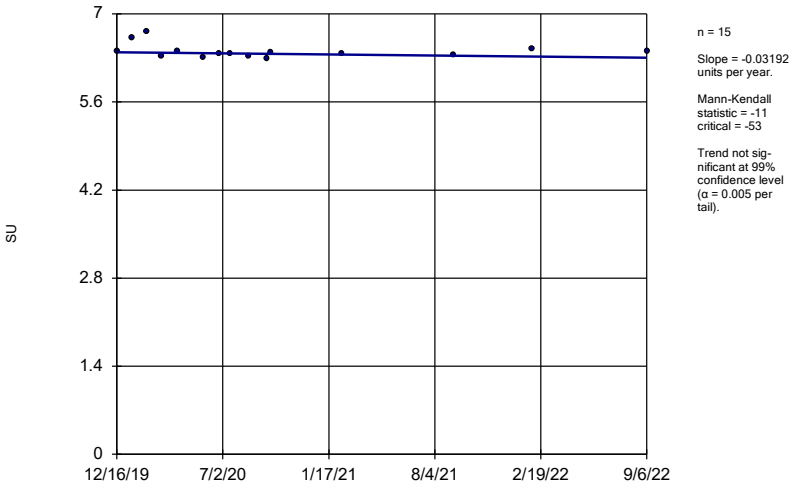
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sen's Slope Estimator

ARGWC-23



n = 15

Slope = -0.03192 units per year.

Mann-Kendall statistic = -11
critical = -53

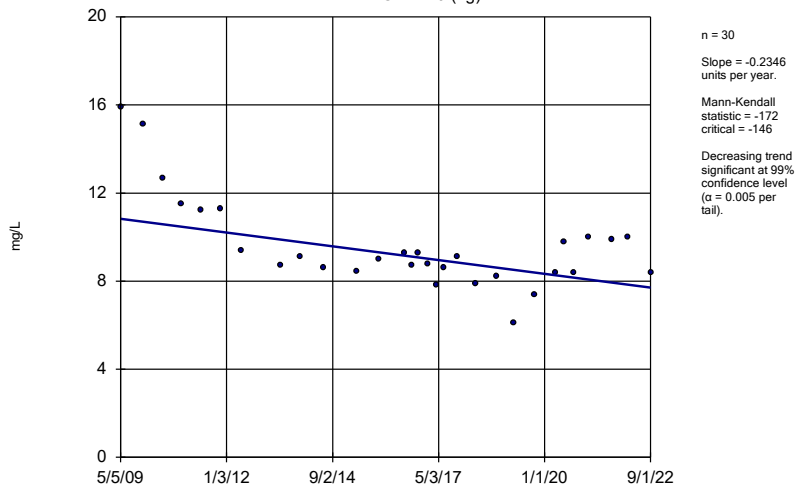
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWA-19 (bg)



n = 30

Slope = -0.2346 units per year.

Mann-Kendall statistic = -172
critical = -146

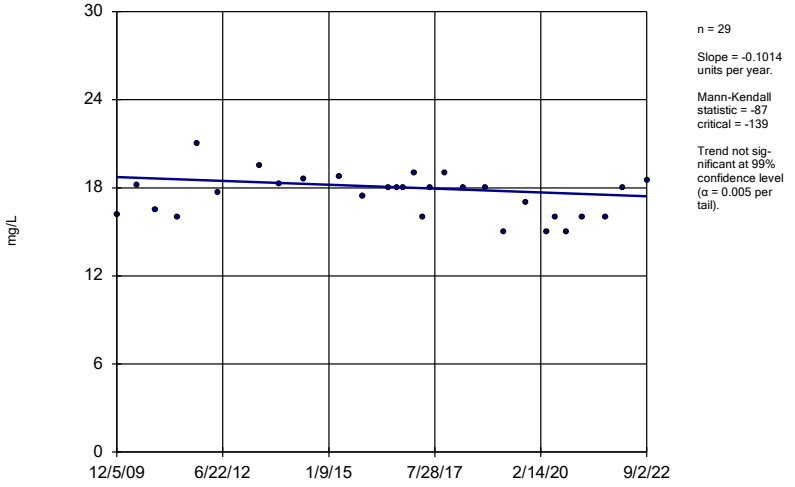
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWA-20 (bg)



n = 29

Slope = -0.1014 units per year.

Mann-Kendall statistic = -87
critical = -139

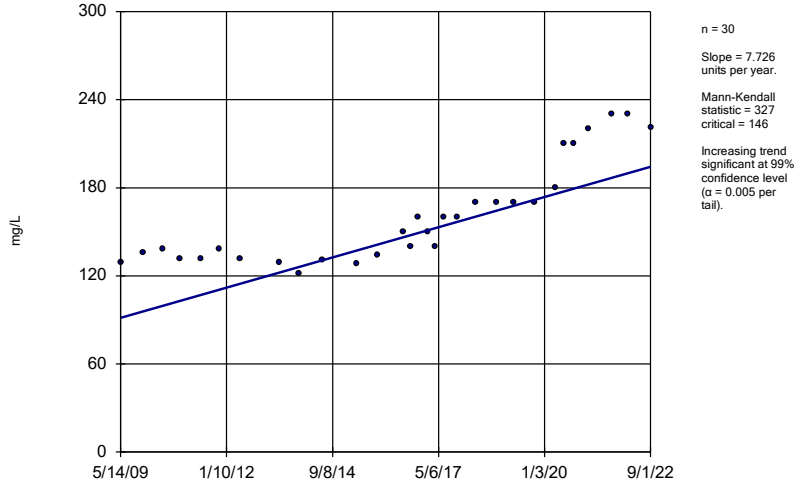
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWC-21



n = 30

Slope = 7.726 units per year.

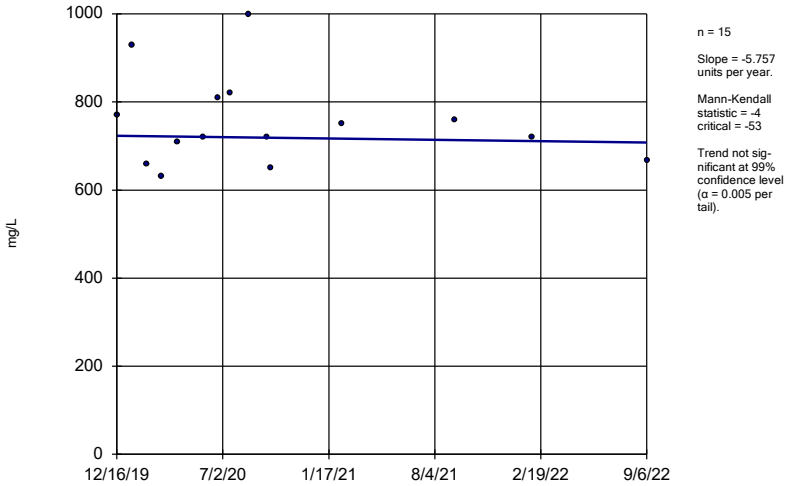
Mann-Kendall statistic = 327
critical = 146

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sen's Slope Estimator

ARGWC-22



n = 15

Slope = -5.757 units per year.

Mann-Kendall statistic = -4 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

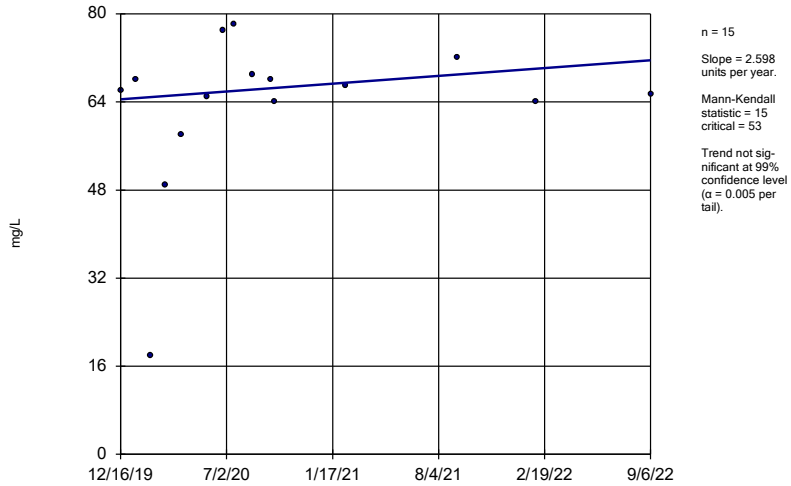
Constituent: Sulfate Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWC-23



n = 15

Slope = 2.598 units per year.

Mann-Kendall statistic = 15 critical = 53

Trend not significant at 99% confidence level (α = 0.005 per tail).

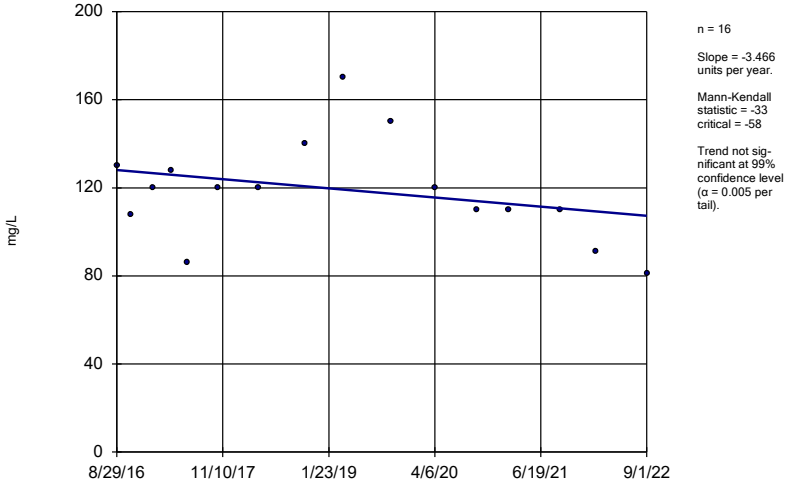
Constituent: Sulfate Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWA-19 (bg)



n = 16

Slope = -3.466 units per year.

Mann-Kendall statistic = -33 critical = -58

Trend not significant at 99% confidence level (α = 0.005 per tail).

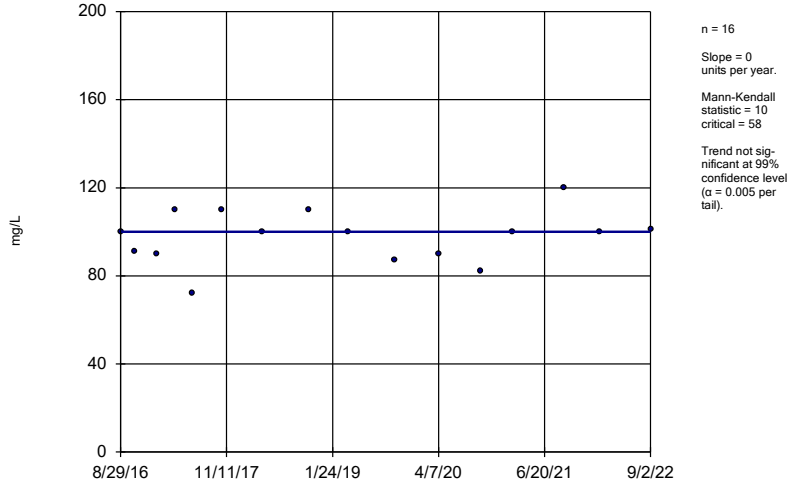
Constituent: Total Dissolved Solids Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWA-20 (bg)



n = 16

Slope = 0 units per year.

Mann-Kendall statistic = 10 critical = 58

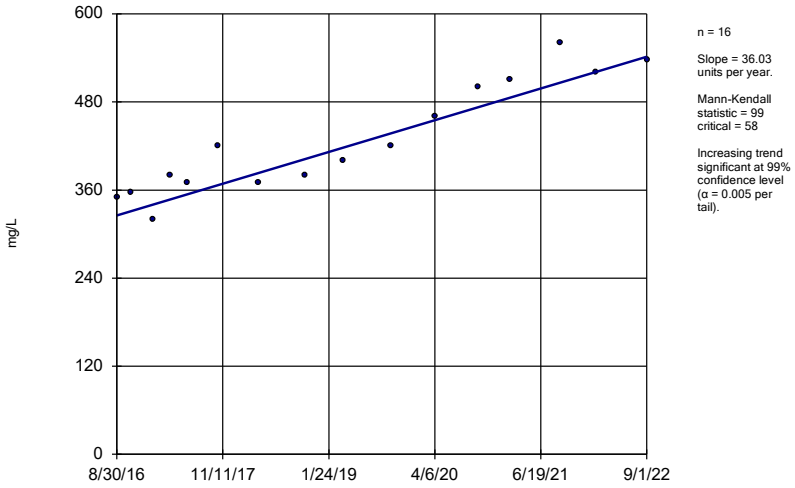
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sen's Slope Estimator

ARGWC-21



n = 16

Slope = 36.03 units per year.

Mann-Kendall statistic = 99
critical = 58

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

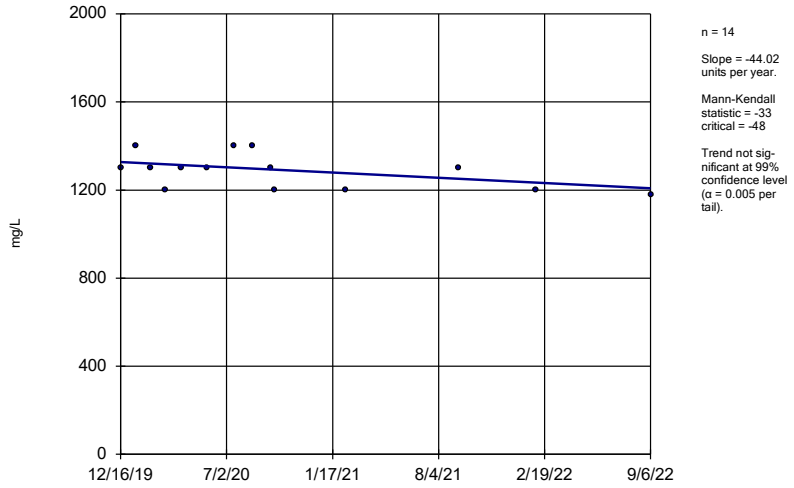
Constituent: Total Dissolved Solids Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWC-22



n = 14

Slope = -44.02 units per year.

Mann-Kendall statistic = -33
critical = -48

Trend not significant at 99% confidence level (α = 0.005 per tail).

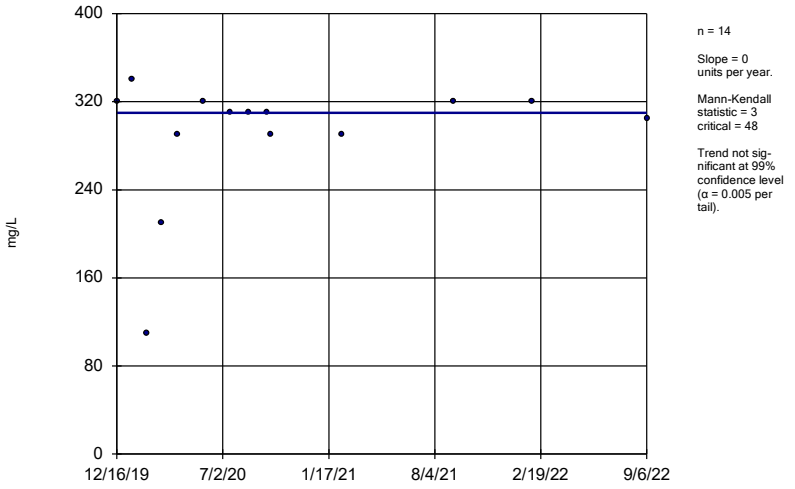
Constituent: Total Dissolved Solids Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARGWC-23



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = 3
critical = 48

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 10/10/2022 12:41 PM View: Appendix III - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

FIGURE G.

Upper Tolerance Limit Summary Table

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/28/2022, 5:44 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.003	n/a	n/a	n/a	n/a	26	n/a	n/a	100	n/a	n/a	0.2635	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.005	n/a	n/a	n/a	n/a	64	n/a	n/a	85.94	n/a	n/a	0.03752	NP Inter(NDs)
Barium (mg/L)	n/a	0.1	n/a	n/a	n/a	n/a	64	n/a	n/a	0	n/a	n/a	0.03752	NP Inter(normality)
Beryllium (mg/L)	n/a	0.0005	n/a	n/a	n/a	n/a	30	n/a	n/a	93.33	n/a	n/a	0.2146	NP Inter(NDs)
Cadmium (mg/L)	n/a	0.001	n/a	n/a	n/a	n/a	62	n/a	n/a	98.39	n/a	n/a	0.04158	NP Inter(NDs)
Chromium (mg/L)	n/a	0.01	n/a	n/a	n/a	n/a	34	n/a	n/a	20.59	n/a	n/a	0.1748	NP Inter(normality)
Cobalt (mg/L)	n/a	0.001	n/a	n/a	n/a	n/a	36	n/a	n/a	66.67	n/a	n/a	0.1578	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	n/a	1.277	n/a	n/a	n/a	n/a	34	0.5445	0.3363	0	None	No	0.05	Inter
Fluoride (mg/L)	n/a	0.148	n/a	n/a	n/a	n/a	38	n/a	n/a	44.74	n/a	n/a	0.1424	NP Inter(normality)
Lead (mg/L)	n/a	0.002	n/a	n/a	n/a	n/a	64	n/a	n/a	85.94	n/a	n/a	0.03752	NP Inter(NDs)
Lithium (mg/L)	n/a	0.013	n/a	n/a	n/a	n/a	36	n/a	n/a	41.67	n/a	n/a	0.1578	NP Inter(normality)
Mercury (mg/L)	n/a	0.0002	n/a	n/a	n/a	n/a	26	n/a	n/a	92.31	n/a	n/a	0.2635	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.001	n/a	n/a	n/a	n/a	32	n/a	n/a	90.63	n/a	n/a	0.1937	NP Inter(NDs)
Selenium (mg/L)	n/a	0.005	n/a	n/a	n/a	n/a	63	n/a	n/a	63.49	n/a	n/a	0.0395	NP Inter(NDs)
Silver (mg/L)	n/a	0.001	n/a	n/a	n/a	n/a	54	n/a	n/a	90.74	n/a	n/a	0.06267	NP Inter(NDs)
Thallium (mg/L)	n/a	0.002	n/a	n/a	n/a	n/a	26	n/a	n/a	96.15	n/a	n/a	0.2635	NP Inter(NDs)

FIGURE H.

PLANT ARKWRIGHT AP #2 GWPS				
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006
Arsenic, Total (mg/L)	0.01		0.005	0.01
Barium, Total (mg/L)	2		0.1	2
Beryllium, Total (mg/L)	0.004		0.0005	0.004
Cadmium, Total (mg/L)	0.005		0.001	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.001	0.006
Combined Radium, Total (pCi/L)	5		1.28	5
Fluoride, Total (mg/L)	4		0.15	4
Lead, Total (mg/L)	n/a	0.015	0.002	0.015
Lithium, Total (mg/L)	n/a	0.04	0.013	0.04
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.001	0.1
Selenium, Total (mg/L)	0.05		0.005	0.05
Silver, Total (mg/L)	n/a		0.001	0.001
Thallium, Total (mg/L)	0.002		0.002	0.002

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

**CCR = Coal Combustion Residuals*

FIGURE I.

Confidence Intervals - Significant Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/28/2022, 5:49 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Lower Compl.	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt (mg/L)	**ARAMW-7**	**0.077**	**0.017**	**0.006**	**n/a**	**Yes**	**5**	**0.05414**	**0.02917**	**0**	**None**	**No**	**0.031**	**NP (normality)**
Lithium (mg/L)	**ARAMW-7**	**0.06341**	**0.05875**	**0.04**	**n/a**	**Yes**	**5**	**0.06108**	**0.00139**	**0**	**None**	**No**	**0.01**	**Param.**

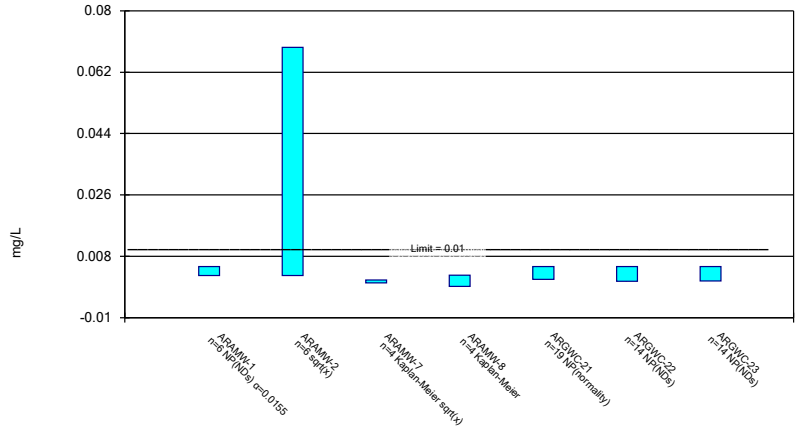
Confidence Intervals - All Results

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/28/2022, 5:49 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Lower Compl.	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	ARAMW-1	0.005	0.00233	0.01	n/a	No	6	0.004555	0.00109	83.33	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	ARAMW-2	0.06933	0.002366	0.01	n/a	No	6	0.02942	0.02977	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	ARAMW-7	0.001082	0.0001741	0.01	n/a	No	4	0.002775	0.002574	50	Kaplan-Meier	sqrt(x)	0.01	Param.
Arsenic (mg/L)	ARAMW-8	0.002457	-0.0008495	0.01	n/a	No	4	0.001957	0.002177	25	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	ARGWC-21	0.005	0.0012	0.01	n/a	No	19	0.002611	0.001542	26.32	None	No	0.01	NP (normality)
Arsenic (mg/L)	ARGWC-22	0.005	0.00066	0.01	n/a	No	14	0.004031	0.001926	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	ARGWC-23	0.005	0.00075	0.01	n/a	No	14	0.004034	0.001923	78.57	None	No	0.01	NP (NDs)
Barium (mg/L)	ARAMW-1	0.05482	0.04335	2	n/a	No	6	0.04908	0.004176	0	None	No	0.01	Param.
Barium (mg/L)	ARAMW-2	0.14	0.075	2	n/a	No	6	0.0987	0.02875	0	None	No	0.0155	NP (normality)
Barium (mg/L)	ARAMW-7	0.04083	0.01982	2	n/a	No	4	0.03033	0.004628	0	None	No	0.01	Param.
Barium (mg/L)	ARAMW-8	0.116	0.092	2	n/a	No	4	0.0995	0.01112	0	None	No	0.0625	NP (normality)
Barium (mg/L)	ARGWC-21	0.12	0.05	2	n/a	No	19	0.08845	0.03396	0	None	No	0.01	NP (normality)
Barium (mg/L)	ARGWC-22	0.05355	0.03096	2	n/a	No	14	0.04226	0.01594	0	None	No	0.01	Param.
Barium (mg/L)	ARGWC-23	0.1566	0.09926	2	n/a	No	14	0.1279	0.04046	0	None	No	0.01	Param.
Beryllium (mg/L)	ARAMW-7	0.0005	0.000236	0.004	n/a	No	4	0.000434	0.000132	75	None	No	0.0625	NP (NDs)
Beryllium (mg/L)	ARGWC-22	0.0005	0.00019	0.004	n/a	No	13	0.00042	0.0001316	61.54	None	No	0.01	NP (NDs)
Beryllium (mg/L)	ARGWC-23	0.0005	0.00033	0.004	n/a	No	13	0.0004869	0.00004715	92.31	None	No	0.01	NP (NDs)
Chromium (mg/L)	ARGWC-21	0.01	0.0017	0.1	n/a	No	17	0.009512	0.002013	94.12	None	No	0.01	NP (NDs)
Chromium (mg/L)	ARGWC-22	0.01	0.0048	0.1	n/a	No	14	0.009629	0.00139	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	ARAMW-1	0.001033	0.0004779	0.006	n/a	No	7	0.0007727	0.0002436	0	None	x^2	0.01	Param.
Cobalt (mg/L)	ARAMW-2	0.003259	0.001969	0.006	n/a	No	7	0.002614	0.0005429	0	None	No	0.01	Param.
Cobalt (mg/L)	**ARAMW-7**	**0.077**	**0.017**	**0.006**	**n/a**	**Yes**	**5**	**0.05414**	**0.02917**	**0**	**None**	**No**	**0.031**	**NP (normality)**
Cobalt (mg/L)	ARAMW-8	0.006832	0.001896	0.006	n/a	No	5	0.004364	0.001473	0	None	No	0.01	Param.
Cobalt (mg/L)	ARGWC-21	0.0019	0.0007	0.006	n/a	No	18	0.00138	0.000598	0	None	No	0.01	NP (normality)
Cobalt (mg/L)	ARGWC-22	0.01015	0.003011	0.006	n/a	No	15	0.006579	0.005264	0	None	No	0.01	Param.
Cobalt (mg/L)	ARGWC-23	0.002489	0.0008917	0.006	n/a	No	15	0.001794	0.001336	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARAMW-1	2.677	0.1451	5	n/a	No	6	1.191	1.13	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARAMW-2	4.369	2.081	5	n/a	No	6	3.225	0.833	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARAMW-7	5.428	3.622	5	n/a	No	4	4.525	0.3979	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARAMW-8	3.018	-0.051	5	n/a	No	4	0.7113	0.7991	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARGWC-21	0.9586	0.5375	5	n/a	No	17	0.7481	0.336	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARGWC-22	0.9014	0.2728	5	n/a	No	14	0.6486	0.6196	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	ARGWC-23	0.7214	0.1079	5	n/a	No	14	0.4723	0.6048	0	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	ARAMW-1	0.2274	0.1726	4	n/a	No	7	0.2	0.02309	0	None	No	0.01	Param.
Fluoride (mg/L)	ARAMW-2	0.1436	0.07038	4	n/a	No	7	0.107	0.03083	14.29	None	No	0.01	Param.
Fluoride (mg/L)	ARAMW-7	0.0584	0.02826	4	n/a	No	5	0.046	0.008602	40	Kaplan-Meier	No	0.01	Param.
Fluoride (mg/L)	ARAMW-8	0.2522	0.1262	4	n/a	No	5	0.1892	0.03759	0	None	No	0.01	Param.
Fluoride (mg/L)	ARGWC-21	0.16	0.084	4	n/a	No	19	0.1316	0.1116	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	ARGWC-22	0.05703	0.0419	4	n/a	No	15	0.04947	0.01116	13.33	None	No	0.01	Param.
Fluoride (mg/L)	ARGWC-23	0.3464	0.1951	4	n/a	No	15	0.2707	0.1117	0	None	No	0.01	Param.
Lead (mg/L)	ARAMW-7	0.002	0.00013	0.015	n/a	No	4	0.001533	0.000935	75	None	No	0.0625	NP (NDs)
Lead (mg/L)	ARGWC-21	0.002	0.00026	0.015	n/a	No	19	0.001811	0.0005663	89.47	None	No	0.01	NP (NDs)
Lead (mg/L)	ARGWC-22	0.002	0.00022	0.015	n/a	No	14	0.00174	0.0006611	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	ARGWC-23	0.002	0.00026	0.015	n/a	No	14	0.001746	0.0006466	85.71	None	No	0.01	NP (NDs)
Lithium (mg/L)	ARAMW-1	0.009965	0.008012	0.04	n/a	No	8	0.008988	0.00108	0	None	x^3	0.01	Param.
Lithium (mg/L)	ARAMW-2	0.086	0.018	0.04	n/a	No	8	0.03115	0.02287	0	None	No	0.004	NP (normality)
Lithium (mg/L)	**ARAMW-7**	**0.06341**	**0.05875**	**0.04**	**n/a**	**Yes**	**5**	**0.06108**	**0.00139**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	ARAMW-8	0.007241	0.004335	0.04	n/a	No	5	0.005788	0.000867	0	None	No	0.01	Param.
Lithium (mg/L)	ARGWC-21	0.01205	0.009443	0.04	n/a	No	18	0.01074	0.002151	0	None	No	0.01	Param.
Lithium (mg/L)	ARGWC-22	0.02366	0.0139	0.04	n/a	No	15	0.01878	0.007201	0	None	No	0.01	Param.
Lithium (mg/L)	ARGWC-23	0.04491	0.02584	0.04	n/a	No	15	0.03537	0.01408	0	None	No	0.01	Param.
Mercury (mg/L)	ARGWC-21	0.0002	0.000073	0.002	n/a	No	13	0.0001902	0.00003522	92.31	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	ARAMW-1	0.007482	0.004246	0.1	n/a	No	7	0.005864	0.001362	0	None	No	0.01	Param.
Molybdenum (mg/L)	ARAMW-2	0.015	0.000603	0.1	n/a	No	7	0.01099	0.006858	71.43	None	No	0.008	NP (NDs)
Molybdenum (mg/L)	ARAMW-7	0.015	0.000379	0.1	n/a	No	5	0.009316	0.007789	60	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	ARAMW-8	0.2122	0.007443	0.1	n/a	No	5	0.1098	0.06108	0	None	No	0.01	Param.
Molybdenum (mg/L)	ARGWC-22	0.015	0.00093	0.1	n/a	No	14	0.009986	0.006989	64.29	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	ARGWC-23	0.06275	0.04036	0.1	n/a	No	14	0.0495	0.01893	0	None	x^2	0.01	Param.
Selenium (mg/L)	ARGWC-22	0.005	0.002	0.05	n/a	No	14	0.004786	0.0008018	92.86	None	No	0.01	NP (NDs)
Silver (mg/L)	ARGWC-21	0.001	0.00043	0.001	n/a	No	14	0.0009593	0.0001523	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	ARGWC-22	0.002	0.00034	0.002	n/a	No	11	0.001431	0.0007998	63.64	None	No	0.006	NP (NDs)
Thallium (mg/L)	ARGWC-23	0.002	0.00026	0.002	n/a	No	11	0.001527	0.0008097	72.73	None	No	0.006	NP (NDs)

Parametric and Non-Parametric (NP) Confidence Interval

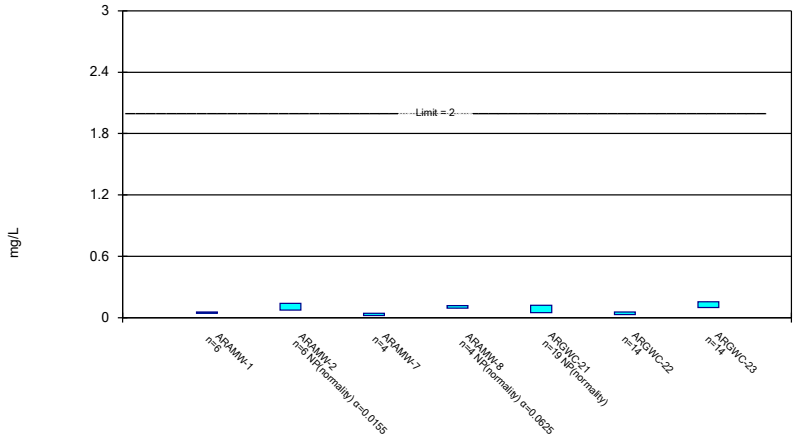
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Parametric and Non-Parametric (NP) Confidence Interval

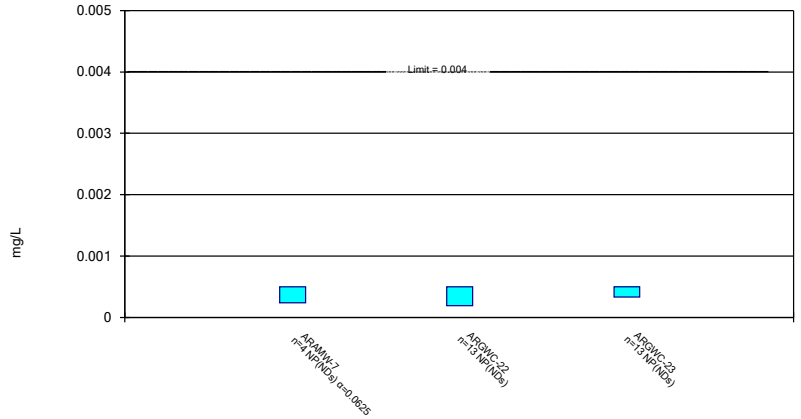
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Non-Parametric Confidence Interval

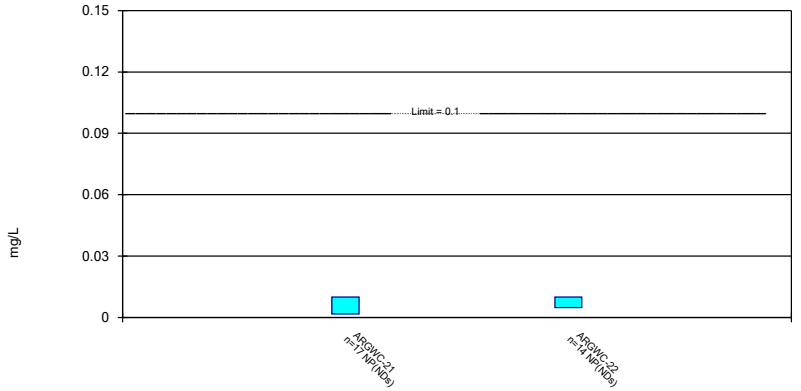
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Beryllium Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Non-Parametric Confidence Interval

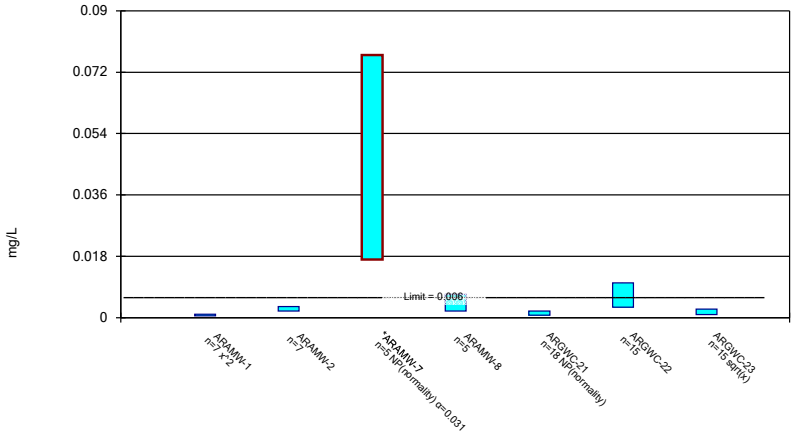
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Parametric and Non-Parametric (NP) Confidence Interval

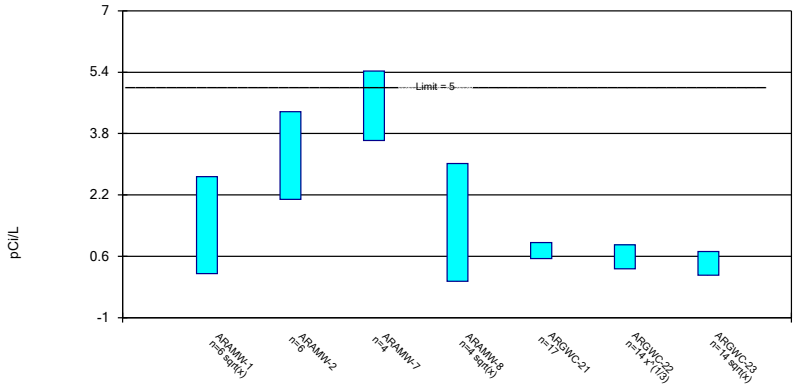
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Parametric Confidence Interval

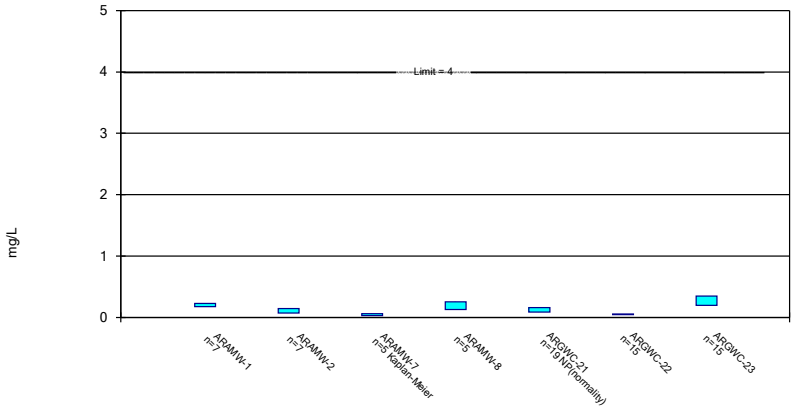
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Parametric and Non-Parametric (NP) Confidence Interval

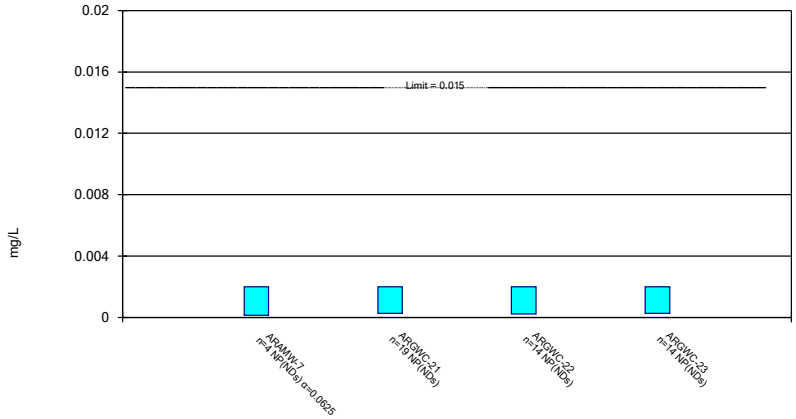
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Non-Parametric Confidence Interval

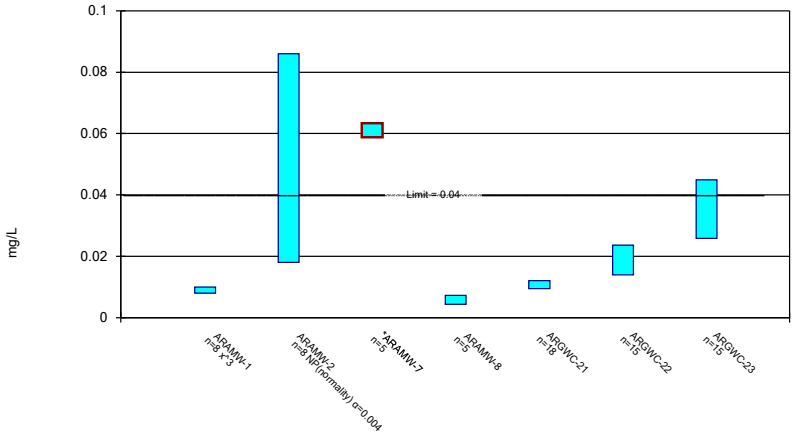
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Lead Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Parametric and Non-Parametric (NP) Confidence Interval

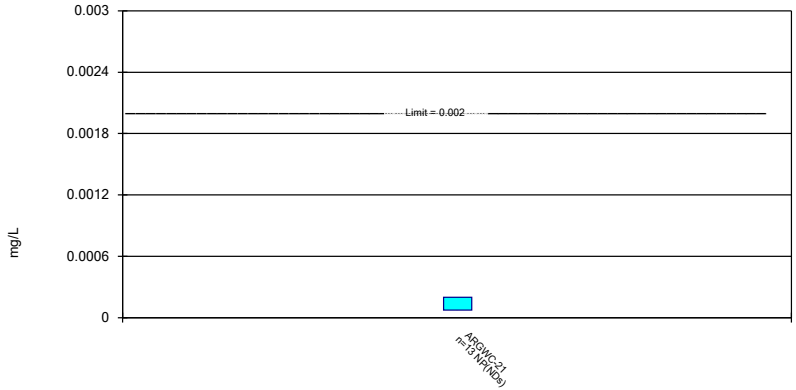
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Non-Parametric Confidence Interval

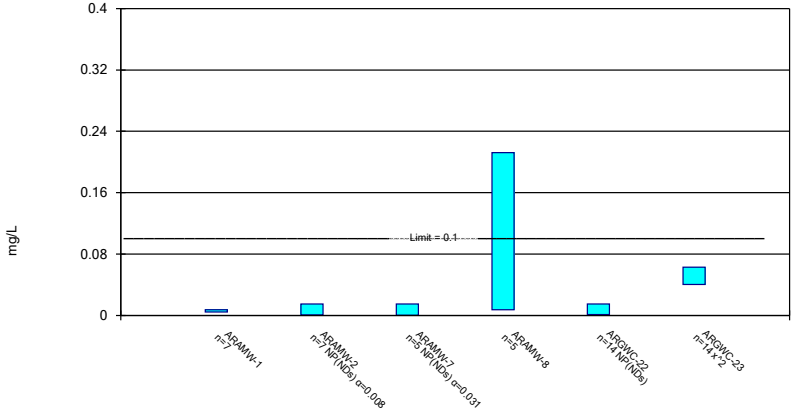
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Parametric and Non-Parametric (NP) Confidence Interval

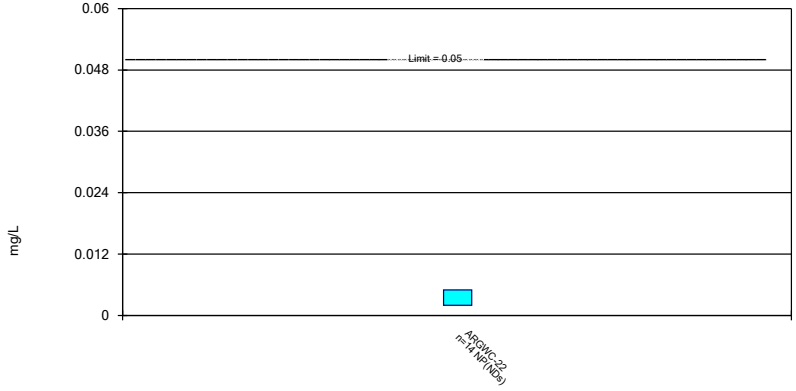
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Non-Parametric Confidence Interval

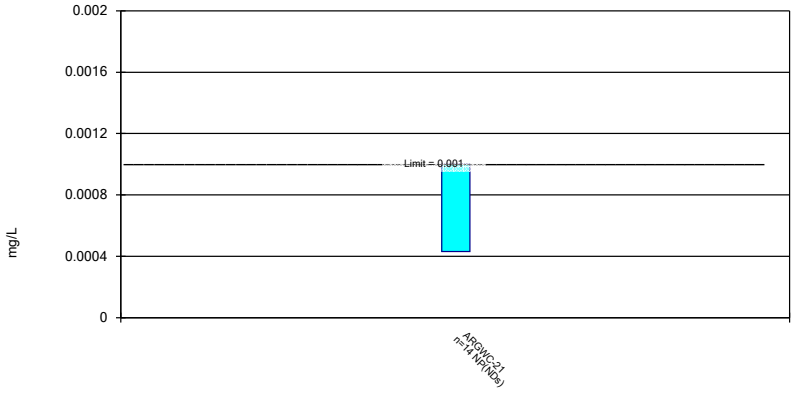
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Silver Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

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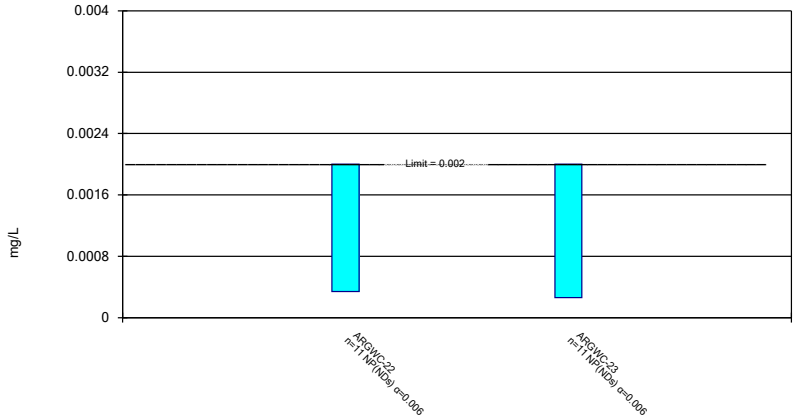
Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 10/28/2022 5:48 PM View: Appendix I & IV
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWC-21	ARGWC-22	ARGWC-23
6/23/2016					0.0011 (J)		
8/30/2016					0.002		
10/26/2016					0.0019 (J)		
1/25/2017					0.0017		
4/10/2017					0.002		
6/19/2017					0.0026		
10/24/2017					0.0021		
4/10/2018					0.0022		
10/16/2018					0.0021		
3/27/2019					0.0011 (J)		
8/20/2019					0.002		
10/8/2019					0.0012 (J)		
12/16/2019						0.00066 (J)	0.00075 (J)
1/14/2020						0.00038 (J)	0.00042 (J)
2/11/2020						0.0004 (J)	<0.005
3/9/2020						<0.005	<0.005
4/7/2020					0.00054 (J)	<0.005	<0.005
5/27/2020						<0.005	<0.005
7/15/2020						<0.005	<0.005
8/19/2020						<0.005	
8/20/2020	<0.005	0.084					<0.005
8/21/2020					<0.005		
9/22/2020						<0.005	<0.005
9/30/2020	<0.005					<0.005	
10/1/2020		0.0085			<0.005		<0.005
2/10/2021	<0.005				<0.005	<0.005	<0.005
2/11/2021		0.015	0.00075 (J)	0.00046 (J)			
9/8/2021					<0.005		
9/9/2021	<0.005			<0.005			<0.005
9/10/2021		0.044	<0.005			<0.005	
2/1/2022					<0.005		
2/2/2022			0.00035 (J)			<0.005	
2/3/2022	<0.005	0.0092		0.00031 (J)			0.0003 (J)
9/1/2022					0.00207 (J)		
9/2/2022	0.00233 (J)	0.0158		0.00206 (J)			
9/6/2022						<0.005	<0.005
9/7/2022			<0.005				
Mean	0.004555	0.02942	0.002775	0.001957	0.002611	0.004031	0.004034
Std. Dev.	0.00109	0.02977	0.002574	0.002177	0.001542	0.001926	0.001923
Upper Lim.	0.005	0.06933	0.001082	0.002457	0.005	0.005	0.005
Lower Lim.	0.00233	0.002366	0.0001741	-0.0008495	0.0012	0.00066	0.00075

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWC-21	ARGWC-22	ARGWC-23
6/23/2016					0.13		
8/30/2016					0.11		
10/26/2016					0.122		
1/25/2017					0.12		
4/10/2017					0.11		
6/19/2017					0.13		
10/24/2017					0.12		
4/10/2018					0.12		
10/16/2018					0.1		
3/27/2019					0.091		
8/20/2019					0.1		
10/8/2019					0.096		
12/16/2019						0.076	0.096
1/14/2020						0.071	0.075
2/11/2020						0.046	0.046
3/9/2020						0.039	0.14
4/7/2020					0.05	0.04	0.16
5/27/2020						0.054	0.18
7/15/2020						0.043	0.16
8/19/2020						0.046	
8/20/2020	0.055	0.14					0.16
8/21/2020					0.054		
9/22/2020						0.038	0.16
9/30/2020	0.052					0.033	
10/1/2020		0.075			0.051		0.17
2/10/2021	0.046				0.044	0.032	0.13
2/11/2021		0.09	0.037	0.092			
9/8/2021					0.045		
9/9/2021	0.051			0.094			0.12
9/10/2021		0.13	0.029			0.026	
2/1/2022					0.045		
2/2/2022			0.029			0.025	
2/3/2022	0.046	0.078		0.096			0.1
9/1/2022					0.0425		
9/2/2022	0.0445	0.0792		0.116			
9/6/2022						0.0226	0.0939
9/7/2022			0.0263				
Mean	0.04908	0.0987	0.03033	0.0995	0.08845	0.04226	0.1279
Std. Dev.	0.004176	0.02875	0.004628	0.01112	0.03396	0.01594	0.04046
Upper Lim.	0.05482	0.14	0.04083	0.116	0.12	0.05355	0.1566
Lower Lim.	0.04335	0.075	0.01982	0.092	0.05	0.03096	0.09926

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-7	ARGWC-22	ARGWC-23
12/16/2019		0.0005 (J)	0.00033 (J)
1/14/2020		0.00036 (J)	<0.0005
2/11/2020		0.00023	<0.0005
3/9/2020		0.00019	<0.0005
5/27/2020		0.00018 (J)	<0.0005
7/15/2020		<0.0005	<0.0005
8/19/2020		<0.0005	
8/20/2020			<0.0005
9/22/2020		<0.0005	<0.0005
9/30/2020		<0.0005	
10/1/2020			<0.0005
2/10/2021		<0.0005	<0.0005
2/11/2021	<0.0005		
9/9/2021			<0.0005
9/10/2021	<0.0005	<0.0005	
2/2/2022	<0.0005	<0.0005	
2/3/2022			<0.0005
9/6/2022		<0.0005	<0.0005
9/7/2022	0.000236 (J)		
Mean	0.000434	0.00042	0.0004869
Std. Dev.	0.000132	0.0001316	4.715E-05
Upper Lim.	0.0005	0.0005	0.0005
Lower Lim.	0.000236	0.00019	0.00033

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21	ARGWC-22
8/30/2016	<0.01	
10/26/2016	<0.01	
1/25/2017	<0.01	
4/10/2017	<0.01	
6/19/2017	<0.01	
10/24/2017	<0.01	
4/10/2018	<0.01	
10/16/2018	<0.01	
8/20/2019	0.0017 (J)	
10/8/2019	<0.01	
12/16/2019		<0.01
1/14/2020		<0.01
2/11/2020		0.0048
3/9/2020		<0.01
4/7/2020	<0.01	<0.01
5/27/2020		<0.01
7/15/2020		<0.01
8/19/2020		<0.01
8/21/2020	<0.01	
9/22/2020		<0.01
9/30/2020		<0.01
10/1/2020	<0.01	
2/10/2021	<0.01	<0.01
9/8/2021	<0.01	
9/10/2021		<0.01
2/1/2022	<0.01	
2/2/2022		<0.01
9/1/2022	<0.01	
9/6/2022		<0.01
Mean	0.009512	0.009629
Std. Dev.	0.002013	0.00139
Upper Lim.	0.01	0.01
Lower Lim.	0.0017	0.0048

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016					0.0018 (J)		
10/26/2016					0.0018 (J)		
1/25/2017					0.0017 (J)		
4/10/2017					0.0016 (J)		
6/19/2017					0.0021 (J)		
10/24/2017					0.0019 (J)		
4/10/2018					0.0019 (J)		
10/16/2018					0.0019 (J)		
8/20/2019					0.0023		
10/8/2019					0.0018		
12/16/2019						0.018	0.0023
1/14/2020						0.0072	0.0031
2/11/2020						0.013	0.00056
3/9/2020						0.015	0.00061 (J)
4/7/2020					0.00087	0.009	0.0016
5/27/2020						0.0059	0.0017 (J)
6/24/2020	0.00097 (J)	0.0027				0.0047	
6/25/2020					0.00097 (J)		0.0014 (J)
7/15/2020						0.0027	0.0017 (J)
8/19/2020						0.0032	
8/20/2020	0.001 (J)	0.0022 (J)					0.0023 (J)
8/21/2020					0.00066 (J)		
9/22/2020						0.0085	0.0036
9/30/2020	0.001 (J)					0.0055	
10/1/2020		0.0036			0.00082 (J)		0.0052
11/30/2020			0.028				
12/1/2020				0.0054			
2/10/2021	0.00082 (J)				0.00063 (J)	0.0015 (J)	0.00072 (J)
2/11/2021		0.0028	0.017	0.0061			
9/8/2021					0.0007 (J)		
9/9/2021	0.00072 (J)			0.0046			0.0009 (J)
9/10/2021		0.0022 (J)	0.075			0.0015 (J)	
2/1/2022					0.0007 (J)		
2/2/2022			0.077			0.001 (J)	
2/3/2022	0.00045 (J)	0.0028		0.0028			0.00063 (J)
9/1/2022					0.00069 (J)		
9/2/2022	0.000449 (J)	0.002		0.00292			
9/6/2022						0.00198	0.000588 (J)
9/7/2022			0.0737				
Mean	0.0007727	0.002614	0.05414	0.004364	0.00138	0.006579	0.001794
Std. Dev.	0.0002436	0.0005429	0.02917	0.001473	0.000598	0.005264	0.001336
Upper Lim.	0.001033	0.003259	0.077	0.006832	0.0019	0.01015	0.002489
Lower Lim.	0.0004779	0.001969	0.017	0.001896	0.0007	0.003011	0.0008917

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016					0.832		
10/26/2016					1.27		
1/25/2017					0.549		
4/10/2017					0.556		
6/19/2017					0.976		
10/24/2017					0.504		
4/10/2018					0.621		
10/16/2018					0.796		
8/20/2019					0.978		
10/8/2019					0.588		
12/16/2019						0.229 (U)	0.166 (U)
1/14/2020						0.783	0.869
2/11/2020						0.229 (U)	0.0291 (U)
3/9/2020						0.365	0.626
4/7/2020					0.433 (U)	0.567	0.296 (U)
5/27/2020						0.143 (U)	0.192 (U)
7/15/2020						0.97	0.279 (U)
8/19/2020						0.587 (U)	
8/20/2020	0.527	4.13					0.242 (U)
8/21/2020					0.472		
9/22/2020						0.884	0.0177 (U)
9/30/2020	0.249 (U)					0.602	
10/1/2020		2.86			0.496 (U)		0.749
2/10/2021	0.949				0.625	0.233 (U)	0.0408 (U)
2/11/2021		2.09	5.1	0.285 (U)			
9/8/2021					1.12		
9/9/2021	0.972			0.16 (U)			0.498
9/10/2021		3.4	4.23			0.713	
2/1/2022					0.331 (U)		
2/2/2022			4.48			0.195 (U)	
2/3/2022	1.04	2.69		0.51			0.248 (U)
9/1/2022					1.57		
9/2/2022	3.41	4.18		1.89			
9/6/2022						2.58	2.36
9/7/2022			4.29				
Mean	1.191	3.225	4.525	0.7113	0.7481	0.6486	0.4723
Std. Dev.	1.13	0.833	0.3979	0.7991	0.336	0.6196	0.6048
Upper Lim.	2.677	4.369	5.428	3.018	0.9586	0.9014	0.7214
Lower Lim.	0.1451	2.081	3.622	-0.051	0.5375	0.2728	0.1079

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016					0.099 (J)		
10/26/2016					0.57		
1/25/2017					0.12 (J)		
4/10/2017					0.11 (J)		
6/19/2017					0.11 (J)		
10/24/2017					0.1 (J)		
4/10/2018					0.094 (J)		
10/16/2018					0.17 (J)		
3/27/2019					0.05 (J)		
8/20/2019					0.098 (J)		
10/8/2019					0.065 (J)		
12/16/2019						0.026 (J)	0.18 (J)
1/14/2020						<0.1	0.21
2/11/2020						0.056	0.13
3/9/2020						0.064 (J)	0.089 (J)
4/7/2020					0.12	0.068 (J)	0.18
5/27/2020						0.06 (J)	0.25
6/24/2020	0.21	0.11				0.048 (J)	
6/25/2020					0.041 (J)		0.25
7/15/2020						0.04 (J)	0.28
8/19/2020						<0.1	
8/20/2020	0.23	<0.1					0.19
8/21/2020					0.084 (J)		
9/22/2020						0.049 (J)	0.33
9/30/2020	0.2					0.045 (J)	
10/1/2020		0.098 (J)			0.098 (J)		0.32
11/30/2020			0.044 (J)				
12/1/2020				0.14			
2/10/2021	0.21				0.14	0.055 (J)	0.41
2/11/2021		0.12	0.054 (J)	0.24			
9/8/2021					0.16		
9/9/2021	0.21			0.19			0.48
9/10/2021		0.13	0.032 (J)			0.035 (J)	
2/1/2022					0.11		
2/2/2022			<0.1			0.04 (J)	
2/3/2022	0.16	0.095 (J)		0.17			0.4
9/1/2022					0.161		
9/2/2022	0.18	0.146		0.206			
9/6/2022						0.056 (J)	0.362
9/7/2022			<0.1				
Mean	0.2	0.107	0.046	0.1892	0.1316	0.04947	0.2707
Std. Dev.	0.02309	0.03083	0.008602	0.03759	0.1116	0.01116	0.1117
Upper Lim.	0.2274	0.1436	0.0584	0.2522	0.16	0.05703	0.3464
Lower Lim.	0.1726	0.07038	0.02826	0.1262	0.084	0.0419	0.1951

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-7	ARGWC-21	ARGWC-22	ARGWC-23
6/23/2016		<0.002		
8/30/2016		<0.002		
10/26/2016		<0.002		
1/25/2017		<0.002		
4/10/2017		<0.002		
6/19/2017		<0.002		
10/24/2017		<0.002		
4/10/2018		<0.002		
10/16/2018		<0.002		
3/27/2019		<0.002		
8/20/2019		<0.002		
10/8/2019		0.00015 (J)		
12/16/2019			<0.002	<0.002
1/14/2020			0.00022 (J)	0.00018 (J)
2/11/2020			<0.002	0.00026 (J)
3/9/2020			<0.002	<0.002
4/7/2020		0.00026 (J)	0.00014 (J)	<0.002
5/27/2020			<0.002	<0.002
7/15/2020			<0.002	<0.002
8/19/2020			<0.002	
8/20/2020				<0.002
8/21/2020		<0.002		
9/22/2020			<0.002	<0.002
9/30/2020			<0.002	
10/1/2020		<0.002		<0.002
2/10/2021		<0.002	<0.002	<0.002
2/11/2021	0.00013 (J)			
9/8/2021		<0.002		
9/9/2021				<0.002
9/10/2021	<0.002		<0.002	
2/1/2022		<0.002		
2/2/2022	<0.002		<0.002	
2/3/2022				<0.002
9/1/2022		<0.002		
9/6/2022			<0.002	<0.002
9/7/2022	<0.002			
Mean	0.001533	0.001811	0.00174	0.001746
Std. Dev.	0.000935	0.0005663	0.0006611	0.0006466
Upper Lim.	0.002	0.002	0.002	0.002
Lower Lim.	0.00013	0.00026	0.00022	0.00026

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWC-21	ARGWC-22	ARGWC-23
8/30/2016					0.0092		
10/26/2016					0.0071 (J)		
1/25/2017					0.0087		
4/10/2017					0.0074		
6/19/2017					0.0079		
10/24/2017					0.0097		
4/10/2018					0.012		
10/16/2018					0.01		
8/20/2019					0.0098		
10/8/2019					0.015		
12/16/2019						0.027	0.02
1/14/2020	0.009	0.086				0.034	0.022
2/11/2020						0.01	0.0078
3/9/2020						0.0071	0.013
4/7/2020					0.011	0.012	0.032
5/27/2020						0.017	0.037
6/24/2020	0.0084	0.018				0.023	
6/25/2020					0.013		0.043
7/15/2020						0.021	0.042
8/19/2020						0.026	
8/20/2020	0.0066	0.036					0.036
8/21/2020					0.013		
9/22/2020						0.014	0.039
9/30/2020	0.0091					0.014	
10/1/2020		0.019			0.012		0.04
11/30/2020			0.061				
12/1/2020				0.0044 (J)			
2/10/2021	0.0097				0.012	0.022	0.044
2/11/2021		0.021	0.061	0.0055			
9/8/2021					0.012		
9/9/2021	0.0095			0.0062			0.045
9/10/2021		0.025	0.06			0.021	
2/1/2022					0.012		
2/2/2022			0.06			0.02	
2/3/2022	0.0099	0.021		0.0063			0.052
9/1/2022					0.0116		
9/2/2022	0.0097 (J)	0.0232		0.00654 (J)			
9/6/2022						0.0136	0.0578
9/7/2022			0.0634				
Mean	0.008988	0.03115	0.06108	0.005788	0.01074	0.01878	0.03537
Std. Dev.	0.00108	0.02287	0.00139	0.000867	0.002151	0.007201	0.01408
Upper Lim.	0.009965	0.086	0.06341	0.007241	0.01205	0.02366	0.04491
Lower Lim.	0.008012	0.018	0.05875	0.004335	0.009443	0.0139	0.02584

Confidence Interval

Constituent: Mercury (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21
8/30/2016	<0.0002
10/26/2016	<0.0002
1/25/2017	7.3E-05 (J)
4/10/2017	<0.0002
6/19/2017	<0.0002
10/24/2017	<0.0002
4/10/2018	<0.0002
10/16/2018	<0.0002
8/20/2019	<0.0002
8/21/2020	<0.0002
9/8/2021	<0.0002
2/1/2022	<0.0002
9/1/2022	<0.0002
Mean	0.0001902
Std. Dev.	3.522E-05
Upper Lim.	0.0002
Lower Lim.	7.3E-05

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARGWC-22	ARGWC-23
12/16/2019					0.0018 (J)	0.025
1/14/2020					0.0012 (J)	0.032
2/11/2020					0.00093	0.021
3/9/2020					0.00067	0.013 (J)
5/27/2020					<0.015	0.048
6/24/2020	0.0051 (J)	<0.015			<0.015	
6/25/2020						0.055
7/15/2020					<0.015	0.055
8/19/2020					<0.015	
8/20/2020	0.0076 (J)	0.0013 (J)				0.061
9/22/2020					<0.015	0.053
9/30/2020	0.0054 (J)				<0.015	
10/1/2020		<0.015				0.064
11/30/2020			0.0012 (J)			
12/1/2020				0.056		
2/10/2021	0.0043 (J)				<0.015	0.063
2/11/2021		<0.015	<0.015	0.038		
9/9/2021	0.0059 (J)			0.12		0.071
9/10/2021		<0.015	<0.015		<0.015	
2/2/2022			<0.015		<0.015	
2/3/2022	0.0049 (J)	<0.015		0.16		0.065
9/2/2022	0.00785	0.000603 (J)		0.175		
9/6/2022					0.000203 (J)	0.067
9/7/2022			0.000379 (J)			
Mean	0.005864	0.01099	0.009316	0.1098	0.009986	0.0495
Std. Dev.	0.001362	0.006858	0.007789	0.06108	0.006989	0.01893
Upper Lim.	0.007482	0.015	0.015	0.2122	0.015	0.06275
Lower Lim.	0.004246	0.000603	0.000379	0.007443	0.00093	0.04036

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-22
12/16/2019	<0.005
1/14/2020	<0.005
2/11/2020	<0.005
3/9/2020	<0.005
4/7/2020	<0.005
5/27/2020	<0.005
7/15/2020	<0.005
8/19/2020	<0.005
9/22/2020	<0.005
9/30/2020	<0.005
2/10/2021	<0.005
9/10/2021	0.002 (J)
2/2/2022	<0.005
9/6/2022	<0.005
Mean	0.004786
Std. Dev.	0.0008018
Upper Lim.	0.005
Lower Lim.	0.002

Confidence Interval

Constituent: Silver (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-21
6/23/2016	<0.001
10/26/2016	<0.001
4/10/2017	<0.001
10/24/2017	<0.001
4/10/2018	<0.001
10/16/2018	<0.001
3/27/2019	<0.001
10/8/2019	0.00043 (J)
4/7/2020	<0.001
10/1/2020	<0.001
2/10/2021	<0.001
9/8/2021	<0.001
2/1/2022	<0.001
9/1/2022	<0.001
Mean	0.0009593
Std. Dev.	0.0001523
Upper Lim.	0.001
Lower Lim.	0.00043

Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 10/28/2022 5:49 PM View: Appendix I & IV

Plant Arkwright Client: Southern Company Data: Arkwright No 2

	ARGWC-22	ARGWC-23
12/16/2019	0.00078 (J)	<0.002
1/14/2020	0.00027 (J)	<0.002
2/11/2020	0.00034	0.00028 (J)
3/9/2020	0.00035 (J)	0.00026 (J)
5/27/2020	<0.002	0.00026 (J)
7/15/2020	<0.002	<0.002
8/19/2020	<0.002	
8/20/2020		<0.002
9/22/2020	<0.002	<0.002
9/9/2021		<0.002
9/10/2021	<0.002	
2/2/2022	<0.002	
2/3/2022		<0.002
9/6/2022	<0.002	<0.002
Mean	0.001431	0.001527
Std. Dev.	0.0007998	0.0008097
Upper Lim.	0.002	0.002
Lower Lim.	0.00034	0.00026

FIGURE J.

Appendix IV Trend Tests - Confidence Interval Exceedances - All Results (No Significant)

Plant Arkwright Client: Southern Company Data: Arkwright No 2 Printed 10/10/2022, 1:03 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt (mg/L)	ARAMW-7	0.03097	4	12	No	5	0	n/a	n/a	0.01	NP
Cobalt (mg/L)	ARGWA-19 (bg)	0	-11	-68	No	18	77.78	n/a	n/a	0.01	NP
Cobalt (mg/L)	ARGWA-20 (bg)	0	-33	-68	No	18	55.56	n/a	n/a	0.01	NP
Lithium (mg/L)	ARAMW-7	0	0	12	No	5	0	n/a	n/a	0.01	NP
Lithium (mg/L)	ARGWA-19 (bg)	-0.0002785	-47	-68	No	18	5.556	n/a	n/a	0.01	NP
Lithium (mg/L)	ARGWA-20 (bg)	0	-10	-68	No	18	77.78	n/a	n/a	0.01	NP

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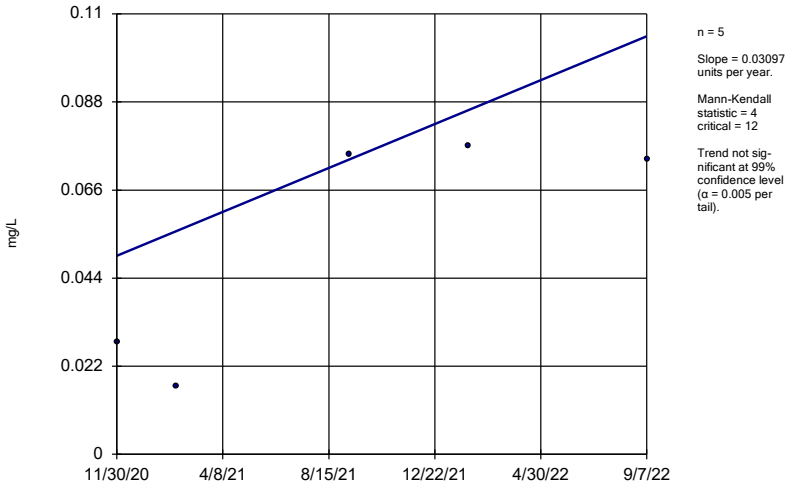
Sen's Slope Estimator

ARAMW-7



n = 5

Slope = 0.03097 units per year.

Mann-Kendall statistic = 4 critical = 12

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

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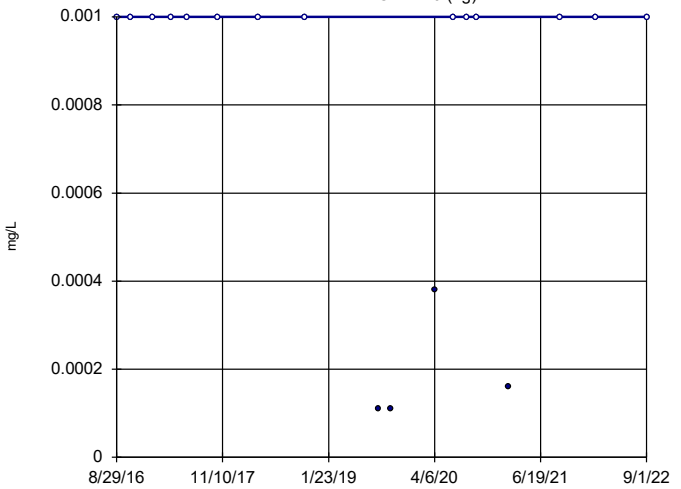
Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-19 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = -11 critical = -68

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

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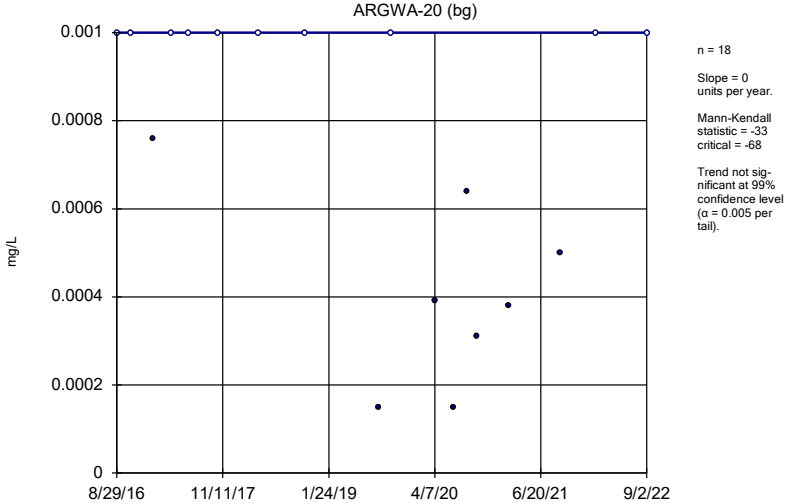
Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-20 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = -33 critical = -68

Trend not significant at 99% confidence level (α = 0.005 per tail).

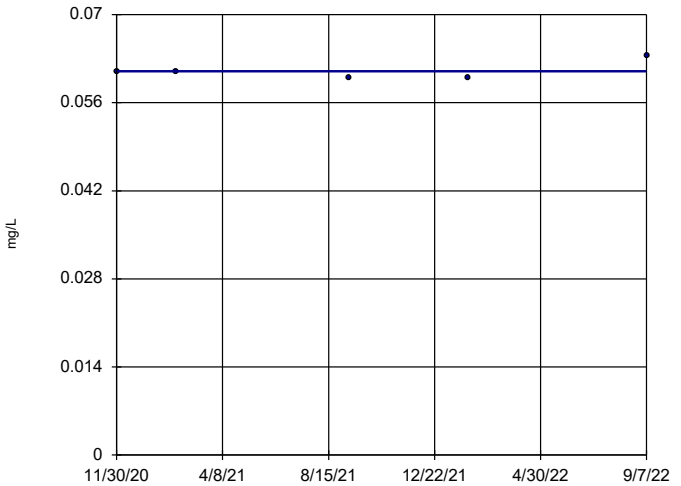
Constituent: Cobalt Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARAMW-7



n = 5

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 12

Trend not significant at 99% confidence level (α = 0.005 per tail).

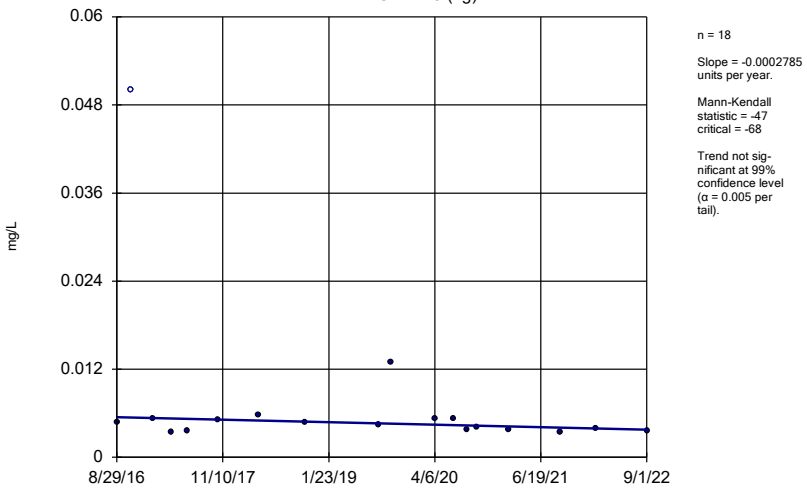
Constituent: Lithium Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-19 (bg)



n = 18

Slope = -0.0002785 units per year.

Mann-Kendall statistic = -47
critical = -68

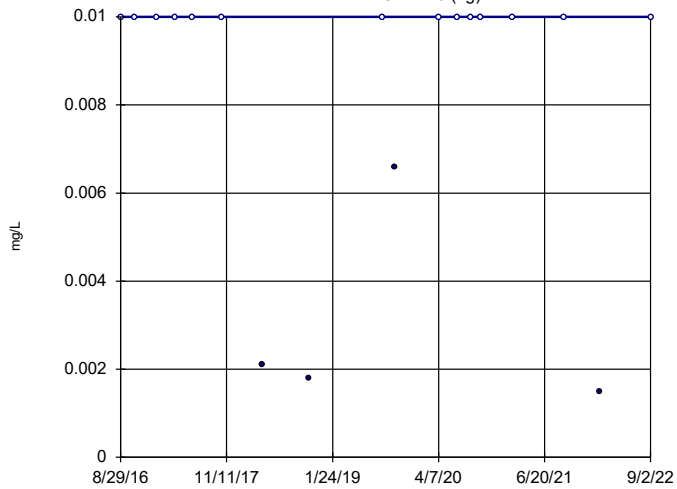
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-20 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = -10
critical = -68

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

APPENDIX E
SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

February 28, 2023

Prepared for:

Georgia Power

Prepared by:
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CERTIFICATION STATEMENT

This Semi-Annual Remedy Selection and Design Progress Report, Georgia Power Company – Plant Arkwright, Ash Pond 2 Dry Ash Stockpile (AP-2 DAS), Macon, Georgia, has been prepared in accordance with the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10(6)(a). This report describes the progress made during the second semi-annual period of 2022 in selecting and designing a remedy previously documented in the Assessment of Corrective Measures Report – Plant Arkwright, Ash Pond 2 Dry Ash Stockpile. This report was prepared under the supervision of a licensed professional engineer and a licensed professional geologist with Stantec Consulting Services Inc. I hereby certify that I am a qualified groundwater scientist, in accordance with the Georgia Rules of Solid Waste Management, and 40 CFR Part 258.50(g).

Jennifer Kolbe, Ph.D., P.E.
Principal

GEORGIA REGISTERED No. PE034643 PROFESSIONAL ENGINEER JENNIFER L. KOLBE

2/28/2023
Date

Brian Steele, P.G.
Senior Geologist

BRIAN STEELE GEORGIA REGISTERED PROFESSIONAL GEOLOGIST 2/28/23 No. PG002171

2/28/23
Date

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Acronyms / Abbreviations

40 CFR	Title 40 Code of Federal Regulations
ACM	Assessment of Corrective Measures
AP-2	Ash Pond-2
AP-2 DAS	Ash Pond-2 Dry Ash Stockpile
bgs	below ground surface
CCR	Coal Combustion Residuals
CCR Rule	Coal Combustion Residuals Rule
CSM	Conceptual Site Model
GA EPD	Georgia Environmental Protection Division
GWPS	Groundwater Protection Standard
mg/L	milligrams per liter
mL/min	milliliters per minute
mL	milliliters
MNA	Monitored Natural Attenuation
ORP	Oxidation-Reduction Potential
PRB	Permeable Reactive Barrier
SEP	Sequential Extraction Procedure
SSL	Statistically Significant Level
US EPA	United States Environmental Protection Agency
XRD	X-ray diffraction
XRF	X-ray fluorescence

1 Introduction

1.1 Purpose

This Semi-Annual Remedy Selection and Design Progress Report (Semi-Annual Progress Report) was prepared for the Georgia Power Company (Georgia Power) Plant Arkwright Ash Pond 2 Dry Ash Stockpile (AP-2 DAS) in accordance with the Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10(6)(a). To specify groundwater monitoring requirements for coal combustion residuals (CCR) management units, GA EPD Rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (US EPA) rule Title 40 Code of Federal Regulations (40 CFR) § 257 Subpart D (CCR Rule). For ease of reference, the US EPA CCR Rule is cited within this report. This semi-annual progress report describes the progress made during the period of July to December 2022 in selecting and designing a remedy and updates the progress since the Semi-Annual Progress Report submitted in July 2022 (Stantec, 2022a).

The purpose of this semi-annual progress report is to document the process of selecting corrective measures for groundwater as provided in the Assessment of Corrective Measures (ACM) Report, Georgia Power Company – Plant Arkwright Ash Pond 2 Dry Ash Stockpile (Wood, 2020a). This process is typically iterative and may be composed of multiple steps to analyze the effectiveness of corrective measures to improve groundwater quality. Once potential corrective measures are identified, they are further evaluated using the criteria outlined in 40 CFR § 257.96(c). Additional details are provided within the ACM Report and the cited state and federal regulations. Pursuant to 40 CFR § 257.96(a), semi-annual progress reports have been regularly submitted to document the efforts of evaluating and progressing towards selecting a groundwater corrective measure (Wood, 2021a, 2021b, and 2022a, Stantec 2022a).

1.2 Site-Background and Overview of Ash Pond Closure

Plant Arkwright is located in Bibb County, Georgia approximately 6 miles northwest of the city of Macon (Figure 1). Arkwright Ash Pond-2 (AP-2 DAS) was in operation in the 1950s and was estimated to be closed in-place in the late 1970s to early 1980s. Soil was placed over AP-2 DAS as a closure measure. Georgia Power officially closed the AP-2 DAS in 2010 by removing ash from the former Ash Pond 2 (AP-2), located directly east of AP-2 DAS, with GA EPD's approval and in accordance with the solid waste landfill regulations specified by GA EPD Rule 391-3-4, in effect at the time of its closure. The CCR management unit referred to as AP-2 DAS is defined as an inactive CCR Landfill per GA EPD Rule 391-3-4-.10(2)(a)(3).

AP-2 DAS is exempt from the requirements in the CCR Rule – Standard for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, 40 CFR §257.50 (d) and (e), which states that the subpart does not apply to CCR landfills that have ceased receiving CCR material prior to October 19, 2015. These CCR units are, however, subject to the requirements of relevant portions of Georgia EPD 391-3-4-.10.

Georgia Power has elected to remove the CCR material from the AP-2 DAS. The CCR material will be excavated from the AP-2 DAS area and will be placed in a new, lined landfill that will be constructed at Plant Arkwright. Georgia Power intends to replace the permit application currently before GA EPD to reflect this change pending approval of the proposed landfill permit. The AP-2 DAS area will be regraded and vegetated after removal of CCR material. The closure of AP-2 DAS by the removal of CCR material will provide source control that substantially eliminates the potential for migration of CCR constituents to groundwater. Corrective measures discussed in this report are being evaluated to address statistically significant levels (SSLs) of certain CCR Rule Appendix IV constituents in groundwater at the CCR management unit boundary.

1.3 Regulatory Program Status and Nature and Extent

Georgia Power initiated an ACM for AP-2 DAS on July 9, 2020, pursuant to 40 CFR § 257.96(b). An ACM Report was prepared and submitted to GA EPD in December 2020 (Wood, 2020a).

Statistical analysis of the August-September 2022 semi-annual assessment monitoring groundwater data identified the following SSLs at concentrations exceeding or equal to the state or federal GWPS. Details are provided in the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report (Stantec, 2023).

AP-2 DAS:

- Lithium: ARAMW-7
- Cobalt: ARAMW-7

Cobalt was identified as a new constituent showing SSL in well ARAMW—7 following statistical analyses of the August-September 2022 sampling data.

The groundwater data from the August-September 2022 semi-annual assessment monitoring event were used to generate the lithium and cobalt iso-concentration maps presented on Figures 4 and 5. Groundwater sampling results are provided in Table 5 of the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report (Stantec, 2023).

Due to the close proximity of Beaverdam Creek in the downgradient direction of ARAMW-7, further well installation was infeasible for spatial delineation of cobalt and lithium. Alternatively, to assess the downgradient extent of lithium and cobalt concentrations, Georgia Power collected surface water samples in August 2022 from five locations along Beaverdam Creek. The surface water sampling locations are shown on Figure 2. Based on these results, no impacts to surface water have been detected. Locations BC-0.5.5, BC-0.5.6 and BC-0.5.7 horizontally delineate lithium and cobalt. Surface water sampling results are provided in Table 6 of the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report (Stantec, 2023).

Based on GA EPD guidance, wells with SSLs were further evaluated by Groundwater Stats Consulting using the Sen's Slope/Mann Kendall trend test (Appendix A). The full report generated from the statistical

analyses is provided in Appendix D of the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report (Stantec, 2023).

Time series plots for cobalt and lithium in assessment well ARAMW-7 included in Appendix D of the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report (Stantec, 2023) do not show significant trends for cobalt or lithium in well ARAMW-7 (Appendix A).

Georgia Power continues to monitor the groundwater at AP-2 DAS during the ACM phase in accordance with the GA EPD CCR Rule assessment monitoring program.

1.4 Corrective Measures Evaluated

As discussed in the 2020 ACM Report (Wood, 2020a), the following corrective measures were considered potentially feasible for use at AP-2 DAS. A comparative screening of the corrective measures is provided in Table 2.

1. Geochemical Manipulation (In-Situ Injection)
2. Hydraulic Containment (Pump and Treat)
3. Monitored Natural Attenuation (MNA)
4. Permeable Reactive Barrier (PRB)
5. Phytoremediation/TreeWell®
6. Subsurface Vertical Barrier Walls

Subsurface vertical barrier wall corrective measure has since been removed from consideration based on data evaluations presented in the February 2021 semi-annual progress report (Wood, 2021a). Because of limited physical space between AP-2 and Beaverdam Creek, installation of a phytoremediation system is not possible during closure-construction of AP-2. However, following the removal of CCR from AP-2, the phytoremediation option is being considered in this evaluation with the assumption that there will be space available for its installation in the near future.

Georgia Power proactively initiated adaptive site management as outlined in the ACM Report (Wood, 2020a) to support the groundwater remedy selection process and address potential changes in Site conditions as appropriate during the ash pond closure. The adaptive site management approach takes existing Site conditions, including natural attenuation mechanisms into account.

Characterization activities to evaluate natural attenuation mechanisms at AP-2 DAS included collection of data to evaluate the existing and long-term effectiveness of these processes in the aquifer and reduce uncertainty for decision-making at each screening step, as listed in the US EPA guidelines for MNA of inorganic constituents (US EPA, 1999, 2007, 2015). The 1999 MNA guidance originally introduced the “tiered approach” with three tiers of site-specific information, or lines of evidence, to evaluate use of MNA at certain sites (US EPA, 1999). In 2007, the US EPA issued MNA technical guidance specific to

inorganic contaminants (US EPA, 2007) that contained four "tiers." The 2015 MNA guidance retains these four "tiers," but describes them as "phases" as discussed below (US EPA, 2015). This 2015 MNA document for inorganic contaminants expands on and is designed to be a companion to the 1999 and 2007 MNA guidance.

> Phase I: Demonstration that the groundwater plume is not expanding.
>
> Phase II: Determination that the mechanism and rate of the attenuation process are sufficient.
>
> Phase III: Determination that the capacity of the aquifer is sufficient to attenuate the mass of the constituent of interest within the plume and the stability of the immobilized constituent is sufficient to resist re-mobilization.
>
> Phase IV: Design of a performance monitoring program based on an understanding of the mechanism of the attenuation process, and establishment of contingency remedies tailored to site-specific characteristics.

Georgia Power will address Phase IV during the development of the future corrective action monitoring plan after the final remedy selection report is submitted.

The data collection approach and the data interpretation presented within this semi-annual progress report are informed by this phased MNA guidance. The characterization data collected under this approach are also used to refine the conceptual site model (CSM) and evaluate other retained potential corrective measures.

1.5 Risk Evaluation

In addition to the assessment monitoring program at the Site, Georgia Power conducted a human health and ecological risk evaluation in December 2020 to evaluate cobalt SSLs in groundwater at AP-2 DAS. The risk evaluation provides one of many lines of evidence that will be assessed and factored into the remedy selection process, which will be completed in accordance with 40 CFR § 257.97. Based on this risk evaluation, concentrations of constituents detected in groundwater at AP-2 DAS between August 2016 and March 2020 are not expected to pose a risk to human health or the environment. Cobalt data collected since March 2020 are consistent with data used in the risk evaluation; therefore, the conclusion provided in the 2020 Risk Evaluation Report (Wood 2020c) is supported by current conditions. The risk evaluation will be updated to include lithium, and the results will be submitted with the Remedy Selection Report.

As requested by GA EPD to identify potential users of groundwater in the area, an updated well survey of potential groundwater wells within a two-mile radius of AP-2 DAS was conducted and consisted of reviewing federal, state, county records, and online sources. The findings from this survey are consistent with the previous well survey conducted in 2022 (Wood, 2022a). The survey is included in Appendix B.

2 Summary of Work Completed

The following sections summarize the field investigations and data evaluations completed in support of remedy selection since the issuance of the Semi-Annual Remedy Selection and Design Progress Report – Georgia Power Company Plant Arkwright AP-2 Dry Ash Stockpile in July 2022 (Stantec, 2022a). The routine assessment monitoring event conducted in August-September 2022, including groundwater gauging and sampling and surface water sampling in Beaverdam Creek, is discussed in the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report (Stantec, 2023).

2.1 Groundwater Sampling

In September and October 2022, groundwater samples were collected from detection and assessment monitoring wells and analyzed for Appendix I (silver), Appendix III and Appendix IV constituents. Additional parameters (aluminum, bicarbonate and carbonate alkalinity, iron, manganese, magnesium, potassium, and sodium) were also analyzed in support of evaluating the geochemical composition of the groundwater in the overburden and bedrock for the purpose of evaluating potential natural attenuation mechanisms. Results of this sampling event are provided in the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report (Stantec, 2023). Georgia Power will continue to monitor the assessment wells and adaptively manage the Site as new data become available.

2.2 Porewater Sampling

A porewater sample was attempted to be collected from AP-2 DAS piezometer STN-TW22 after its installation during a geotechnical exploration drilling program in September 2022. However, due to insignificant porewater (< 0.35 ft of water column), no samples were collected. The piezometer was installed approximately 1.2 feet above the bottom of the CCR material and screened entirely within the CCR; the location is shown on Figure 2. Groundwater levels in this piezometer will be measured in future events and a sampling will be attempted if there is sufficient saturation for collection of representative porewater samples.

2.3 Assessment Well Installation

Vertical assessment well ARAMW-9 was installed on October 7, 2022, approximately 20 feet to the east of ARAMW-7 to vertically delineate the SSLs for cobalt and lithium in ARAMW-7. The location of ARAMW-9 is shown on Figure 2. The piezometer installation report was submitted to GA EPD on December 8, 2022 (Stantec 2022b) and is provided in Appendix C of the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report (Stantec, 2023). The piezometer is screened in bedrock from 92.4 to 102.4 feet below ground surface (bgs) and provides approximately 44 feet of vertical separation beneath the bottom of the screened interval of adjacent bedrock well ARAMW-7, screened from 37.83 to 47.83 feet bgs.

2.4 Bedrock Sampling and Geochemical Characterization

Samples for geochemical characterization were collected from the borehole of ARAMW-9. One bedrock sample was collected from 41 to 41.3 feet bgs that corresponded to the screened interval (38 feet bgs to 48 feet bgs) at adjacent piezometer ARAMW-7, and a second bedrock sample was collected from the screened interval of ARAMW-9 (95 to 96.6 and 100.7 to 102 feet bgs). The samples were collected in the field using the rotosonic rock coring technique, placed in a 2-gallon resealable bag, preserved on ice, and shipped to SGS Canada Inc. The geochemical characterization analyses consisted of quantitative X-ray diffraction (XRD) with Rietveld refinement, total metals, sequential extraction procedure (SEP), and X-ray fluorescence (XRF).

The purpose of the XRD mineralogical evaluation is to determine if there are geochemically reactive minerals present in the geologic material and to evaluate attenuation mechanisms at AP-2 DAS in conjunction with results of the SEP. SEP results were not received from the laboratory at the time of this report and will be included in the subsequent semi-annual report.

2.5 Groundwater Sampling for Treatability Testing

Groundwater was collected from well ARAMW-9 in October 2022 to support evaluation of *in situ* treatment technologies for cobalt in groundwater in this general area of the Site.

Stantec collected 20 gallons of groundwater from monitoring well ARAMW-9 to support this bench scale testing. Sampling procedures were conducted in accordance with US EPA Region 4 Laboratory Services and Applied Science Division operating procedures. The groundwater for treatability testing was collected in mass volume Cubitainers®, using the low-flow sampling technique with a flow rate of 500 milliliters per minute (mL/min).

Prior to sample collection, the well was purged until three well volumes were removed. Once the well had recharged sufficiently to collect the required volume, field parameters were recorded using a flow-through cell prior to filling of the first container. The flow-through cell was detached once recording of field parameter readings was complete. Then, new tubing was attached to the end of the dedicated tubing and placed at the bottom of the sample container to fill the container from the bottom up. Groundwater was pumped into each 2.5-gallon container at a flow rate that limited aeration of the groundwater. The container was filled completely to eliminate headspace and allowed to overflow slightly prior to capping. The containers were labeled with the well ID, date, and numbered sequentially. Containers were placed on ice within 15 minutes of filling.

Treatability testing is currently underway at the Terra Systems Inc. (TSI) contract laboratory. Results will be reported in a subsequent semi-annual report.

3 Summary of Results

3.1 Groundwater Analysis

The groundwater analytical data as described in Section 2.1 from the AP-2 DAS is summarized in Table 3. The laboratory reports for the groundwater samples collected in August-September 2022 are provided in the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report (Stantec, 2023).

The suite of major cations and anions collected in September-October 2022 were assessed using Stiff and Piper diagrams to further characterize the groundwater at AP-2 DAS and evaluation of the corrective measures presented in this report. Stiff diagrams for the groundwater results are presented in Figures 6 and 7. Piper diagrams for the September-October 2022 sampling event are presented in Figure 8. The concentration level of each Stiff diagram corresponds to overall ionic strength and the shape reflects ratios of cations and anions.

The chemical composition of groundwater at AP-2 is represented over a broad range, from a calcium-bicarbonate type water to calcium-sulfate type water as demonstrated by the September 2022 groundwater sampling event (Figure 8). Monitoring well ARGWWA-9 is an exception showing a mixed calcium-sodium-sulfate type water.

Overall, the upgradient water reflects a calcium-bicarbonate type water with lesser amounts of sodium and sulfate, whereas the downgradient water ranges from a mixed-type to calcium-sulfate type water. A high degree of similarity is observed between the overburden and bedrock wells (as depicted by open and closed symbols in Figure 8, respectively). Well cluster, ARGWC-22/ARAMW-7 show calcium-sulfate type water that is distinct from well cluster ARGWC-21/ARAMW-1/ARAMW-2, and the well cluster ARGWC-22/ARAMW-7. Groundwater composition reflects an evolution from calcium-sulfate type water in the northwest to calcium bicarbonate type in southwestern corner of AP-2, parallel to Beaverdam Creek. Thus, groundwater chemical composition approaches the upgradient (background) chemical composition as groundwater exits the AP-2 area near the southwest.

Vertical assessment well ARAMW-9 shows groundwater chemical composition that is richer in sodium and having a pH of 7.8, which is about 2 pH units higher and substantially more chemically reduced (indicated by negative oxidation reduction potential) than the shallow wells (ARGWC-21 and ARAMW-7). This well shows a groundwater signature significantly different than the shallow wells and possibly reflects a deeper and older groundwater signature due to its higher pH and sodium content in combination with a reduced redox signature.

3.2 Vertical Delineation of Cobalt and Lithium in ARAMW-7

Vertical delineation piezometer ARAMW-9 was sampled on October 20, 2022 and analyzed for Appendix I (silver), Appendix III, Appendix IV constituents and additional parameters (aluminum, bicarbonate and carbonate alkalinity, iron, manganese, magnesium, potassium, and sodium). The results are shown on Table 3. As shown in Figures 4 and 5, the nature and extent delineation for lithium and cobalt in ARAMW-7 is complete based on sampling results below the GWPS from vertical delineation piezometer (ARAMW-9) and surface water sampling. Statistical analyses for cobalt and lithium concentrations in ARAMW-9 will be completed following the collection of four sampling data points.

3.3 Geochemical Characterization Results

Geochemical characterization results are presented in Table 4. A summary of results is discussed below. Laboratory results are included in Appendix C.

3.3.1 TOTAL METALS RESULTS

The bedrock samples contained considerable iron and aluminum with some manganese indicating the potential for metal attenuation, with the deeper interval containing slightly higher concentrations of these elements. The cobalt concentration is similar at both depths. Concentrations of lithium are higher in the deeper zone. Iron and cobalt are relatively low in the rock sample ranging in concentration from 22,000 to 29,000 mg/kg and 7 mg/kg, compared with average crustal abundances of 50,000 mg/kg and 25 mg/kg, respectively (Smith and Huyck, 1999). However, lithium concentrations measured from 17 to 22 mg/kg are comparable to average crustal concentrations (25 and 30 mg/kg, respectively).

3.3.2 XRF RESULTS

Whole-rock analysis by XRF on the sample from well ARAMW-9 reflect a felsic rock composition in the deep bedrock near the well cluster ARGWC-21/ARAMW-7. Results indicate the whole rock composition is primarily silica with aluminum as the next dominant oxides.

3.3.3 XRD RESULTS

Results of the XRD are presented in Table 4 and in the laboratory report included in Appendix C. The mineralogy of the screened interval at ARAMW-7 was represented by the sample collected from a depth of 41 feet bgs at ARAMW-9, while the sample collected at 95 feet bgs represents the screened interval at ARAMW-9. The mineralogy is similar between the two sample depths consisting primarily of quartz (31-33 percent) and the feldspars, albite (45-46 percent) and microcline (14 percent). There are minimal secondary clay minerals comprised of kaolinite (0.5 percent). This minerology is consistent with unweathered fractured bedrock rock.

4 Updated Conceptual Site Model

Georgia Power has elected to remove the CCR material from AP-2 DAS. The CCR material will be excavated from the AP-2 DAS area and will be placed in a new, lined landfill that will be constructed at Plant Arkwright. The closure of AP-2 DAS by the removal of CCR material provides source control that substantially eliminates the potential for migration of CCR constituents to groundwater. The following bullets summarize the current understanding of the CSM within the context of selecting an appropriate groundwater corrective measure for the AP-2 DAS.

- Groundwater level monitoring data collected in 2020 through December 2022 from the Site monitoring wells and delineation piezometers show stable water level trends. The potentiometric surface maps reflect groundwater generally flowing across AP-2 DAS toward the south to Beaverdam Creek, which is consistent with previous observations.
- Lithium and cobalt are the only CCR Rule Appendix IV constituents having SSLs in groundwater, at a single well location (ARAMW-7) which are delineated vertically (ARAMW-9) and horizontally in surface water.
- The SEP previously conducted for select samples (collected adjacent to ARGWA-20, ARAMW-7, ARGWC-21, and ARGWC-23) suggests that the presence of lithium appears to be predominantly associated with the organic fraction in the soil, and with the recalcitrant acid/sulfide and residual fractions. Lithium associated with these phases is less likely to be mobilized to groundwater. Less than 10 percent of the total lithium is present in the carbonate and hydroxide phases, which may mobilize lithium to groundwater at both upgradient and downgradient locations.

5 Updated Evaluation of Corrective Measures

Since the submission of the ACM report in December 2020, semi-annual progress updates are provided along with the groundwater monitoring reports. The progress reports provide updated evaluation of corrective measures as additional data are collected and evaluated. Of the six potential corrective measures for groundwater remediation presented in the ACM report, one option, namely, vertical barrier wall, is currently eliminated from further evaluation. The other five potential corrective measures are retained for further evaluation as shown in Table 2. Phytoremediation and PRB were previously eliminated as potential options due to limited physical space between AP-2 and Beaverdam Creek, these options are included in the current evaluations for reasons noted its respective section below. Data collected during the past six months related to remedy selection reported in the current progress report have not resulted in the elimination of additional corrective measures. Therefore, the following corrective measures will be retained for further evaluation.

5.1 Geochemical Approaches (In-Situ Injection)

In-situ treatment can be accomplished through means of reagent injections which constitutes a remediation technology for inorganic constituents such as cobalt. Cobalt can be precipitated or immobilized under different combinations of pH and redox conditions. Lithium, however, because of its low reactivity and high solubility is not amenable to precipitation or immobilization involving manipulation of pH and redox conditions, but lithium may be sorbed to aluminum and iron oxides as well as clay minerals. To understand the biogeochemical processes that would effectively immobilize target constituents in groundwater, site-specific bench-scale treatability studies are currently being conducted to evaluate the viability of various treatment reagents to enhance or create conditions suitable for the precipitation or sorption of these constituents without mobilizing other naturally occurring constituents. The determination of the appropriate deployment technology will be determined after laboratory proof of concept and with consideration of the reagent disposition and site-specific constraints. Therefore, in-situ treatment is a potentially viable corrective measure for cobalt and lithium in groundwater at AP-2 DAS and will be retained for further evaluation.

5.2 Hydraulic Containment (Pump and Treat)

Hydraulic containment refers to the use of groundwater extraction to induce a hydraulic gradient for hydraulic capture or control of the migration of impacted groundwater downgradient of the unit. This approach uses extraction wells or trenches to capture groundwater, which may subsequently require above-ground treatment and permitted discharge to a receiving water body or sewer system, reinjection into the aquifer, or reuse at the Site. Groundwater pump and treat is often relatively slow as a means to restore groundwater quality over a long-term period, but can be effective as an interim measure, or combined with another measure, to provide hydraulic containment to limit constituent migration toward a potential receptor.

Groundwater extraction for hydraulic control can often effectively address the variety of inorganic constituents encountered at CCR sites. Extraction technologies may be more efficient for conservative species, such as lithium, which are not readily attenuated by other mechanisms (e.g., precipitation, adsorption). Therefore, pump and treat is a potentially viable corrective measure for cobalt and lithium in groundwater at AP-2 DAS and will be retained for further evaluation.

5.3 Monitored Natural Attenuation

The US EPA defines MNA as the reliance on natural attenuation processes to achieve site-specific remediation objectives within an equal time frame relative to more active methods. Under certain circumstances (e.g., through sorption, mineral precipitation, or Oxidation Reduction Potential (ORP) reactions), MNA effectively reduces the dissolved concentrations of inorganic constituents in groundwater.

Attenuation mechanisms for inorganic constituents, such as cobalt and lithium, are either physical (e.g., dilution, dispersion, flushing, and related processes) or chemical (e.g., sorption or ORP reactions). Physical and chemical MNA mechanisms for cobalt and lithium can be operational without the potential for additional mass of constituents migrating to downgradient groundwater. Lithium and cobalt concentrations have been stable in ARAMW-7 in the five samples collected (Stantec, 2023, Appendix C). Georgia Power will continue to monitor cobalt and lithium concentrations in vertical delineation well ARAMW-7.

MNA is a potentially viable corrective measure, coupled with closure by removal of AP-2 DAS. MNA is a viable stand-alone option or can be used in combination with one or more other options retained in this evaluation.

5.4 Permeable Reactive Barriers

PRBs can present a viable alternative for in-situ treatment of cobalt. The technology typically involves the installation of a subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through. Media such as zero-valent iron (ZVI), biologically active media (to induce oxidizing or reducing conditions), or clays, apatite, zeolites, and/or peat moss (to promote ionic exchange and/or sorption) are used in the PRB. The use of PRBs for cobalt has been tested (e.g., Ludwig et al., 2002; ITRC, 2011), but additional site-specific testing is needed to confirm the applicability of this technology to cobalt removal from groundwater. Due to its low reactivity, lithium may be more challenging to treat using PRBs. In laboratory studies, zeolites and clays such as bentonite and kaolin have been shown to exhibit lithium-sorbing characteristics. However, there have not been field testing of these material and generally PRBs are not recommended for lithium remediation. A different media and a secondary technology may be needed to remediate lithium.

PRBs can be installed in downgradient locations using conventional excavation methods, one-pass trenching method, or through injection of a solid slurry. Reactive media is emplaced within the treatment zone to create a permeable barrier that treats dissolved constituents as they passively flow through the PRB with the groundwater (e.g., ITRC, 2011). These systems can either be constructed as continuous

"walls" or as "funnel-and-gate" systems where (impermeable) slurry walls create a "funnel" that directs groundwater to permeable "treatment gates" filled with reactive materials. PRBs are typically keyed into an underlying low permeability unit such as a clay layer or bedrock.

The installation depths of a PRB unit are generally limited to about 90 ft below ground surface (ft bgs). The installation of a PRB generally requires more space than extraction wells, but the system does not require above-ground treatment components and therefore, the overall treatment footprint is likely to be smaller compared to a P&T system. While additional subsurface investigations, aquifer testing, reactive media testing, and compatibility testing of groundwater and a slurry wall component of a PRB will be needed to further evaluate the feasibility of installing a PRB at AP-2 DAS, the technology is currently considered to be a potentially viable corrective measure to address cobalt in groundwater at AP-2 DAS and will be retained for further evaluation.

5.5 Phytoremediation

Phytoremediation uses trees or other plants to uptake or immobilize constituents or achieve hydraulic control without the need for an above ground water treatment system and infrastructure. However, the effectiveness of groundwater remediation using traditional phytoremediation approaches is limited by compacted soil conditions that impede root penetration; or target groundwater that is too deep for root access. Given depth of the screened interval for ARAMW-7 which exhibits SSLs of cobalt and lithium (35 to 45 feet bgs), traditional plantings of phytoremediation are not expected to be successful. However, more recently, an engineered approach to phytoremediation, the TreeWell® system (which is a proprietary system developed by Applied Natural Sciences), has been shown to overcome these constraints (e.g., Gatliff et al., 2016).

By installing a cased "well" for tree planting using large diameter auger technology, extraction of deeper groundwater zones (i.e., in excess of 50 feet bgs) can be achieved since the surface of the "well" is sealed and only groundwater from a targeted zone is allowed into the cased-off borehole. This type of system mirrors a traditional mechanical extraction system using the trees as pumps. Also, the advantage of the system includes no above-ground water management needs and limited long-term operations and maintenance requirements following the establishment of the tree system.

The use of engineered (proprietary) TreeWell® phytoremediation technologies are likely feasible at the AP-2 DAS, based on the site-specific hydrogeology (i.e., relatively slow groundwater velocities observed in the uppermost aquifer) and low levels of cobalt and lithium. Additionally, following the closure of AP-2 DAS and subsequent ground surface regrading, there will be an appropriate amount of physical space for the installation of a phytoremediation system between AP-2 DAS and the adjacent surface water body (Beaverdam Creek) limits. Thus, phytoremediation may be technically feasible as a remedial technology for cobalt and lithium, and this technology will be retained until data indicates it is not a feasible technology.

Continued groundwater monitoring and updates to the statistical analyses will further refine the CSM and allow for the continued evaluation of an appropriate groundwater corrective measure at the Site.

5.6 Summary of Corrective Measures Evaluated

Based on the data collected to date, five of the six potential corrective measures being evaluated for AP-2 DAS will be retained for further evaluation. These include: geochemical approaches (in-situ injection), hydraulic containment (pump and treat), MNA, phytoremediation, and PRB. The corrective measure subsurface vertical barrier walls have been removed from further consideration due to site limitations. Following the closure of AP-2 DAS and subsequent ground surface regrading, there will be an appropriate amount of physical space for the installation of a phytoremediation system and PRB between AP-2 DAS and the adjacent surface water body (Beaverdam Creek) limits.

Given that groundwater conditions continue to change and are likely to also be affected by closure and construction activities at AP-2 DAS, an adaptive site management approach will continue to be used to address groundwater conditions as a consequence of closure activities. Continued groundwater monitoring and updates to the statistical analyses will further refine the CSM and allow for the continued evaluation of an appropriate groundwater corrective measure at the Site.

6 Planned Activities and Anticipated Schedule

The proposed closure by removal approach provides a source control measure that substantially eliminates the potential for migration of CCR constituents to groundwater. During the closure activities, temporary changes in site conditions may occur that should be considered as part of remedy selection. Georgia Power has initiated activities as outlined in the ACM Report (Wood, 2020a) to support the groundwater remedy selection process and address potential changes in site conditions, as appropriate. The adaptive site management approach toward remedy selection may be adjusted over the Site's life cycle as new Site information and technologies become available. To this end, Georgia Power will continue its data collection efforts as necessary in support of efforts to refine the CSM and to assess the feasibility of the corrective measures retained for further evaluation. Once sufficient data are available, a remedy at the Site will be implemented in accordance with 40 CFR § 257.97(a).

Supplementary data collection and evaluation activities proposed to be completed during the next semi-annual reporting period are presented in Table 5 and summarized below.

- Collect groundwater samples for treatability analysis from ARAMW-7 for cobalt and lithium. Submit groundwater samples with rock samples from ARAMW-7 and ARAMW-8 to Terra Systems Inc. (TSI) for column and jar testing treatability analysis.
- Install and collect water level data using transducers in groundwater monitoring wells and/or staff gauge(s) in Beaverdam Creek and monitor elevations to evaluate groundwater flow conditions at the Site. The data will be used to evaluate the connection between surface water and groundwater at AP-2 DAS, to support corrective measures of pump and treat and in-situ injections.
- Evaluate the aquifer characterization data reported for factors controlling the solubility, mobility, and attenuation of target constituents showing SSLs in groundwater at the Site. Review the SEP and treatability data pending from the lab, compile and incorporate existing groundwater and aquifer solids data to develop a geochemical conceptual site model for evaluation of aquifer characteristics for solubility, mobility, and attenuation. The geochemical CSM will guide the future development of transport model for cobalt for the assessment of corrective measures and selection of a remedy for cobalt in groundwater at the Site.

Georgia Power will continue to prepare semi-annual progress reports to document AP-2 DAS conditions, results associated with additional data collection, and the progress in selecting and designing a groundwater remedy in accordance with 40 CFR § 257.97(a). Georgia Power will include future semi-annual progress reports in routine groundwater monitoring and corrective action reports.

7 References

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TABLES

TABLE 1
SUMMARY OF MONITORING WELL CONSTRUCTION AND GROUNDWATER ELEVATIONS
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Well	Installation Date	Northing [1]	Easting [1]	Top of Casing Elevation (feet NAVD88)[2][3]	Ground Surface Elevation (feet NAVD88)[2][3]	Top of Screen Elevation (feet NAVD88)[4]	Screen Bottom Elevation (feet NAVD88)[4]	Screen Length (feet)	Total Well Depth on Construction Log (feet below land surface)	Groundwater Zone Screened	Hydraulic Location	Depth to Water (feet below TOC) 8/30/2022	Groundwater Elevation (feet NAVD88) 8/30/2022
Detection Monitoring Wells													
ARGWA-19	12/16/2008	1063774.45	2439488.71	343.30	339.86	300.18	290.18	10.0	49.98	Bedrock	Upgradient	28.70	314.60
ARGWA-20	12/4/2008	1063732.73	2439088.01	331.28	327.73	303.18	293.18	10.0	34.85	Overburden	Upgradient	15.88	315.40
ARGWC-21	12/2/2008	1062941.24	2439112.52	309.15	305.97	291.70	281.70	10.0	24.57	Overburden	Downgradient	14.39	294.76
ARGWC-22	11/19/2019	1063039.36	2438925.04	309.95	307.01	292.01	282.01	10.0	25.00	Overburden	Downgradient	14.15	295.80
ARGWC-23	11/20/2019	1062884.38	2439202.38	307.70	304.29	289.29	279.29	10.0	25.00	Overburden	Downgradient	12.41	295.29
Assessment Monitoring Wells													
ARAMW-1	11/20/2019	1062938.38	2439120.01	308.51	305.07	271.07	261.07	10.0	44.00	Bedrock	Downgradient	13.53	294.98
ARAMW-2	11/20/2019	1062925.96	2439114.97	308.27	305.12	293.12	283.12	10.0	22.00	Overburden	Downgradient	13.65	294.62
ARAMW-7[5]	11/14/2020	1063049.07	2438913.27	309.81	307.13	269.43	259.43	10.0	48.00	Bedrock	Downgradient	13.15	296.66
ARAMW-8[5]	11/13/2020	1062895.98	2439197.40	307.36	304.53	267.83	257.83	10.0	47.00	Bedrock	Downgradient	12.40	294.96
ARAMW-9[6]	10/7/2022	1063022.92	2438935.47	309.28	306.31	213.91	203.91	10.0	102.90	Bedrock	Downgradient	NA	NA

Notes:
1. Horizontal locations referenced to Georgia State Plane West, North American Datum (NAD) of 1983 surveyed in June 26, 2020.
2. Vertical elevations are feet referenced to North American Vertical Datum of 1988 (NAVD88).
3. Elevations updated with revised survey certified by Donaldson & Garrett Associates on June 26, 2020.
4. Screen elevations calculated using ground surface elevation surveyed on June 26, 2020.
5. ARAMW-7 and ARAMW-8 were surveyed by Donaldson & Garrett Associates and certified on December 18, 2020.
6. ARAMW-9 was surveyed by Metro Engineering & Surveying CO., Inc. on November 22, 2022.
7. TOC = Top of Casing

TABLE 2
EVALUATION OF REMEDIAL TECHNOLOGIES
Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, GA

	Regulatory Citation for Criteria:	Georgia Rule 391-3-4-.10(6)(a)	
Corrective Measure	**Description**	**Performance**	**Reliability**
Geochemical Approaches (In-Situ Injection)	Use of an injection well network, or other means of introducing reagents or air into the subsurface, to provide suitable reagents for either anaerobic or aerobic attenuation of Cobalt (Co). Under anaerobic conditions, Co would be attenuated within sparingly soluble sulfide minerals. Because Lithium (Li) does not readily adsorb or precipitate, in-situ injections are likely not an effective remedial technology for Li. Under aerobic conditions, soluble iron or manganese and oxygen (either via air sparging or through a chemical oxidant) would be injected to promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of Co onto these mineral phases. If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption. In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility of certain inorganic compounds, including Co. However, the main attenuation mechanism for Co is sorption, which is more dependent on pH than redox.	The effective immobilization of Co has been shown under aerobic and anaerobic conditions; however, the anaerobic approach (involving the injection of an electron donor together with iron or manganese and sulfur) requires careful study and testing. While aerobic approaches are somewhat less complex, additional aquifer characterization is needed to further evaluate these options. The use of in situ injections to treat Li is not well documented. Li is generally less sorptive, with its low reactivity and high solubility makes it more challenging to treat using in situ injections.	Reliability dependent on permeability of the subsurface and the amount and distribution of secondary iron or manganese (oxy-) hydroxides (for aerobic approach), or electron donors and soluble iron or manganese and sulfur that can be consistently distributed (for anaerobic approach). Reliable technology if injected materials can be distributed throughout the impacted aquifer. Bench- and/or pilot-scale treatability testing programs are needed to understand the biogeochemical processes that would effectively reduce migration of Co in groundwater. In-Situ Injection would may need to be used in conjunction with another technology to reduce migration of Li.
Hydraulic Containment (Pump and Treat)	Pump and Treat (P&T) refers to the use of groundwater extraction to induce a hydraulic gradient for hydraulic capture or control the migration of impacted groundwater. This approach uses extraction wells or trenches to capture groundwater, which may subsequently require above-ground treatment and permitted discharge to a receiving water feature, reinjection into the groundwater, or reuse (e.g., land application, CCR conditioning, etc.). It is applicable to a variable mix of inorganic constituents, including dissolved Co and Li.	P&T is effective at providing hydraulic control, but it is unclear whether full groundwater remediation can be achieved without further understanding attenuation mechanisms at the Site. At the AP-2 Dry Ash Stockpile, implementation of the corrective measure is contingent on completing additional assessment activities (i.e., high-resolution site characterization, additional pump tests, flow modeling, and capture zone analysis). This is needed to refine the constituent distribution in the subsurface to target specific zones for pumping for improved mass recovery efficiency/ effectiveness and to further evaluate the potential remedy performance.	Generally reliable for hydraulic containment, but uncertainty exists whether groundwater remediation goals can be achieved within a reasonable time frame without further understanding attenuation mechanisms.
Monitored Natural Attenuation (MNA)	MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame relative to more active methods. Under certain conditions (e.g., through sorption, mineral precipitation, or oxidation- reduction reactions), MNA effectively reduces the dissolved concentrations of inorganic constituents in groundwater. Attenuation mechanisms for inorganic constituents at CCR sites, including Co and Li at AP-2 Dry Ash Stockpile, are either physical (e.g., dilution, dispersion, flushing, and related processes) or chemical (e.g., sorption or oxidation reduction reactions). The chemical attenuation processes include precipitation and sorption reactions such as adsorption on the surfaces of soil minerals, absorption into the matrix of soil minerals, or partitioning into organic matter. Further, oxidation-reduction (redox) reactions, via abiotic or biotic processes, can transform the valence states of some inorganic constituents to less soluble and thus less mobile forms. For Co, the main attenuation processes include sorption to iron and manganese oxides and formation of sparingly soluble sulfide minerals. For Li, aluminum salts and/or clay have shown promise for precipitating or adsorbing Li out of freshwater. Li's low reactivity and high solubility makes it difficult to chemically attenuate such that physical methods of dispersion and flushing are needed for attenuation.	Physical and chemical MNA mechanisms for Co, and Li, including dilution, dispersion, sorption, and oxidation reduction reactions can be effective at achieving groundwater protection standards (GWPS) within a reasonable time frame. Attenuation processes for Co may already be occurring at the site as evidenced by data from some wells. Source control will improve the mass balance such that the buffer capacity of the aquifer is unlikely to be exhausted, and the attenuation processes already at work for Cobalt at AP-2 Dry Ash Stockpile will further enhance ongoing MNA. Li's low reactivity and high solubility makes it difficult to chemically attenuate such that physical methods of dispersion and flushing are needed for attenuation. Cationic adsorption to clays in the aquifer is feasible but occurs slowly.	Reliable as long as the aquifer conditions that result in Co, and Li attenuation remain favorable and/or are being enhanced and sufficient attenuation capacity is present. MNA is reliable and can either be used as a stand-alone corrective measure for groundwater impacted by dissolved Co, and/or Li, or in combination with a second technology, particularly for Li.
Permeable Reactive Barrier (PRB)	Permeable reactive barrier (PRB) technology typically involves the installation of a permeable subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through. Exact placement of the PRB is contingent on finalization of the nature and extent characterization. PRBs can also be constructed as "funnel and gate" systems, where a barrier wall directs groundwater to a smaller "treatment gate" filled with reactive media.	Due to its low reactivity, Li may be more challenging to treat using PRBs. In laboratory studies, zeolites and clays such as bentonite and kaolin have been shown to exhibit Li-sorbing characteristics. However, there have not been field testing of these material and generally PRBs are not recommended for Li remediation.	Reliable groundwater corrective measure, but loss of reactivity over time may require re-installation depending on the duration of the remedy. Additional data collection, including conducting a bench and/or pilot study, is needed to better characterize current attenuation mechanisms and/or select the appropriate reactive media mix for a PRB wall. A different media and a secondary technology may be needed to remediate Li.
Phytoremediation / *TreeWell*®	Phytoremediation uses trees and other plants to degrade or immobilize constituents or achieve hydraulic control without the need for an above-ground water treatment system and infrastructure. Within the context of the AP-2 Dry Ash Stockpile, this corrective measure would likely use an engineered (proprietary) TreeWell® phytoremediation system along the point of compliance or downgradient edge of the impacted groundwater for hydraulic control. The system promotes root development to the targeted groundwater zone (depth), allowing for hydraulic control of impacted groundwater. In addition, immobilization of Co, and Li within the root zone as well as incidental uptake of dissolved Co, and Li with groundwater is expected to occur concurrent with hydraulic control.	Once established (typically at the end of the third growing season), a TreeWell® system is effective for providing hydraulic containment of groundwater, and potential reduction of Co concentrations through immobilization and/or uptake and sequestration in the tree biomass; however, the main purpose is to provide hydraulic control. Given the site-specific hydrogeology and reported Co, and Li groundwater concentrations surrounding the AP-2 Dry Ash Stockpile, the approach is currently considered to be applicable in this setting. However, additional aquifer testing and/or groundwater flow modeling may be needed to confirm suitability for the area downgradient of the AP-2 Dry Ash Stockpile.	Engineered phytoremediation is a proven technology where hydrogeologic factors are taken into account (e.g., hydraulic conductivity, flow velocity, depth to impacted groundwater zone, etc.). This is considered an active remedial approach through the use of trees as the "pumps" driving the system. Careful design will be needed to select the proper species, which will include consideration of groundwater chemistry, plant uptake of constituents, and groundwater flow modeling to evaluate the required number and placement of TreeWell® units.

TABLE 2
EVALUATION OF REMEDIAL TECHNOLOGIES
Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, GA

	Regulatory Citation for Criteria:	Georgia Rule 391-3-4-.10(6)(a)	
Corrective Measure	**Description**	**Performance**	**Reliability**
Subsurface Vertical Barrier Walls	This approach involves placing a barrier to groundwater flow in the subsurface, frequently around a source area, to prevent future migration of dissolved constituents in groundwater from beneath the source to downgradient areas. In general, barrier walls are designed to provide containment; localized treatment achieved through the sorption or chemical precipitation reactions from construction of the walls are incidental to the design objective. Barrier walls can also be used in downgradient applications; to limit discharge to a surface water feature or to reduce aquifer recharge from an adjacent surface water feature when groundwater extraction wells are placed near one. A variety of barrier materials can be used, including cement and/or bentonite slurries, geomembrane composite materials, or driven materials such as steel or vinyl sheet pile. Groundwater extraction from upgradient of the barrier is required to avoid groundwater mounding behind the barrier.	Barrier walls are a proven technology for seepage control and/or groundwater cutoff at impoundments. Slurry walls are limited by the depth of installation, which is approximately 90 ft bgs. However, site-specific geologic and technology-specific considerations may limit this depth to shallower installations. Within the context of AP-2 Dry Ash Stockpile, a barrier wall might be used in conjunction with a “funnel and gate” system for a PRB rather than a stand-alone technology. As such, groundwater with Co, and Li above GWPS could either be directed to “treatment gates” for passive treatment (in a PRB) or migration of impacted groundwater could be minimized via barrier wall installation. Additional treatment technology, beyond treatment for Cobalt, would be needed to treat Lithium in either extracted groundwater or in-situ. Additional subsurface investigations, aquifer testing, and compatibility testing with site- specific groundwater will be needed.	Generally reliable as a barrier to groundwater flow; however, treatment of downgradient groundwater is incidental and not the primary objective.

TABLE 2
EVALUATION OF REMEDIAL TECHNOLOGIES
Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, GA

	Georgia Rule 391-3-4-.10(6)(a)		
Corrective Measure	**Ease of Implementation**	**Potential Impacts**	**Time Requirement to Begin/Complete**
Geochemical Approaches (In-Situ Injection)	Moderate. Installation of injection well network or other injection infrastructure would be required. Alternative installation approaches may be considered, such as along the downgradient edge of impacted groundwater, which would function similar to a PRB application. Potential for clogging of aquifer matrix and/or injection well infrastructure. Chemical distribution during injections (i.e., radius of influence) needs to be evaluated.	Minimal impacts are expected if remedy works as designed, based on a thorough pre-design investigation, geochemical modeling, and bench/pilot study results. Redox-altering processes have the potential to mobilize naturally-occurring constituents as an unintended consequence if not properly studied and implemented.	Installation of the injection network can be accomplished relatively quickly (1 to 2 months). However, a thorough pre-design investigation, geochemical modeling, and/or bench- and/or pilot-testing will be required to obtain design parameters prior to design and construction of the corrective measure, which may take up to 24 months. Once installed, the time required to achieve GWPS within the treatment area may be relatively quick but depends on the attenuation process kinetics of each targeted constituent. The time for complete distribution of the injected materials throughout the treatment area is also variable.
Hydraulic Containment (Pump and Treat)	Moderate. Proven approach, and supplemental installation of extraction wells/trenches is fairly straightforward. The extracted groundwater may potentially require an above-ground treatment system. A variety of sorption and precipitation approaches exist for ex-situ treatment of Co. Treatment of Lithium would require a different treatment technology than Co. Operation and maintenance (O&M) requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals.	Moderate. The main potential impacts are related to the presence and operation of an on-site above-ground water treatment facility and related infrastructure to convey and treat extracted groundwater. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone. Also, nearby surface water will need to be taken into account for hydraulic and geochemical impacts to pumping groundwater.	Installation of extraction wells and/or trenches can be accomplished relatively quickly (1 to 2 months). However, additional aquifer testing, system design and installation, and permit approval may be required, which may take up to 24 months. The initiation of the approach would be contingent on the start-up of the wastewater treatment infrastructure. Hydraulic containment can be achieved relatively quickly after startup of the extraction system, but uncertainty exists with respect to the time to achieve GWPS without additional data collection to better understand attenuation mechanisms for Co, and Li.
Monitored Natural Attenuation (MNA)	Reasonably implementable with respect to infrastructure, but moderate to complex with respect to documentation. Proven approach, and additional preliminary data show that the existing attenuation capacity is sufficient to meet site objectives within a reasonable timeframe. A monitoring well network already exists to implement future groundwater monitoring efforts.	None. MNA relies on the natural processes active in the aquifer matrix to reduce constituent concentrations without disturbing the surface or the subsurface.	The infrastructure to initiate MNA is already in place. Demonstrating attenuation mechanisms and capacity can be time-consuming and can take up to 24 months. MNA is expected to be successful within a reasonable time frame for Co. Li rate of attenuation is slower than Co.
Permeable Reactive Barrier	Moderate to difficult. Trenching would be required to install a mix of reactive materials in the subsurface. Continuous trenching may be the most feasible construction method. Site-specific geology (i.e., partially weathered bedrock layer) poses a possible constructability challenge when attempting to key PRB material into competent bedrock. Installation methods and materials are readily available. Once installed, treatment will be passive and O&M requirements are minimal if replacement of the PRB is not necessary.	Minimal impacts are expected following the construction of the remedy.	Installation of a PRB can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, bench- and/or pilot-testing would be required to obtain design parameters prior to design and construction of the remedy, which may take up to 24 months. Once installed, the time to achieve GWPS downgradient of the PRB is anticipated to be relatively quick for Li if an appropriate reagent can be identified.
Phytoremediation / *TreeWell*®	Reasonably implementable to moderate. Engineered approach has been proven effective, and specific depth zones can be targeted. Trees are installed as "tree wells" in a large diameter boring to get the roots deep enough to intercept impacted groundwater flow paths. Area must be clear of above- and below- ground structures (i.e., power lines). The system, once established (approximately three growing seasons), is a self-maintaining, sustainable remedial system that has no external energy requirements and little maintenance (i.e., efforts normally associated with landscaping).	Minimal impacts are expected. In fact, there are several positive impacts expected, including enhanced aesthetics, wildlife habitat, and limited energy consumption.	The design phase will require some groundwater modeling for optimal placement of the TreeWell® units, which may take up to 6 months. Depending on the number of required units, the installation effort is expected to last several weeks. Hydraulic capture/control is expected approximately three years after planting and system performance is expected to further improve over time.
Subsurface Vertical Barrier Walls	Moderate to difficult. Trenching will be required to fill in the various slurry mixes; alternatively, sheet pile installations can be accomplished without excavation of trenches. The application of barrier walls is limited by the depth of installation, which similar to PRBs, should be keyed into a low permeability layer such as a thick clay layer or bedrock. Installation methods and materials are readily available. Once installed, above-ground infrastructure to pump and treat groundwater will be required. O&M requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals.	Minimal impacts are expected following the construction of the remedy. Short- term impacts during the construction of the remedy can be mitigated through appropriate planning and health and safety measures. Changes to groundwater flow patterns due to installation of the barrier wall are expected, which can affect other aspects of groundwater corrective action. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone that may result in the mobilization of other constituents that may require treatment.	Installation of a barrier wall can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, some design phase and additional aquifer and compatibility testing will be required, which may take up to 24 months. Once installed, preventing migration of constituents dissolved in groundwater is anticipated to be relatively quick. Since this approach does not treat the downgradient area of impacted groundwater but prevents migration from a source area, it will likely have to be maintained long- term and coupled with other approaches.

TABLE 2
EVALUATION OF REMEDIAL TECHNOLOGIES
Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, GA

	Georgia Rule 391-3-4-.10(6)(a)			
Corrective Measure	**Institutional Requirements**	**Other Environmental or Public Health Requirements**	**Relative Costs**	**Retention Evaluation**
Geochemical Approaches (In-Situ Injection)	An underground injection control (UIC) permit (for in-situ injections) would be required to implement this corrective measure. No other institutional requirements are expected at this time.	None expected at this point. Potential mobilization of redox- sensitive constituents exists during implementation of an anerobic attenuation approach. Following installation, the remedy is passive.	Medium (depending on expanse of injection network required and injectate volume required per derived design parameters)	Retained for further analysis; may be used as a stand-alone corrective measure or in conjunction with other potential groundwater corrective measures.
Hydraulic Containment (Pump and Treat)	Depending on the effluent management strategy, an NPDES permit may be required, or obtaining an underground injection control (UIC) permit may be needed if groundwater reinjection is chosen. No other institutional requirements are expected at this time.	Above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal.	Medium to high (depending on remedy duration, complexity of above-ground treatment system, and volume of water processed)	Retained for further analysis; may be used as a stand-alone corrective measure or in conjunction with other potential groundwater corrective measures.
Monitored Natural Attenuation (MNA)	No institutional requirements are expected at this time	Little to no physical disruption to remediation areas and no adverse construction-related impacts are expected on the surrounding community.	Low to medium	Retained for further analysis; may be used as a stand-alone corrective measure or in conjunction with other potential groundwater corrective measures.
Permeable Reactive Barrier	No institutional requirements are expected at this time	None expected at this point. Following installation, the remedy is passive.	Medium to high (for installation) - minimal O&M requirements if replacement is not necessary	Retained for further analysis; may be used as a stand-alone measure for Co but will need a secondary technology or different media to remediate Li.
Phytoremediation / *TreeWell*®	No institutional requirements are expected at this time	None expected at this point. Innovative and green technology may be positively received by various stakeholders. Following installation, the remedy is passive and does not require external energy.	Medium (for installation) - minimal O&M requirements	Retained for further analysis; may be used as a stand-alone measure or in conjunction with other potential groundwater corrective measures.
Subsurface Vertical Barrier Walls	No institutional requirements are expected at this time	Due to the need for groundwater extraction associated with barrier walls, above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal.	Medium to high (depending on length and depth of wall, remedy duration and complexity of above-ground treatment system)	Not retained for further analysis; removal of the source material limits the use of subsurface vertical barrier walls as a remedial alternative.

TABLE 3
ANALYTICAL DATA SUMMARY
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

	Substance	Well ID										
		ARGWA-19	ARGWA-20	ARGWA-20-Dissolved	ARGWC-21	ARGWC-22	ARGWC-23	ARAMW-1	ARAMW-2	ARAMW-7	ARAMW-8	ARAMW-9
		9/1/2022	9/2/2022	9/2/2022	9/1/2022	9/6/2022	9/6/2022	9/2/2022	9/2/2022	9/7/2022	9/2/2022	10/20/2022
APPENDIX III	Boron	0.0238	0.0597	0.0596	0.921	2.78	0.458	1.18	1.08	2.33	0.558	0.0500
	Calcium	8.52	9.48	9.68	71.5	162	65.2	80.5	89.2	264	61.4	140
	Chloride	6.27	5.44	NA	3.34	8.34	3.73	3.50	3.54	5.78	5.31	50.9
	Fluoride	0.148	0.122	NA	0.161	0.0560 J	0.362	0.180	0.146	<0.0330	0.206	0.839
	Sulfate	8.38	18.5	NA	221	667	65.3	223	315	1050	108	474
	TDS	81.0	101	NA	537	1180	305	546	664	1610	385	896
	pH	5.88	5.68	NA	5.97	5.88	6.41	6.04	6.00	5.57	6.44	7.80
APPENDIX IV	Antimony	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
	Arsenic	<0.00200	<0.00200	<0.00200	0.00207 J	<0.00200	<0.00200	0.00233 J	0.0158	<0.00200	0.00206 J	0.00265 J
	Barium	0.0303	0.0806	0.0826	0.0425	0.0226	0.0939	0.0445	0.0792	0.0263	0.116	0.0305
	Beryllium	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000236 J	<0.000200	<0.000200
	Cadmium	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300
	Chromium	<0.00300	0.00578 J	0.00606 J	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300
	Cobalt	<0.000300	<0.000300	<0.000300	0.000690 J	0.00198	0.000588 J	0.000449 J	0.00200	0.0737	0.00292	<0.000300
	Lead	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
	Lithium	0.00359 J	<0.00300	<0.00300	0.0116	0.0136	0.0578	0.00970 J	0.0232	0.0634	0.00654 J	0.00631 J
	Mercury	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670
	Molybdenum	0.000501 J	<0.000200	<0.000200	<0.000200	0.000203 J	0.0670	0.00785	0.000603 J	0.000379 J	0.175	0.0205
	Radium	0.913 U	0.783 U	NA	1.57 U	2.580	2.36 U	3.41	4.18	4.29	1.89 U	8.42
	Selenium	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
	Thallium	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600
*	Silver	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300
ADDITIONAL PARAMETERS	Total Alkalinity	37.8	42.6	NA	162	162	180	187	166	60.2	214	78.2
	Bicarbonate Alkalinity	37.8	42.6	NA	162	162	180	187	166	60.2	214	78.2
	Carbonate Alkalinity	<1.45	<1.45	NA	<1.45	<1.45	<1.45	<1.45	<1.45	<1.45	<1.45	<1.45
	Aluminum	<0.0193	0.126	NA	0.0241 J	<0.0193	<0.0193	<0.0193	<0.0193	0.0327 J	0.0292 J	0.143
	Iron	<0.0330	0.204	NA	0.887	10.1	<0.0330	0.204	9.93	3.34	2.60	1.01
	Manganese	<0.00100	0.00519	NA	0.326	19.5	0.417	0.162	0.866	14.8	0.374	0.220
	Magnesium	3.32	4.9	NA	36.0	75.0	11.6	38.2	40.2	75.0	27.7	10.6
	Potassium	1.99	1.33	NA	5.51	3.93	1.79	5.32	7.01	9.26	6.07	10.6
	Sodium	9.76	10.0	NA	18.2	23.9	14.3	19.5	18.9	28.1	15.5	154
	pH, Field	5.88	5.68	NA	5.97	5.88	6.41	6.04	6.00	5.57	6.44	7.80
	Temperature	20.25	19.44	NA	21.33	20.83	23.16	19.67	21.86	19.63	22.40	17.63
	Specific Conductance	131.42	149.57	NA	771.11	1397.40	483.73	843.90	960.58	1789.48	630.88	1308.45
	RDO Concentration	3.00	5.69	NA	0.21	0.18	0.16	0.17	0.15	0.16	0.22	3.09
	Turbidity	1.79	6.51	NA	4.41	4.68	1.14	2.12	4.43	2.66	4.28	4.76
	Oxidation Reduction Potential	157.6	414.3	NA	69.7	22.0	134.8	63.2	-14.7	117.0	16.0	-168.4

Notes:

1. Results for constituents are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
Temperature reported in (deg C). Specific Conductance reported in microsiemens per centimeter (uS/cm). Turbidity reported in nephelometric turbidity units (NTU). ORP reported in millivolts (mV).
2. < indicates the constituent was not detected above the analytical method detection limit (MDL).
3. J indicates the constituent was detected at such low levels that the precision of the laboratory instrument could not produce a reliable value.
Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
4. TDS indicates total dissolved solids.
5. U indicates the constituent was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value.Therefore, the value followed by U is qualified by the laboratory as estimated.
6. * - Georgia Appendix I constituent that is not also included in Appendix IV.
7. NA indicates constituent was not analyzed

TABLE 4
GEOCHEMICAL CHARACTERIZATION RESULTS
Georgia Power Company - Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Sample ID	ARAMW-9-41.0/41.3-20221018	ARAMW-9-9.5/96.6-100.7/1002.0-20221018
Date	10/18/2022	10/18/2022
Location	ARAMW-9	ARAMW-9
Depth (ft-bgs)	41.0-41.3	95.0-100.7
X-Ray Diffraction, Rietveld Quantitative Analysis (wt%)		
Quartz	33.1	31.2
Microcline	13.8	13.6
Kaolinite	0.5	0.5
Muscovite	2.8	2.1
Biotite	4.0	7.2
Albite	45.8	45.3
X-Ray Fluorescence (%)		
Silica as SiO2	69.3	67.5
Aluminum as Al2O3	14.8	15.5
Iron as Fe2O3	3.35	4.15
Magnesium as MgO	1.23	1.53
Calcium as CaO	2.86	2.64
Sodium as Na2O	4.04	3.99
Potassium as K2O	2.43	2.94
Titanium as TiO2	0.39	0.56
Phosphorous as P2O5	0.11	0.09
Manganese as MnO	0.05	0.10
Chromium as Cr2O3	0.03	0.04
Vanadium as V2O5	0.01	0.01
Loss On Ignition	0.96	1.14
Total Metals (µg/g)		
Mercury	< 0.05	< 0.05
Arsenic	0.6	0.8
Aluminum	11000	16000
Boron	< 1	< 1
Barium	110	130
Beryllium	0.25	0.34
Cadmium	< 0.02	0.08
Cobalt	7	7
Chromium	220	200
Iron	22000	29000
Lithium	17	22
Manganese	360	720
Molybdenum	0.4	2.3
Lead	3.8	4.2
Antimony	< 6	< 6
Selenium	< 0.7	< 0.7
Thallium	0.23	0.40

Notes:

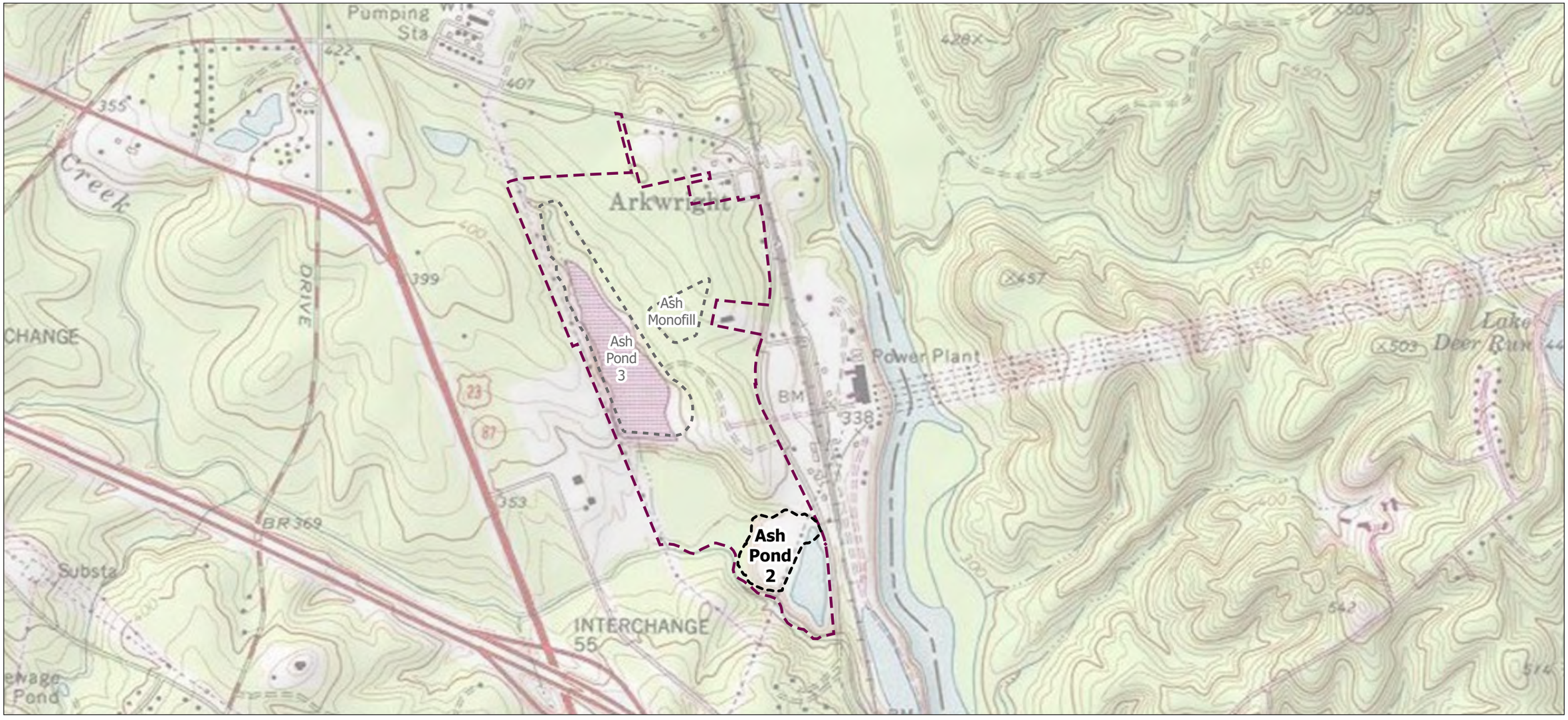
1. Results are presented in feet below ground surface (ft-bgs); weight percent (wt%); percent (%); micrograms per gram (µg/g).
2. Loss On Ignition refers to mineral water, carbonates, and hydroxides.
3. < indicates the constituent was not detected above the analytical method detection limit

TABLE 5
PROPOSED ACM SUPPLEMENTARY DATA ANALYSES AND COLLECTION TASKS
FOR FIRST SEMI-ANNUAL PERIOD 2023
Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

Data Collection/Evaluation	Applicable CMs (1)	Applicability/Rationale	Field Component	Parameters of Interest (POI)
Groundwater Sampling	1, 3, 4, 5	Evaluation of: (i) attenuation mechanisms and rates and aquifer capacity for attenuation	Collect groundwater samples from existing well network currently sampled under the assessment monitoring program	In addition to routine App III/IV parameters: major cations (i.e., magnesium, sodium, potassium, iron, manganese, and bicarbonate concentrations) for geochemical evaluations.
Measure and/or install transducers in groundwater monitoring wells and/or staff gauge(s) in Beaverdam Creek and monitor elevations.	1, 2, 3, 4, 5	Collect continuous and long-term groundwater elevation data and measure surface water elevation data at staff gauges to support the development of a groundwater model for the Site.	Measure water levels using transducers in groundwater monitoring wells and staff gauge(s) in Beaverdam Creek	Groundwater and Surface Water Elevations
Collect groundwater samples for treatability analysis from ARAMW-7 for cobalt and lithium	1, 2, 3, 4, 5	Evaluate the potential to enhance the adsorption of cobalt and lithium by adjusting the pH of groundwater and evaluate the need to adsorption capacity of the media through addition of iron or other media.	Collect groundwater and rock samples from ARAMW-7 and ARAMW-8 for jar testing treatability analysis.	Site-specific constituents (lithium and cobalt)
Geochemical Conceptual Site Model	1, 3	Evaluate the aquifer characterization data reported for factors controlling the solubility, mobility, and attenuation of target constituents showing SSLs in groundwater at the Site.	Not Applicable (Desktop Study)	Compile existing Site geologic and laboratory data for soil and groundwater.

Note:
(1) Corrective Measure (CM) Codes:
1 – Geochemical Approaches (In-Situ Injection)
2 – Hydraulic Containment (Pump and Treat)
3 – Monitored Natural Attenuation (MNA)
4 – Permeable Reactive Barrier (PRB)
5 – Phytoremediation (TreeWells®)

FIGURES



Legend

- Approximate Property Boundary
- Ash Pond 2 Dry Ash Stockpile
- Ash Pond 3 and Ash Monofill

0 1,000 2,000 Feet

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N

Stantec

Georgia Power

Project Location
Macon, Georgia

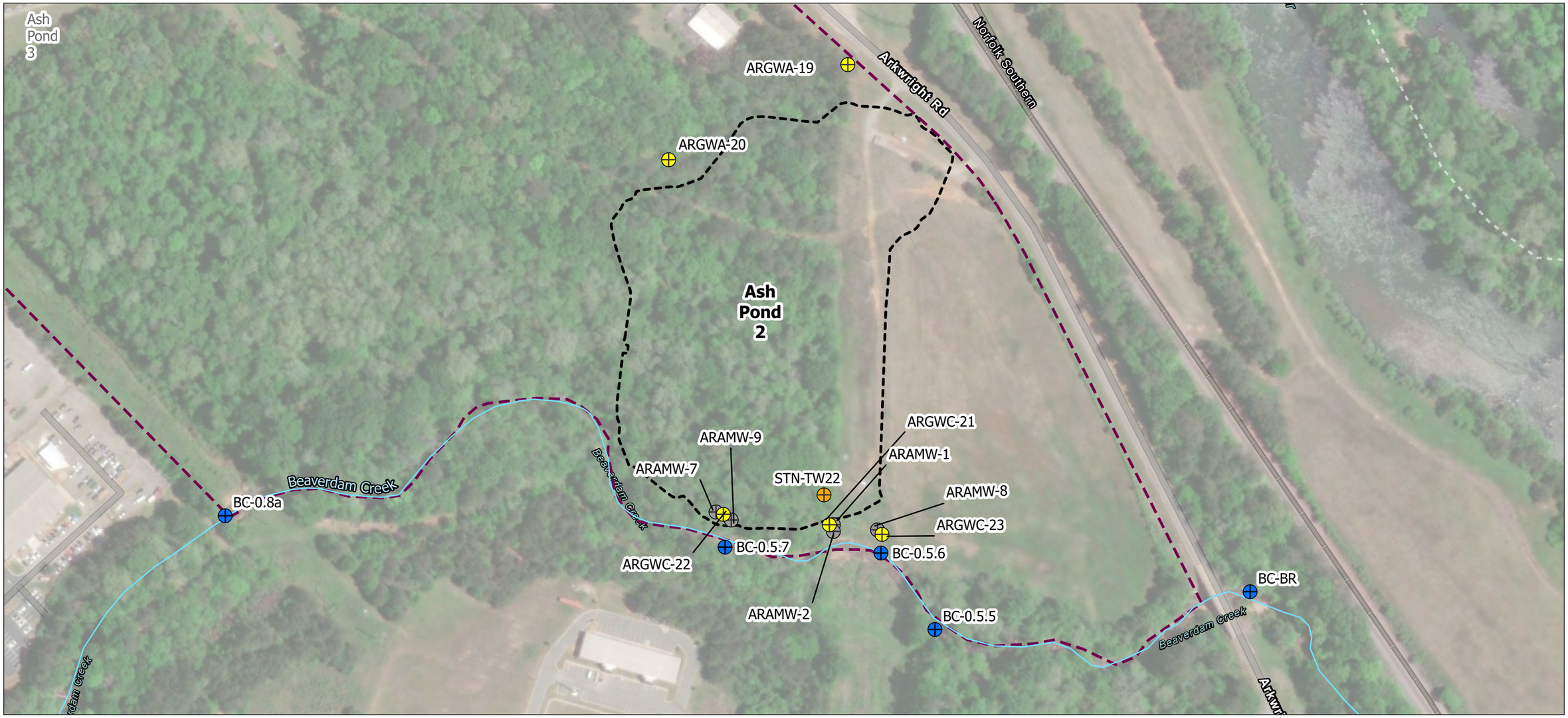
Prepared by DMB on 2/2/2023
TR by BS on 2/2/2023
IR by RB on 2/2/2023

Client/Project 175569434
Georgia Power
Semi-Annual Remedy Selection and Design Progress Report
Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
1

Title
Site Location Map

Notes
1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet
2. Data Sources: Site Boundary and Ash Pond Boundaries provided by Southern Company Services and Wood Environment & Infrastructure Solutions
3. Background: Copyright:© 2013 National Geographic Society, i-cubed, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS



Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet
2. Data Sources: Ash Pond Boundaries, Surface Water Samples, Monitoring Wells, Piezometers, Property Boundary, and Beaverdam Creek locations provided by Southern Company Services and Wood Environment & Infrastructure Solutions
3. Background: Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Legend

- Detection Monitoring Well
- Assessment Monitoring Well
- Temporary Piezometer (Approximate Location, Not Surveyed)
- Surface Water Sampling Location
- Beaverdam Creek
- Approximate Property Boundary
- Ash Pond 2 Dry Ash Stockpile
- Ash Pond 3 and Ash Monofill

0 200 400 Feet

(At original document size of 11x17)
1:2,400

N

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Georgia Power

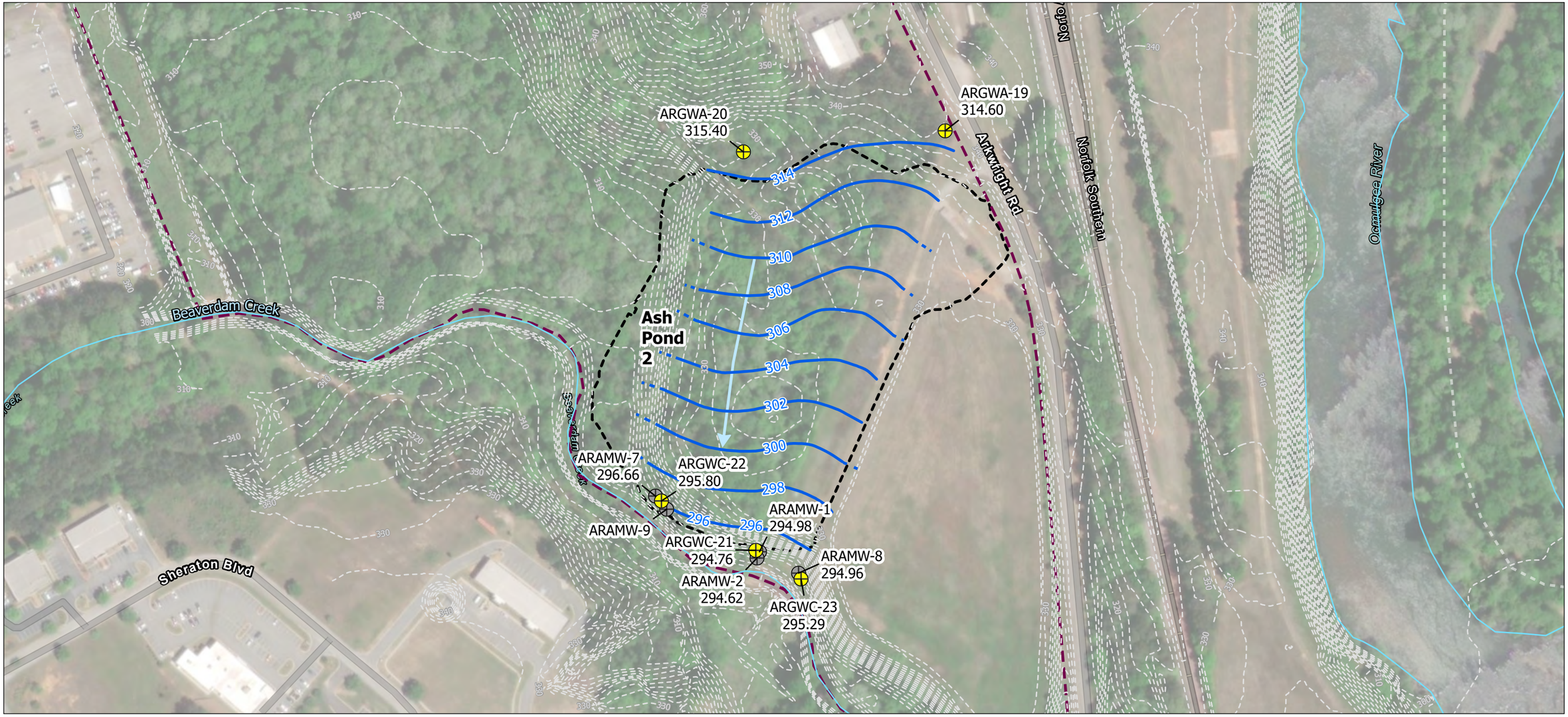
Project Location
Macon, Georgia

Prepared by DMB on 2/2/2023
TR by BS on 2/2/2023
IR by RB on 2/2/2023

Client/Project 175569434
Georgia Power
Semi-Annual Remedy Selection and Design Progress Report
Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
2

Title
Detection Monitoring Network Well, Assessment Monitoring Well, and Sampling Locations Map



Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet
2. Data Sources: Ash Pond Boundaries, Monitoring Wells, Property Boundary, Topography, and Beaverdam Creek provided by Southern Company Services and Wood Environment & Infrastructure Solutions; Contours, Flow Arrow, and Ocmulgee River provided by Stantec
3. Background: Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Legend

- Detection Monitoring Well
- Assessment Monitoring Well
- Beaverdam Creek/Ocmulgee River (Approximate)
- Potentiometric Surface Contour Aug 2022 (ft NAVD88)
- Inferred Potentiometric Surface Contour Aug 2022 (ft NAVD88)
- Interpreted Groundwater Flow Direction
- Topographic Contour 2018 (2 ft interval)
- Approximate Property Boundary
- Ash Pond 2 Dry Ash Stockpile

314.60 Groundwater Elevation (ft NAVD88)

BRIAN STEELE
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST
2/28/23
No. PG002171

0 200 400 Feet
(At original document size of 11x17)
1:2,400

N

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Georgia Power

Project Location
Macon, Georgia

Prepared by DMB on 2/2/2023
TR by BS on 2/2/2023
IR by MD on 2/2/2023

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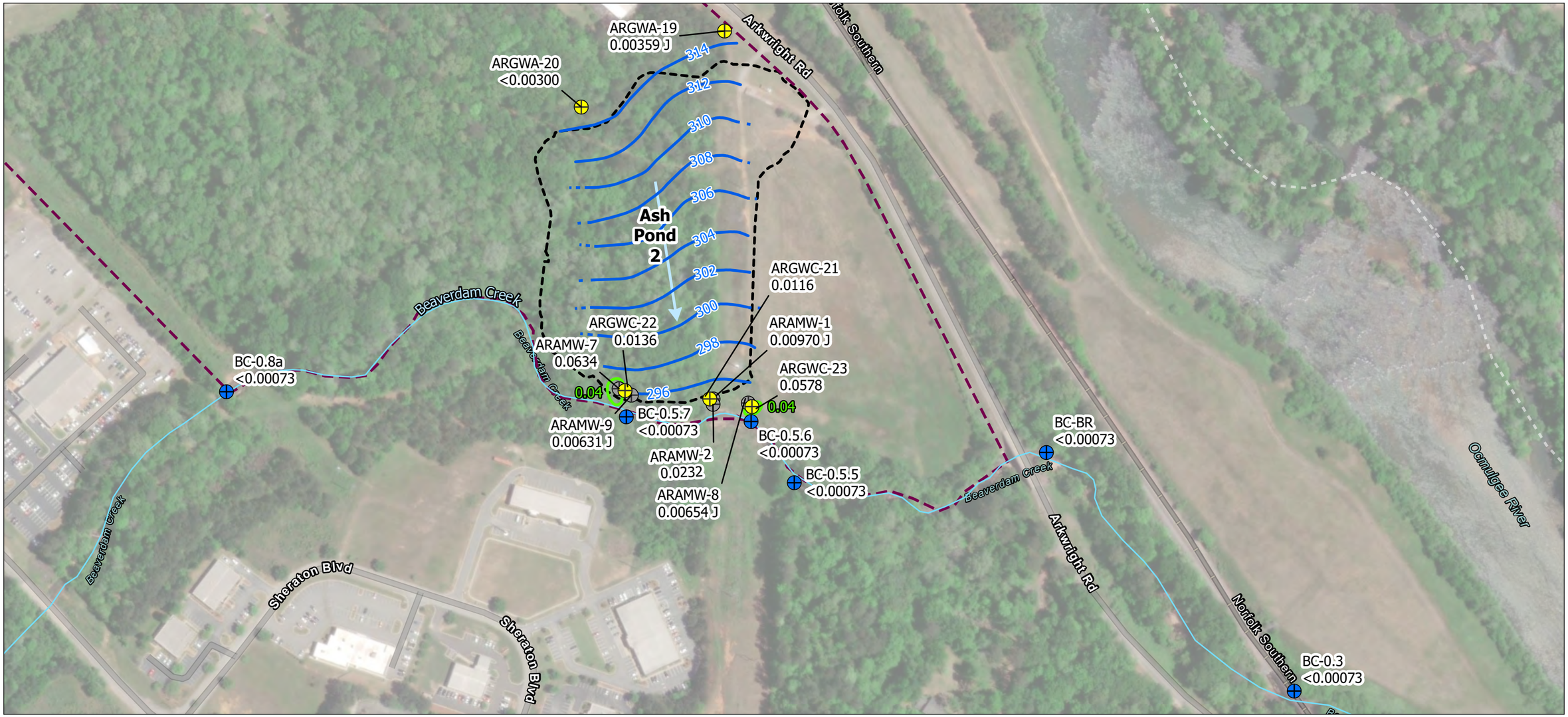
Georgia Power
Semi-Annual Remedy Selection and Design Progress Report
Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
3

Title
Potentiometric Surface Contour Map AP-2 DAS – August 30, 2022



Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet
2. Data Sources: Ash Pond Boundaries, Monitoring Wells, Sampling Locations, Property Boundary, Flow Arrow, Contours, and Beaverdam Creek provided by Southern Company Services and Wood Environment & Infrastructure Solutions
3. Background: Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Legend

- Detection Monitoring Well
- Assessment Monitoring Well
- Surface Water Sampling Location
- Beaverdam Creek
- Lithium Concentration Contour Sept/Oct 2022 (mg/L)
- Potentiometric Surface Contour Aug 2022 (ft NAVD88)
- Inferred Potentiometric Surface Contour Aug 2022 (ft NAVD88)
- Interpreted Groundwater Flow Direction
- Approximate Property Boundary
- Ash Pond 2 Dry Ash Stockpile

0.00970 (J) Lithium Concentration milligrams per Liter (mg/L)

Isoconcentration Notes:

Lithium concentration data from groundwater and surface water samples collected during the September - October 2022 monitoring event.

J indicates the constituent was detected between the analytical method detection limit and the laboratory reporting limit. The value followed by J is qualified by the laboratory as estimated.

GWPS - Groundwater Protection Standard

Analyte	Units	GWPS
Lithium	mg/L	0.04

0 250 500 Feet

(At original document size of 11x17)
1:3,000

N

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Georgia Power

Project Location
Macon, Georgia

Prepared by DMB on 2/6/2023
TR by BS on 2/6/2023
IR by RB on 2/6/2023

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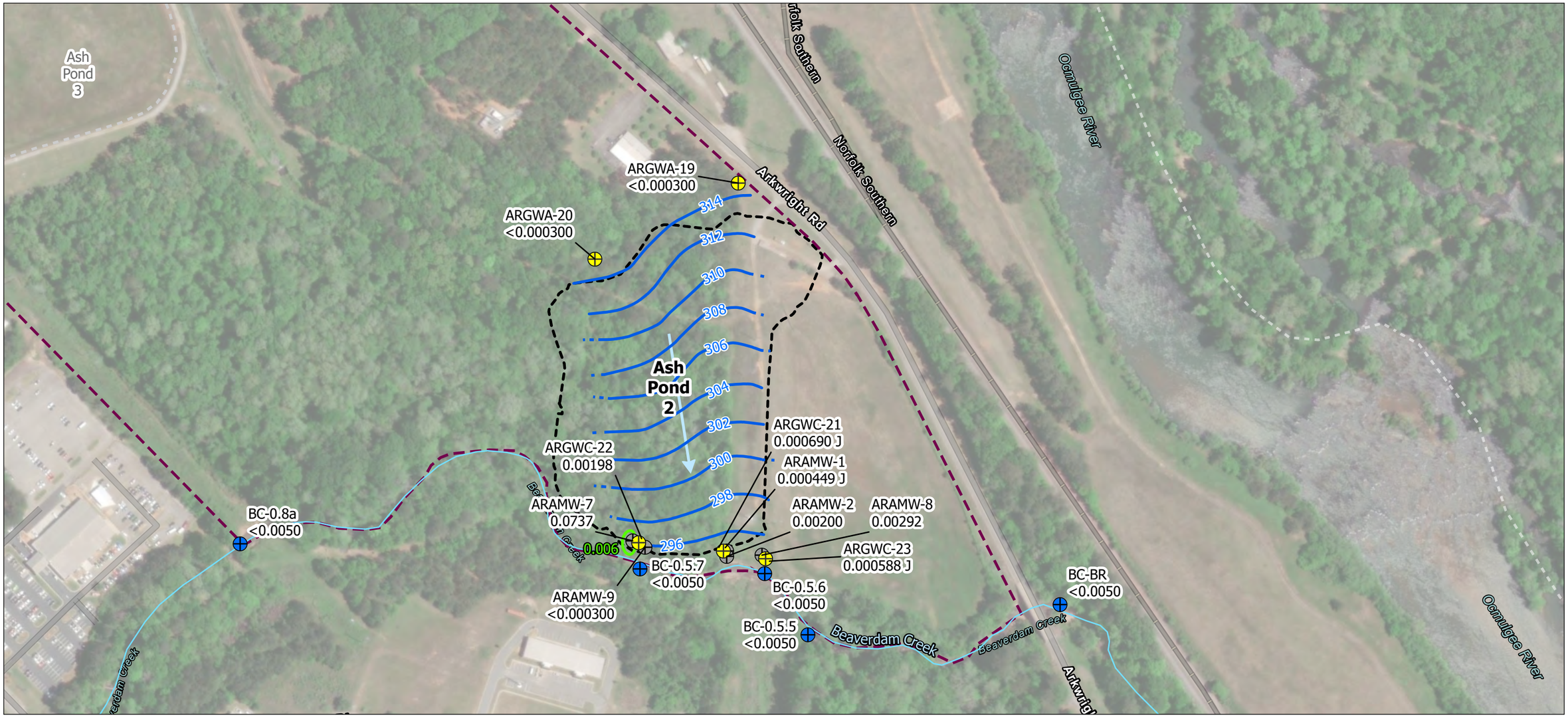
Georgia Power
Semi-Annual Remedy Selection and Design Progress Report
Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
4

Title
Isoconcentration Map for Lithium September - October 2022



Notes
1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet
2. Data Sources: Ash Pond Boundaries, Monitoring Wells, Sampling Locations, Property Boundary, Flow Arrow, Contours, and Beaverdam Creek provided by Southern Company Services and Wood Environment & Infrastructure Solutions
3. Background: Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Legend
- Detection Monitoring Well
- Assessment Monitoring Well
- Surface Water Sampling Location
- Beaverdam Creek
- Cobalt Concentration Contour Sept/Oct 2022 (mg/L)
- Potentiometric Surface Contour Aug 2022 (ft NAVD88)
- Inferred Potentiometric Surface Contour Aug 2022 (ft NAVD88)
- Interpreted Groundwater Flow Direction
- Approximate Property Boundary
- Ash Pond 2 Dry Ash Stockpile
- Ash Pond 3 and Ash Monofill

0.0737 Cobalt Concentration milligrams per Liter (mg/L)

Isoconcentration Notes:
Cobalt concentration data from groundwater and surface water samples collected during the September - October 2022 monitoring event.

J indicates the constituent was detected between the analytical method detection limit and the laboratory reporting limit. The value followed by J is qualified by the laboratory as estimated.

GWPS - Groundwater Protection Standard

Analyte	Units	GWPS
Cobalt	mg/L	0.006

0 250 500 Feet
(At original document size of 11x17)
1:3,000

N

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Project Location
Macon, Georgia

Prepared by DMB on 2/6/2023
TR by BS on 2/6/2023
IR by RB on 2/6/2023

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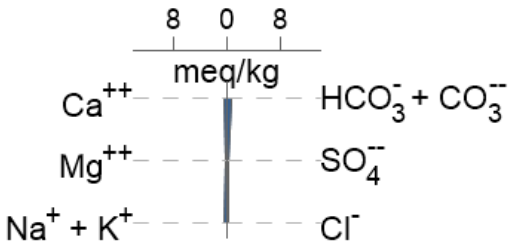
Georgia Power
Semi-Annual Remedy Selection and Design Progress Report
Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
5

Title
Isoconcentration Map for Cobalt September - October 2022

Arkwright AP-2 DAS



ARGWA-19 9/1/2022

ARGWA-20 9/2/2022

ARGWC-21 9/1/2022

ARGWC-22 9/6/2022

ARGWC-23 9/6/2022

Notes
1. Coordinate System:
2. Data Sources:
3. Background Location Map: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Notes
1. % meq/kg - Percent milliequivalent per kilogram
2. Ca^{++} - Calcium
3. Cl^{-} - Chloride
4. CO_3^{--} - Carbonate
5. HCO_3^{-} - Bicarbonate
6. K^{+} - Potassium
7. Mg^{++} - Magnesium
8. Na^{+} - Sodium
9. SO_4^{--} - Sulfate

Stantec

Georgia Power

Project Location
Macon, Georgia

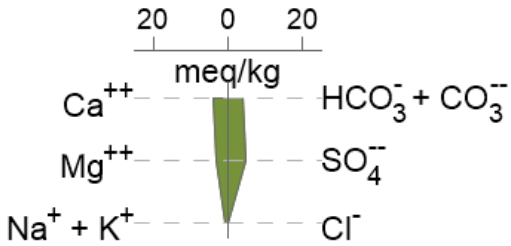
Prepared by DMB on 2023-02-06
TR by BS on 2023-02-06
IR Review by RB on 2023-02-06

Client/Project 175569434
Georgia Power
Semi-Annual Remedy Selection and Design Progress Report - Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
6

Title
Arkwright AP-2 Stiff Diagrams – Upgradient and Downgradient Detection Monitoring Wells

Arkwright AP-2 DAS



ARAMW-1 9/2/2022

ARAMW-2 9/2/2022

ARAMW-7 9/7/2022

ARAMW-8 9/2/2022

ARAMW-9 10/20/2022

Notes
1. Coordinate System:
2. Data Sources:
3. Background Location Map: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Notes
1. % meq/kg - Percent milliequivalent per kilogram
2. Ca^{++} - Calcium
3. Cl^{-} - Chloride
4. CO_3^{--} - Carbonate
5. HCO_3^{-} - Bicarbonate
6. K^{+} - Potassium
7. Mg^{++} - Magnesium
8. Na^{+} - Sodium
9. SO_4^{--} - Sulfate

Stantec

Georgia Power

Project Location
Macon, Georgia

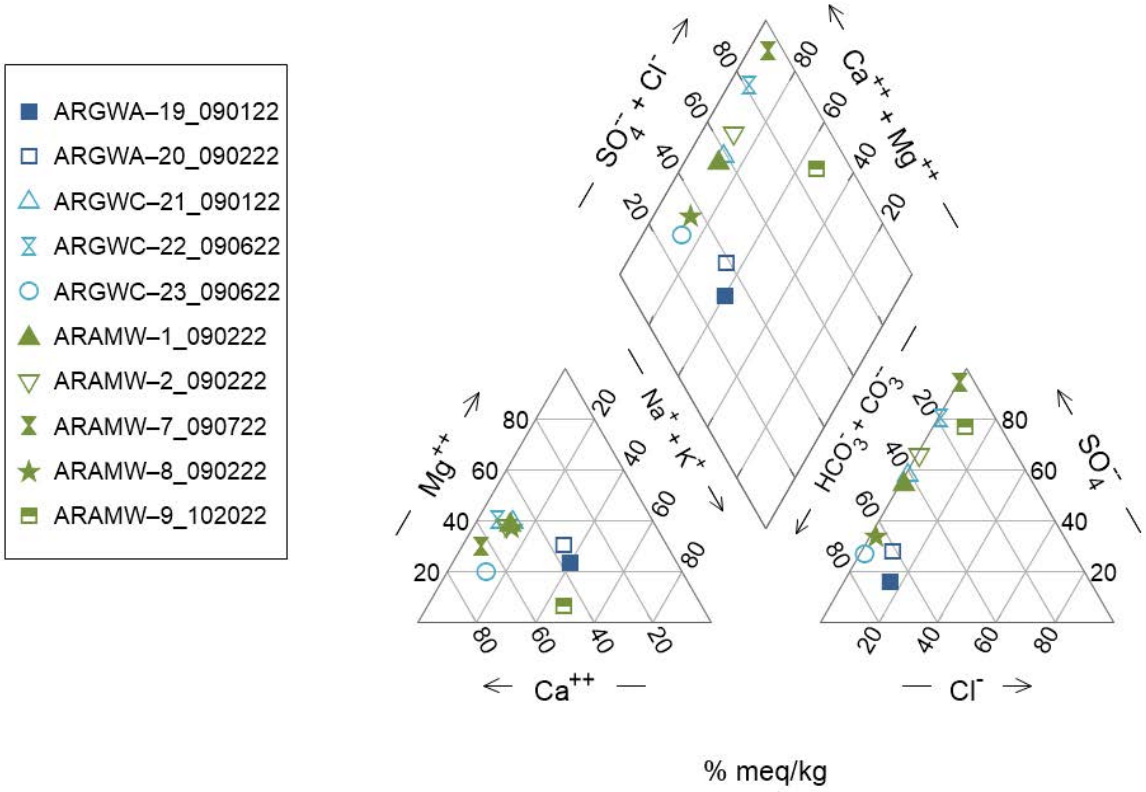
Prepared by DMB on 2023-02-06
TR by BS on 2023-02-06
IR Review by RB on 2023-02-06

Client/Project 175569434
Georgia Power
Semi-Annual Remedy Selection and Design Progress Report - Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
7

Title
Arkwright AP-2 Stiff Diagrams – Assessment Monitoring Wells

Arkwright AP-2 DAS September-October 2022



Notes
1. Coordinate System:
2. Data Sources:
3. Background Location Map: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Notes
1. % meq/kg - Percent milliequivalent per kilogram
2. Ca^{++} - Calcium
3. Cl^- - Chloride
4. CO_3^{--} - Carbonate
5. HCO_3^- - Bicarbonate
6. K^+ - Potassium
7. Mg^{++} - Magnesium
8. Na^+ - Sodium
9. SO_4^{--} - Sulfate

Legend
- Upgradient Detection Monitoring Well
- Downgradient Detection Monitoring Well
- Assessment Monitoring Well

Stantec

Georgia Power

Project Location
Macon, Georgia

Prepared by DMB on 2023-02-06
TR by BS on 2023-02-06
IR Review by RB on 2023-02-06

Client/Project 175569434
Georgia Power
Semi-Annual Remedy Selection and Design Progress Report - Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Figure No.
8

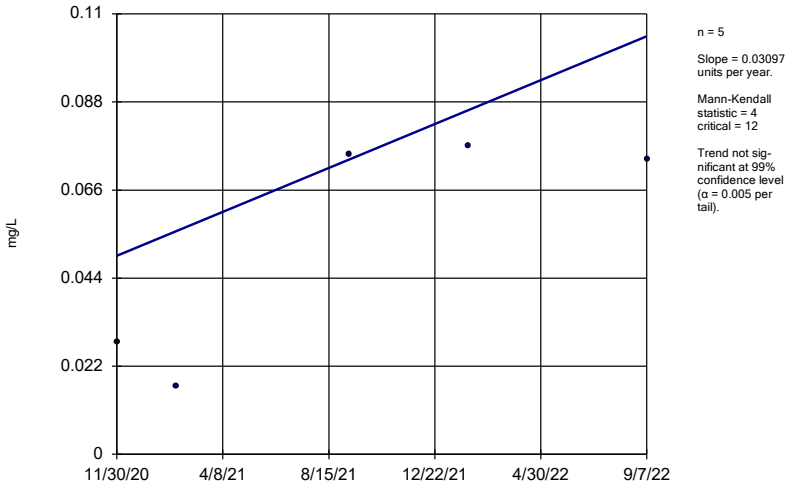
Title
Arkwright AP-2 Piper Diagram August-September 2022

APPENDIX A
STATISTICAL TREND TEST EVALUATION

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARAMW-7



n = 5

Slope = 0.03097 units per year.

Mann-Kendall statistic = 4 critical = 12

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests

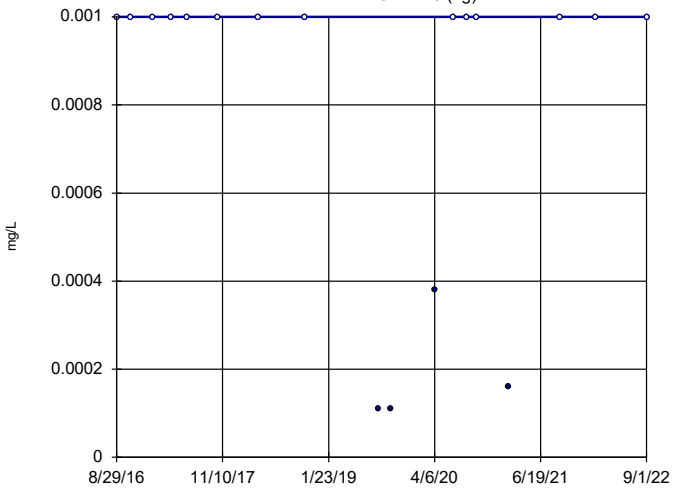
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-19 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = -11 critical = -68

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Cobalt Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests

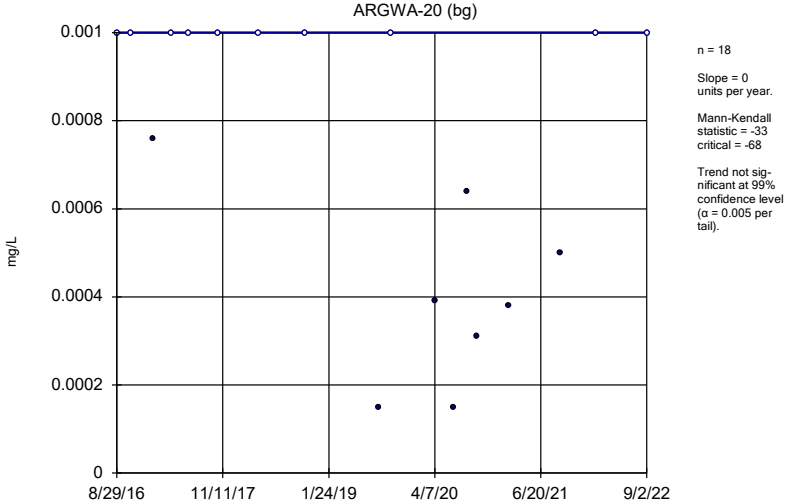
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-20 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = -33 critical = -68

Trend not significant at 99% confidence level (α = 0.005 per tail).

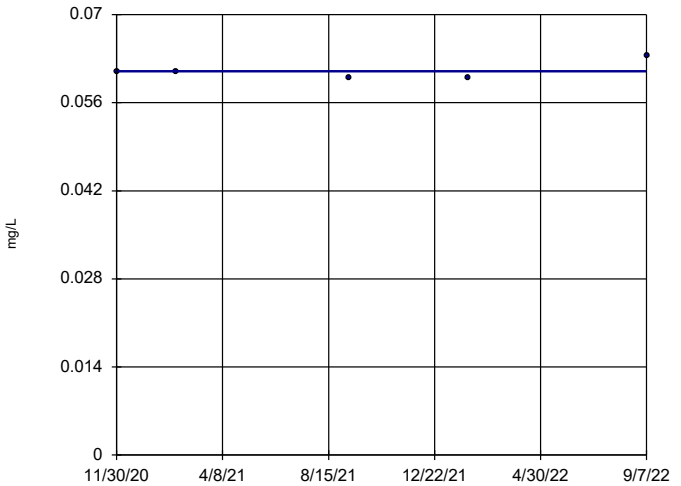
Constituent: Cobalt Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG

Sen's Slope Estimator

ARAMW-7



n = 5

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 12

Trend not significant at 99% confidence level (α = 0.005 per tail).

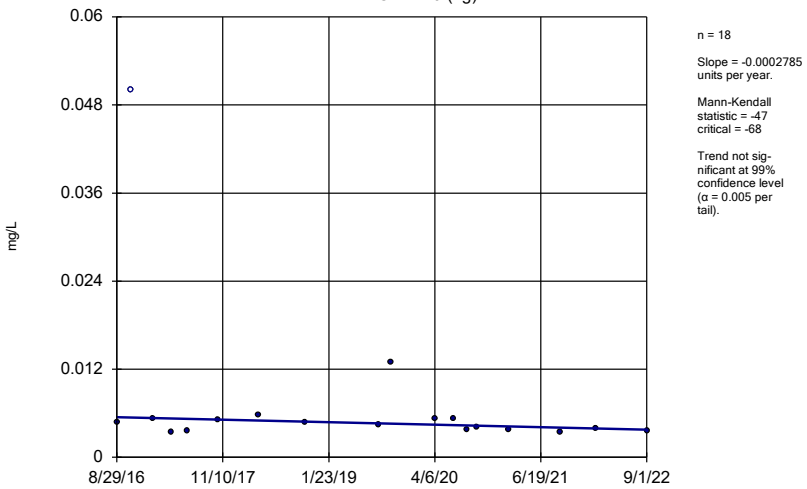
Constituent: Lithium Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests

Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-19 (bg)



n = 18

Slope = -0.0002785 units per year.

Mann-Kendall statistic = -47
critical = -68

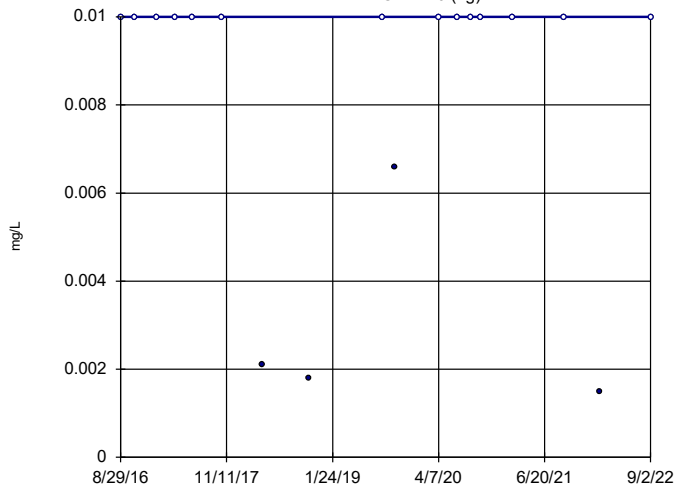
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

Sanitas™ v.9.6.35 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

ARGWA-20 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = -10
critical = -68

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 10/10/2022 1:02 PM View: Appendix IV - Trend Tests
Plant Arkwright Client: Southern Company Data: Arkwright No 2

APPENDIX B
UPDATED AREA WELL SURVEY

APPENDIX B – UPDATED AREA WELL SURVEY

Plant Arkwright
Ash Pond 2 Dry Ash Stockpile
Macon, Georgia

February 28, 2023

Prepared for:

Georgia Power

Prepared by:
Stantec Consulting Services Inc.
10745 Westside Way, Suite 250
Alpharetta, Georgia 30009-7640

1 Introduction

Plant Arkwright is located in Bibb County, Georgia approximately 6 miles northwest of the city of Macon. Arkwright AP-2 was in operation in the 1950s. Soil was placed over AP-2 DAS as a closure measure and was estimated to be closed in-place in the late 1970s to early 1980s. Georgia Power Company (Georgia Power) officially closed the AP-2 DAS by removing ash from the former AP-2, located directly east of AP-2 DAS, in 2010 with the approval of the Georgia Environmental Protection Division (GA EPD) and in accordance with the solid waste landfill regulations specified by GA EPD Rule 391-3-4, in effect at the time of its closure. The CCR management unit referred to as AP-2 DAS is defined as an inactive CCR Landfill per GA EPD Rule 391-3-4-.10(2)(a)(3).

As requested by GA EPD, an updated well survey of potential groundwater wells within a two-mile radius of the AP-2 DAS boundary was conducted and consisted of reviewing federal, state, and county records and online sources. The findings from this survey are consistent with the previous well survey conducted in 2020 and 2021 (Wood, 2022).

1.1 Findings

This section summarizes the sources used for identifying groundwater wells within a two-mile radius from the AP-2 Dry Ash Stack boundary.

1.1.1 FEDERAL SOURCES

1.1.1.1 United States Geological Survey

The United States Geological Survey maintains an inventory of both qualitative and quantitative water data through the National Water Information System. An EDR radius check report was reviewed, confirming there are no new listings within the designated two-mile radius.

1.1.1.2 Safe Drinking Water Information System

The United States Environmental Protection Agency (USEPA) maintains a database of listings of public water systems but does not have well location information. The US EPA Safe Drinking Water Information System information was used to help identify suppliers of public water in the vicinity of the facility. This database was used to determine that the Macon Water Authority and Monroe and Jones County municipal water systems primarily supply water within the designated two -mile radius. Michael Gillis of the Georgia Department of Natural Resources (DNR) confirmed on December 1, 2022 that there are no EPD permitted drinking water wells within the designated two-mile radius.

1.1.2 STATE SOURCES

1.1.2.1 Georgia Environmental Protection Division

1.1.2.1.1 Drinking Water Branch

Records concerning industrial and municipal wells are maintained by GA EPD and made available through a Georgia Open Records Act (GORA) request. Michael Gillis of Georgia DNR responded on December 1, 2022 that there are no GA EPD permitted drinking water wells within the designated two-mile radius.

1.1.2.1.2 Hazardous Site Inventory (HSI) Files

The GA EPD maintains the Hazardous Site Inventory (HSI) records for sites undergoing state-led corrective action. These files typically contain groundwater data and well surveys. A review of the GA EPD interactive online map shows no HSI sites within a 2-mile radius of the facility.

1.1.2.1.3 Hazardous Site Response Act (HSRA) Notifications

GA EPD maintains non-HSI Hazardous Site Response Act (HSRA) notification reports submitted after releases of reportable substances. A GORA request was submitted on November 30, 2022. A response was received on December 16, 2022 from Andria Moody with Georgia DNR, and no new or additional wells were identified in the HSRA notification reports.

1.1.2.1.4 Agricultural and Environmental Services Laboratory Records

The University of Georgia's Agricultural and Environmental Services Laboratory tests drinking water samples submitted by private individuals to their local county extension service. Maps of these sampling results can be viewed online. No new or additional wells were identified.

1.1.2.2 County and Local Sources

1.1.2.2.1 Health Department Records

The Macon-Bibb, Monroe and Jones County Health Departments maintain records of known private wells, and septic system permits, which indicate whether a private or public water supply is used at the address. The health departments were contacted for these records on 12/2/2022. Macon-Bibb County responded on 12/9/2022, and Jones County responded on 12/12/2022. No new or additional wells were identified. No response has been received from Monroe County.

1.1.2.2.2 Water Authority Records

Online GIS data for Macon-Bibb County, Monroe County and Jones County Water Authority was accessed and no new or additional wells were identified.

1.1.3 WINDSHIELD SURVEYS

A windshield survey of the area was conducted on November 15, 2019. During the survey, wells were visually identified and compiled into a GIS database. The majority of the wells were located near residences. The windshield survey could not be conducted in the area across the Ocmulgee River in Jones County, as the entire area is part of a gated community. A follow-up windshield survey was completed by Wood in 2021 within a one-mile radius of the site (Wood, 2022).

2 References

Wood Environment & Infrastructure Solutions, Inc., 2022. Semi-Annual Remedy Selection and Design Progress Report – Georgia Power Company Plant Arkwright Ash Pond 2 Dry Ash Stockpile, February 28, 2022.

Plant Arkwright
Arkwright Road
Macon, GA 31210

Inquiry Number: 7186862.1s
November 22, 2022

The EDR GeoCheck® Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION **PAGE**

GEOCHECK ADDENDUM

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

GEOCHECK® - PHYSICAL SETTING SOURCE REPORT

TARGET PROPERTY ADDRESS

PLANT ARKWRIGHT
ARKWRIGHT ROAD
MACON, GA 31210

TARGET PROPERTY COORDINATES

Latitude (North):	32.924128 - 32ˆ 55’ 26.86’’
Longitude (West):	83.703417 - 83ˆ 42’ 12.30’’
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	247197.9
UTM Y (Meters):	3645928.0
Elevation:	317 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	32083-H6 MACON NW, GA
Version Date:	1985

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

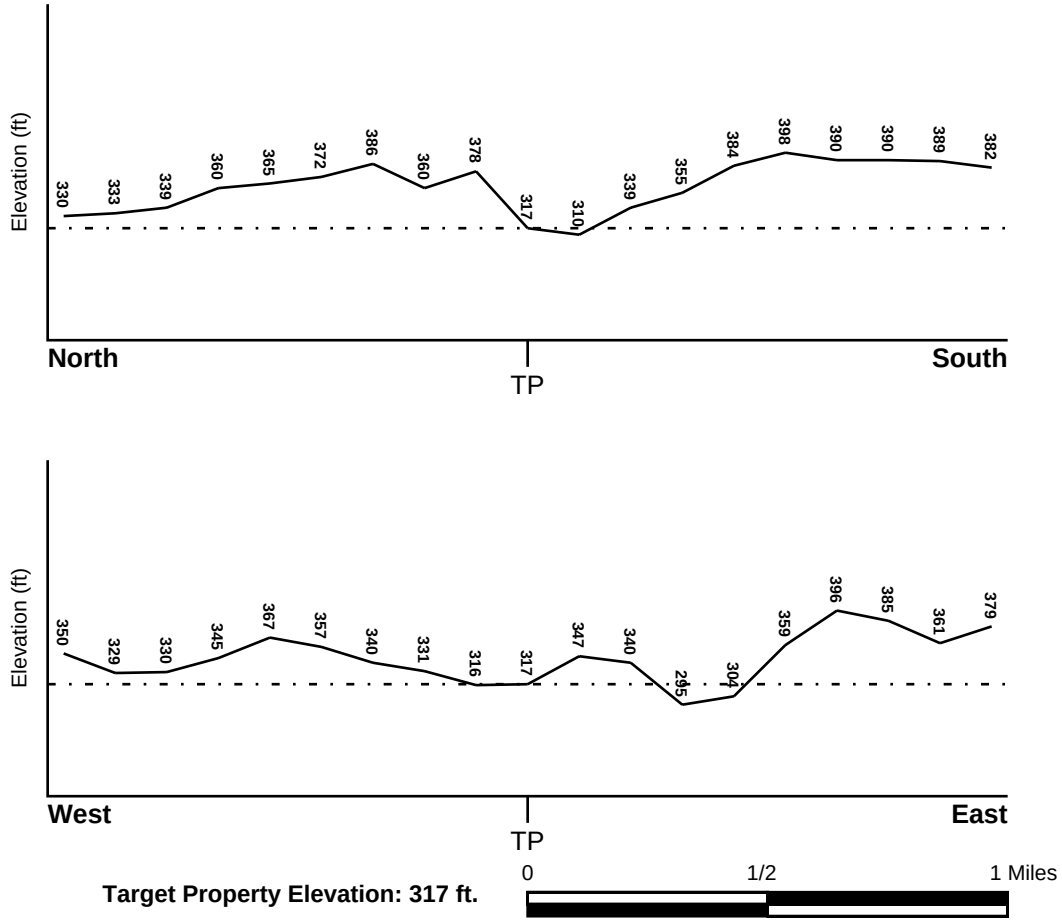
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
13207C0275D	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MACON NW	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

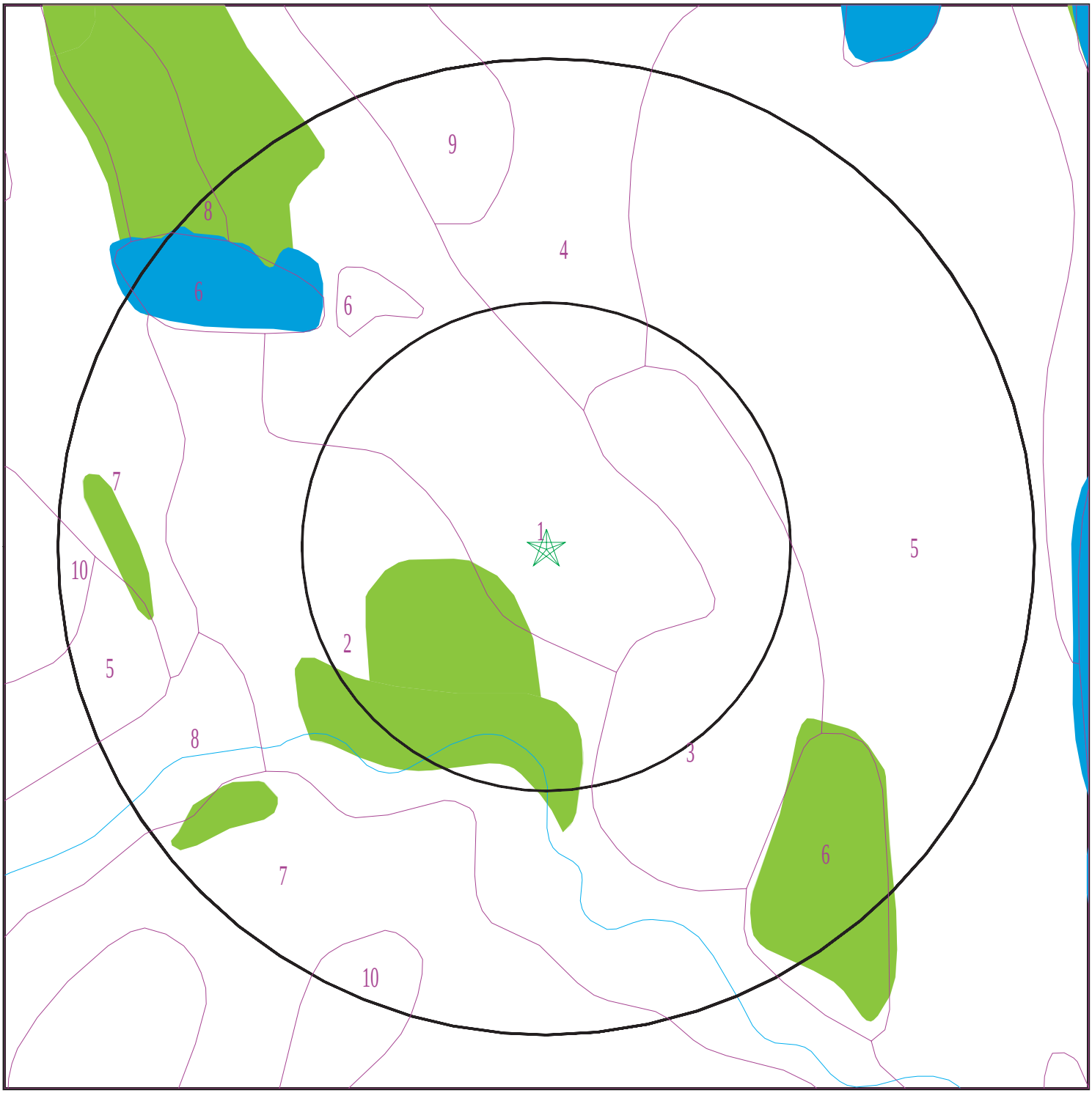
Era:	Paleozoic
System:	Pennsylvanian
Series:	Felsic paragneiss and schist
Code:	mm1 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Metamorphic Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7186862.1s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Plant Arkwright	CLIENT:	Wenck
ADDRESS:	Arkwright Road Macon GA 31210	CONTACT:	Edgar Smith
LAT/LONG:	32.924128 / 83.703417	INQUIRY #:	7186862.1s
		DATE:	November 22, 2022 5:37 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Cecil

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	51 inches	64 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 14 Min: 4	Max: 5.5 Min: 4.5
2	0 inches	5 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 14 Min: 4	Max: 5.5 Min: 4.5
3	5 inches	51 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 14 Min: 4	Max: 5.5 Min: 4.5

Soil Map ID: 2

Soil Component Name: Chewacla

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 31 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	59 inches	70 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 4.5
2	0 inches	18 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 4.5
3	18 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 4.5

Soil Map ID: 3

Soil Component Name: Pits

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Davidson

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 6.5 Min: 4.5
2	5 inches	64 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 6.5 Min: 4.5
3	64 inches	68 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 6.5 Min: 4.5

Soil Map ID: 5

Soil Component Name: Cecil

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	51 inches	64 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 14 Min: 4	Max: 5.5 Min: 4.5
2	0 inches	5 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 14 Min: 4	Max: 5.5 Min: 4.5
3	5 inches	51 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 14 Min: 4	Max: 5.5 Min: 4.5

Soil Map ID: 6

Soil Component Name: Water

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 7

Soil Component Name: Vance

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	44 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 4.5
2	0 inches	3 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 4.5
3	3 inches	44 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 5.5 Min: 4.5

Soil Map ID: 8

Soil Component Name: Congaree

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 99 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	25 inches	64 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 4.5
2	0 inches	18 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 4.5
3	18 inches	25 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 4.5

Soil Map ID: 9

Soil Component Name: Davidson

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 6.5 Min: 4.5
2	5 inches	64 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 6.5 Min: 4.5
3	64 inches	68 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 6.5 Min: 4.5

Soil Map ID: 10

Soil Component Name: Cecil

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	51 inches	64 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 14 Min: 4	Max: 5.5 Min: 4.5
2	0 inches	5 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 14 Min: 4	Max: 5.5 Min: 4.5
3	5 inches	51 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 14 Min: 4	Max: 5.5 Min: 4.5

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	2.000
Federal FRDS PWS	2.000
State Database	2.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	USGS40000261390	1 - 2 Miles NNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

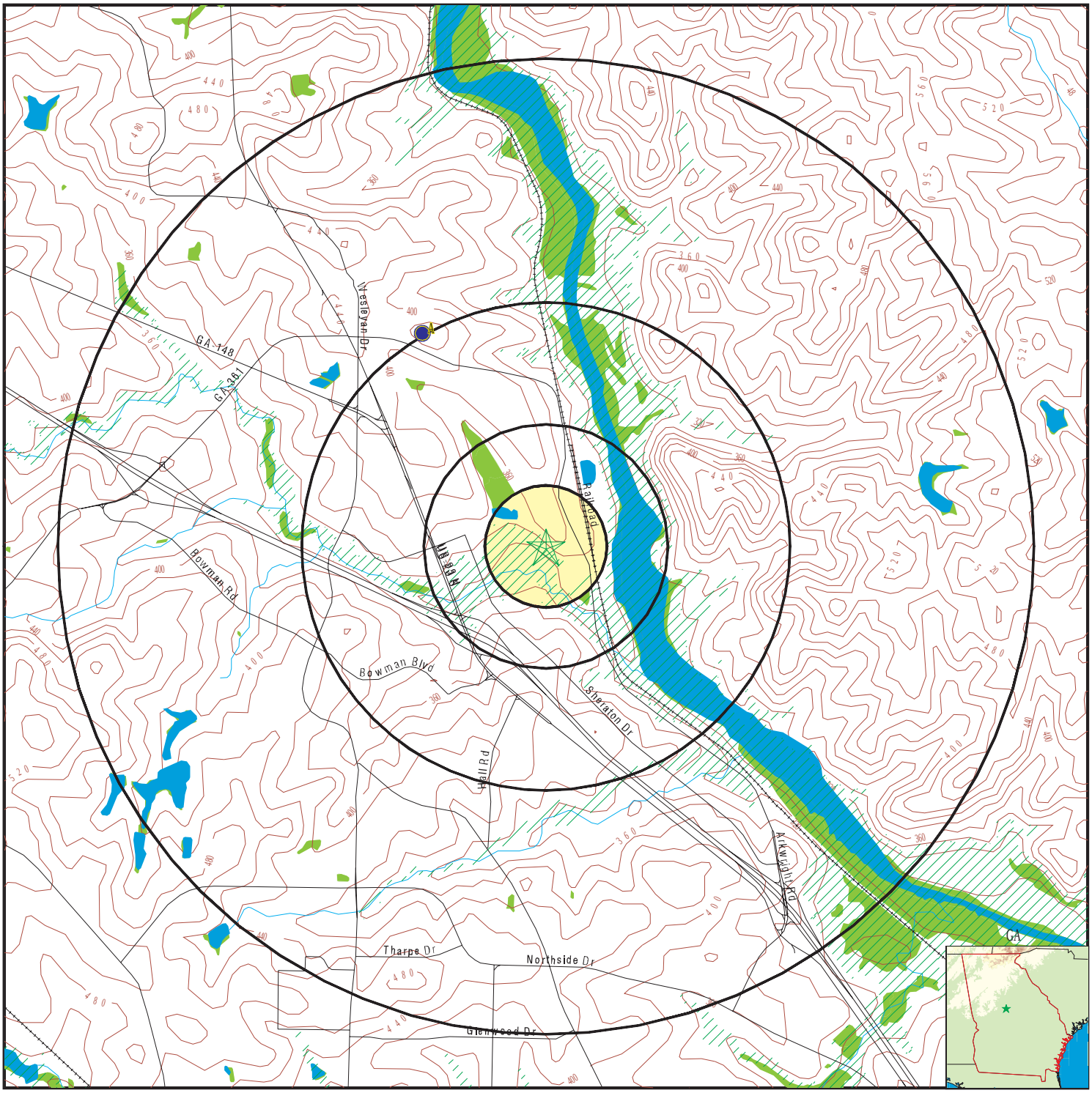
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	0000000364	1 - 2 Miles NNW

PHYSICAL SETTING SOURCE MAP - 7186862.1s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Wildlife Areas

SITE NAME:	Plant Arkwright	CLIENT:	Wenck
ADDRESS:	Arkwright Road Macon GA 31210	CONTACT:	Edgar Smith
		INQUIRY #:	7186862.1s
LAT/LONG:	32.924128 / 83.703417	DATE:	November 22, 2022 5:37 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
A1 **NNW** **1 - 2 Miles** **Higher**	**FED USGS**	**USGS40000261390**

Organization ID:	USGS-GA	Organization Name:	USGS Georgia Water Science Center
Monitor Location:	16X005	Type:	Well
Description:	SOUTHERN NATURAL GAS 1	HUC:	03070103
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Piedmont and Blue Ridge crystalline-rock aquifers		
Formation Type:	Crystalline Rocks	Aquifer Type:	Confined multiple aquifer
Construction Date:	Not Reported	Well Depth:	600
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

A2 **NNW** **1 - 2 Miles** **Higher**	**GA WELLS**	**0000000364**

County code:	021	Well num:	16X005
Remarks:	SOUTHERN NATURAL GAS 1	Lat:	325612
Lon:	0834244	Latlon datum:	NAD27
Alt:	416.00	Alt datum:	NGVD29
Depth:	600	Depth to casing:	Not Reported
Casing dia:	Not Reported	Casing matl:	Not Reported
Depth to top:	Not Reported	Depth to bot:	Not Reported
Opening type:	Not Reported	Constr date:	Not Reported
Discharge:	Not Reported	Prim use:	Not Reported
Aquifer code:	400GNSS	Edr id:	0000000364

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for BIBB County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 31210

Number of sites tested: 5

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.300 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.520 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Georgia GIS Clearinghouse
Telephone: 706-542-1581

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Georgia Public Supply Wells
Source: Georgia Department of Community Affairs
Telephone: 404-894-0127

USGS Georgia Water Wells
Source: USGS, Georgia District Office
Telephone: 770-903-9100

OTHER STATE DATABASE INFORMATION

DNR Managed Lands
Source: Department of Natural Resources
Telephone: 706-557-3032
This dataset provides 1:24,000-scale data depicting boundaries of land parcels making up the public lands managed by the Georgia Department of Natural Resources (GDNR). It includes polygon representations of State Parks, State Historic Parks, State Conservation Parks, State Historic Sites, Wildlife Management Areas, Public Fishing Areas, Fish Hatcheries, Natural Areas and other specially-designated areas. The data were collected and located by the Georgia Department of Natural Resources. Boundaries were digitized from survey plats or other information.

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

APPENDIX C
GEOCEHMICAL LABORATORY RESULTS

Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for:	*Environmental Services*
Project Number/ LIMS No.	*Custom XRD/MI4507-NOV22*
Sample Receipt:	*November 3, 2022*
Sample Analysis:	*November 10, 2022*
Reporting Date:	*December 8, 2022*

Instrument:	BRUKER AXS D8 Advance Diffractometer
Test Conditions:	Co radiation, 35 kV, 40 mA; Detector: LYNXEYE Regular Scanning: Step: 0.02°, Step time: 0.75s, 2θ range: 6-80°
Interpretations :	PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPIus Eva and Topas software.
Detection Limit :	0.5-2%. Strongly dependent on crystallinity.

Contents:

Kim Gibbs, H.B.Sc., P.Geo.
Senior Mineralogist

Huyun Zhou, Ph.D., P.Geo.
Senior Mineralogist

ACCREDITATION: SGS Natural Resources Lakefield is accredited to the requirements of ISO/IEC 17025 for specific tests as listed on our scope of accreditation, including geochemical, mineralogical and trade mineral tests. To view a list of the accredited methods, please visit the following website and search SGS Canada Inc. - Minerals: https://www.scc.ca/en/search/palcan.

Method Summary

The Rietveld Method of Mineral Identification by XRD (ME-LR-MIN-MET-MN-D05) method used by SGS Natural Resources is accredited to the requirements of ISO/IEC 17025.

Mineral Identification and Interpretation:

Mineral identification and interpretation involves matching the diffraction pattern of an unknown material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) database and released on software as Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds, except when internal standards have been added by request. Mineral proportions may be strongly influenced by crystallinity, crystal structure and preferred orientations. Mineral or compound identification and quantitative analysis results should be accompanied by supporting chemical assay data or other additional tests.

Quantitative Rietveld Analysis:

Quantitative Rietveld Analysis is performed by using Topas 4.2 (Bruker AXS), a graphics based profile analysis program built around a non-linear least squares fitting system, to determine the amount of different phases present in a multicomponent sample. Whole pattern analyses are predicated by the fact that the X-ray diffraction pattern is a total sum of both instrumental and specimen factors. Unlike other peak intensity-based methods, the Rietveld method uses a least squares approach to refine a theoretical line profile until it matches the obtained experimental patterns.

Rietveld refinement is completed with a set of minerals specifically identified for the sample. Zero values indicate that the mineral was included in the refinement calculations, but the calculated concentration was less than 0.05wt%. Minerals not identified by the analyst are not included in refinement calculations for specific samples and are indicated with a dash.

Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

Mineral/Compound	ARAMW-9-41.0/41.3-20221018 NOV4507-01 (wt %)	ARAMW-9-9.5/96.6-100.7/1002.0-20221018 NOV4507-02 (wt %)
Quartz	33.1	31.2
Microcline	13.8	13.6
Kaolinite	0.5	0.5
Muscovite	2.8	2.1
Biotite	4.0	7.2
Albite	45.8	45.3
TOTAL	100	100

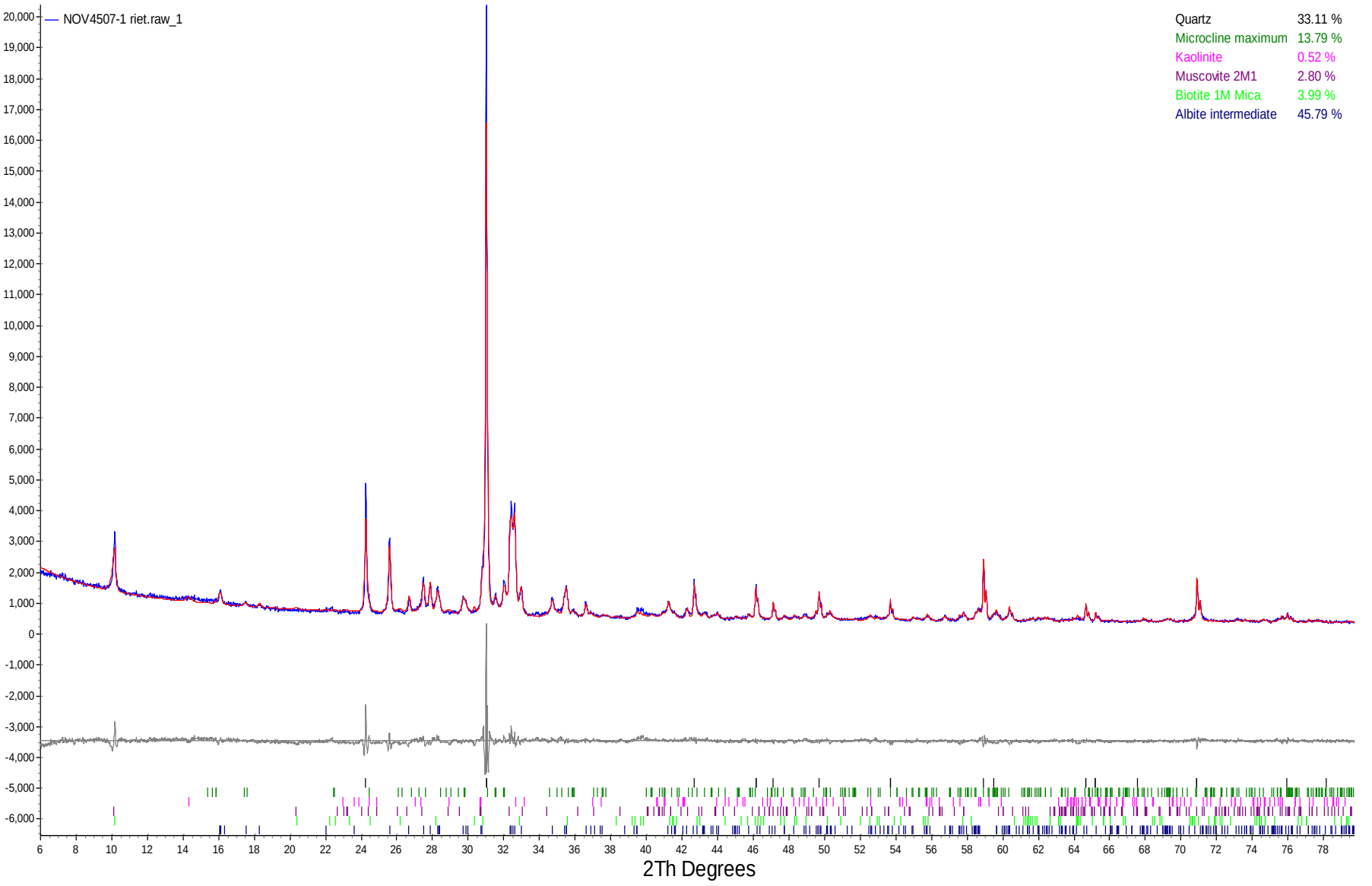
Zero values indicate that the mineral was included in the refinement, but the calculated concentration is below a measurable value.

Dashes indicate that the mineral was not identified by the analyst and not included in the refinement calculation for the sample.

The weight percent quantities indicated have been normalized to a sum of 100%. The quantity of amorphous material has not been determined.

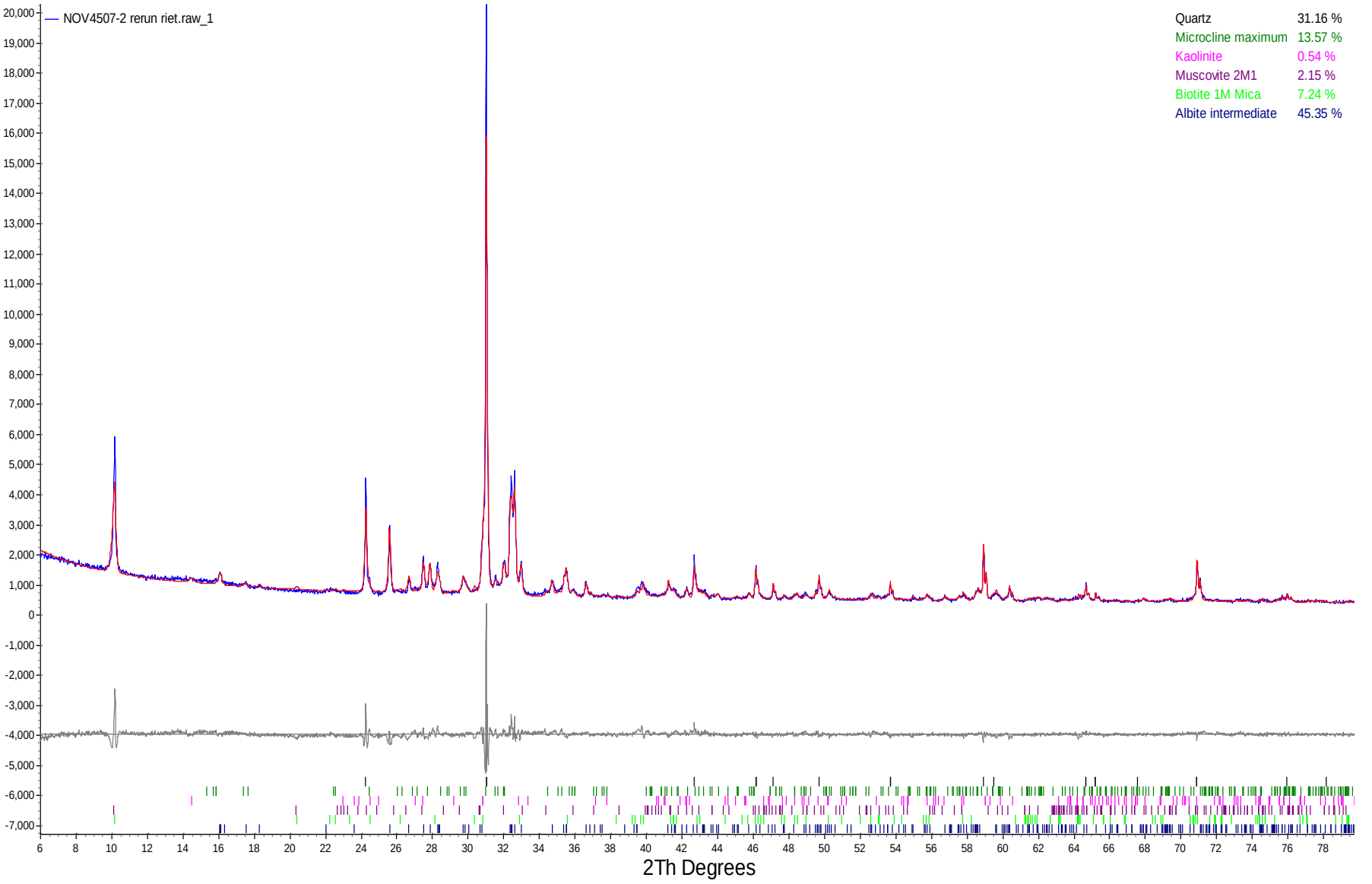
Mineral/Compound	Formula
Quartz	SiO_2
Microcline	$KAlSi_3O_8$
Kaolinite	$Al_2Si_2O_5(OH)_4$
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$
Biotite	$K(Mg,Fe)_3(AlSi_3O_{10})(OH)_2$
Albite	$NaAlSi_3O_8$

ARAMW-9-41.0/41.3-20221018



Quartz	33.11 %
Microcline maximum	13.79 %
Kaolinite	0.52 %
Muscovite 2M1	2.80 %
Biotite 1M Mica	3.99 %
Albite intermediate	45.79 %

ARAMW-9-9.5/96.6-100.7/1002.0-20221018



Quartz	31.16 %
Microcline maximum	13.57 %
Kaolinite	0.54 %
Muscovite 2M1	2.15 %
Biotite 1M Mica	7.24 %
Albite intermediate	45.35 %

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
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29-November-2022

Stantec Consulting Ltd.
Attn : Shannon Zahuranec

3052 Beaumont Centre Circle
Lexington, Kentucky
40513, USA

Phone: 859-422-3122
Fax:

Date Rec. : 27 October 2022
LR Report: **CA19331-OCT22**
Reference: Arkwright Plant/175569434

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: ARAMW-9-41.0/41.3-2022101800.7/1002.0-20221018	6: ARAMW-9-9.5/96.6-1
Sample Date & Time					18-Oct-22 16:00	18-Oct-22 16:16
Prep-Env AR [Prep]	09-Nov-22	10:43	21-Nov-22	10:04	1	1
Hg MS [ug/g]	16-Nov-22	17:05	21-Nov-22	10:04	< 0.05	< 0.05
As [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	0.6	0.8
Al [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	11000	16000
B [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	< 1	< 1
Ba [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	110	130
Be [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	0.25	0.34
Cd [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	< 0.02	0.08
Co [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	6.5	7.1
Cr [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	220	200
Fe [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	22000	29000
Li [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	17	22
Mn [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	360	720
Mo [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	0.4	2.3
Pb [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	3.8	4.2
Sb [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	< 6	< 6
Se [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	< 0.7	< 0.7
Tl [µg/g]	16-Nov-22	17:05	21-Nov-22	10:04	0.23	0.40

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003139356

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29-November-2022

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Attn : Shannon Zahuranec

3052 Beaumont Centre Circle
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40513, USA

Phone: 859-422-3122
Fax:

Date Rec. : 27 October 2022
LR Report: **CA19332-OCT22**
Reference: Arkwright Plant/175569434

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: ARAMW-9-41.0/41.3 -20221018	6: ARAMW-9-9.5/96.6-100.7/1002.0-20221018
Sample Date & Time					18-Oct-22 16:00	18-Oct-22 16:16
SiO2 [%]	07-Nov-22	13:18	08-Nov-22	13:18	69.3	67.5
Al2O3 [%]	07-Nov-22	13:18	08-Nov-22	13:18	14.8	15.5
Fe2O3 [%]	07-Nov-22	13:18	08-Nov-22	13:18	3.35	4.15
MgO [%]	07-Nov-22	13:18	08-Nov-22	13:18	1.23	1.53
CaO [%]	07-Nov-22	13:18	08-Nov-22	13:18	2.86	2.64
Na2O [%]	07-Nov-22	13:18	08-Nov-22	13:18	4.04	3.99
K2O [%]	07-Nov-22	13:18	08-Nov-22	13:18	2.43	2.94
TiO2 [%]	07-Nov-22	13:18	08-Nov-22	13:18	0.39	0.56
P2O5 [%]	07-Nov-22	13:18	08-Nov-22	13:18	0.11	0.09
MnO [%]	07-Nov-22	13:18	08-Nov-22	13:18	0.05	0.10
Cr2O3 [%]	07-Nov-22	13:18	08-Nov-22	13:18	0.03	0.04
V2O5 [%]	07-Nov-22	13:18	08-Nov-22	13:18	0.01	0.01
LOI [%]	07-Nov-22	13:18	08-Nov-22	13:18	0.96	1.14
Sum [%]	07-Nov-22	13:18	08-Nov-22	13:18	99.5	100.2

Catharine Arnold

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Project Specialist,
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