

# 2023 ANNUAL GROUNDWATER MONITORING REPORT

Plant Arkwright Ash Pond 1 (AP-1) Landfill Macon, Georgia

July 31, 2023

#### Prepared for:



Prepared by: Stantec Consulting Services Inc. 10745 Westside Way, Suite 250 Alpharetta, Georgia 30009-7640

# 2023 Annual Groundwater Monitoring Report Plant Arkwright Ash Pond 1 Landfill

#### **CERTIFICATION STATEMENT**

This 2023 Annual Groundwater Monitoring Report, Plant Arkwright, Ash Pond 1 Landfill has been prepared in compliance with the Interim Groundwater Monitoring Plan submitted to the Georgia Environmental Protection Division on September 24, 2021. Plant Arkwright AP-1 Landfill closed according to Solid Waste Management Tracking Number 011-030D(LI) since July 30, 2010. This report was prepared by a qualified groundwater scientist or engineer 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 391-3-4-.01.

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# **Executive Summary**

This summary was prepared by Stantec Consulting Services Inc. (Stantec) on behalf of Georgia Power. The 2023 Annual Groundwater Monitoring Report provides the status of the groundwater monitoring program from July 2022 through June 2023 at Georgia Power Company (Georgia Power) former Plant

Arkwright Ash Pond 1 (AP-1) Landfill.

Plant Arkwright is located in Bibb County, Georgia, approximately six miles northwest of the city of Macon. The plant address is 5241 Arkwright Road, Macon, Georgia 31210. The 31-acre AP-1 Landfill is located south of the former plant area and is bordered by the Ocmulgee River, Beaverdam Creek, and a Norfolk Southern Railroad line. When in operation, the coal-fired Plant Arkwright 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. The AP-1 Landfill received a closure certificate on July 30, 2010, under Solid Waste Permit Number 011-030D(LI). AP-1 Landfill is currently in post-closure care.

A coal combustion residuals (CCR) unit solid waste handling permit application, dated November 2018, was submitted to the Georgia Environmental Protection Division (GA EPD) pursuant to the requirements of Georgia Administrative Code Rule 391-3-4-.10. The Groundwater Monitoring Plan, Revision 1, is a minor modification to Solid Waste Permit Number 011-030D(LI) and an



interim plan, as requested by GA EPD on March 23, 2021, to be used until the new CCR unit solid waste handling permit is issued and a permanent groundwater monitoring network is established for AP-1 Landfill. Monitoring and reporting utilizing the existing interim groundwater monitoring network will be conducted on a semi-annual basis in accordance with the Groundwater Monitoring Plan until CCR removal activities require the interim monitoring wells to be abandoned. The current interim groundwater monitoring well network at the Site consists of two upgradient wells (AP1GWA-1 and AP1GWA-2) and 11 downgradient wells (AP1PZ-1 through AP1PZ-11). Groundwater monitoring at AP-1 Landfill has been initiated in order to meet GA EPD requirements. A minor modification was submitted to EPD on June 15, 2023 for the abandonment of AP1PZ-6 and removal of AP1PZ-6 from the groundwater monitoring network in support of initial construction.

During the 2022-2023 annual reporting period, Stantec conducted two semi-annual groundwater sampling events in August-September 2022 and January-February 2023. The samples were analyzed for the full suites of Appendix III and Appendix IV constituents listed in Title 40, Code of Federal Regulations, Part 257.

Georgia Power will continue semi-annual groundwater monitoring and reporting at the Site. Reports will be provided to GA EPD semi-annually.



# **Acronyms / Abbreviations**

40 CFR Title 40 Code of Federal Regulations

AP-1 Ash Pond 1

CCR Coal Combustion Residuals

DO Dissolved Oxygen

GA EPD Georgia Environmental Protection Division

mg/L Milligrams per Liter

NELAP National Environmental Laboratory Accreditation Program

NTU Nephelometric Turbidity Units
ORP Oxidation-Reduction Potential
Pace Pace Analytical Services, LLC
PWR Partially Weathered Rock

QA/QC Quality Assurance/Quality Control

Site Former Plant Arkwright Ash Pond 1 Landfill Site
US EPA United States Environmental Protection Agency

# 1.0 Introduction

This 2023 Annual Groundwater Monitoring Report has been prepared to document groundwater monitoring activities conducted at the Georgia Power Company (Georgia Power) former Plant Arkwright Ash Pond-1 (AP-1) Landfill Site (Site).

Groundwater monitoring and reporting for Plant Arkwright AP-1 Landfill are performed in accordance with the Interim Groundwater Monitoring Plan, Revision 1 (Jacobs, 2021), submitted to Georgia Environmental Protection Division (GA EPD) on September 24, 2021. This interim plan is a minor modification to Solid Waste Permit Number 011-030D(LI), as requested by GA EPD on March 23, 2021. Groundwater monitoring at the Site will be conducted in accordance with this Groundwater Monitoring Plan until the new coal combustion residuals (CCR) unit solid waste handling permit is issued and a permanent groundwater monitoring network is established for AP-1 Landfill. This 2023 annual report documents the activities completed between August 2022 and July 2023. Two groundwater monitoring events were conducted during this monitoring period in August-September 2022, and January-February 2023.

## 1.1 Site Description and Background

Plant Arkwright is located in Bibb County, Georgia, approximately six miles northwest of the city of Macon (Figure 1). The physical address of the plant is 5241 Arkwright Road, Macon, Georgia 31210. The 31-acre AP-1 Landfill is located south of the former plant area and is bordered by the Ocmulgee River, Beaverdam Creek, and a Norfolk Southern Railroad line (Figure 2). When in operation, the coal-fired Plant Arkwright 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.

AP-1 Landfill was constructed prior to 1958 and was closed with two feet of soil cover and vegetation in 1990. Regrading and stabilization of the riverbank and creek bank occurred in two phases in 2004 and 2007. Additionally, the slopes and top of AP-1 Landfill were regraded by relocating CCR and placing additional cover soil (Jacobs, 2018).

AP-1 Landfill received a Closure Certificate on July 30, 2010, under Solid Waste Permit Number 011-030D(LI) and is currently in post-closure care. Because the unit ceased receiving waste prior to October 19, 2015, the AP-1 Landfill is exempt from the requirements in Title 40 Code of Federal Regulations (40 CFR) Part 257 Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, as specified in 40 CFR §257.50 (d) and (e). As such, a CCR unit solid waste handling permit application package for the AP-1 Landfill was submitted to GA EPD in November 2018 and is currently under review.

# 1.2 Regional Geology & Hydrogeologic Setting

The geology and hydrogeology of the Plant Arkwright site 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



# 2023 Annual Groundwater Monitoring Report Plant Arkwright Ash Pond 1 Landfill 1.0 Introduction

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 to 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 seven 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).

#### 1.2.1 SITE GEOLOGY

The general geology beneath AP-1 Landfill consists of alluvial sands of varying grain sizes, with minor lenses of clay. More consolidated sediments include fine to medium sandy silt to silty sand, which is underlain by a silty sand saprolite. Boring logs indicated overburden thickness ranging from 22 to 62 feet, overlying a thin layer (5 to 10 feet) of partially weathered rock (PWR). The underlying bedrock consists of quartzofeldspathic gneiss, hornblende gneiss, and schist (Jacobs, 2021).

#### 1.2.2 SITE HYDROGEOLOGY

The uppermost aquifer at AP-1 Landfill 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 PWR 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. Based on gauging of the currently installed interim monitoring wells, the potentiometric surface elevation ranges from approximately 323 to 290 feet referenced to North American Vertical Datum of 1988 (19 to 57 feet below ground surface, respectively) in the northern and southern portions of the Site. The interim wells were installed to evaluate the uppermost occurrence of groundwater at the Site and from the monitoring network for AP-1 Landfill (Figure 2).



# 2023 Annual Groundwater Monitoring Report Plant Arkwright Ash Pond 1 Landfill 1.0 Introduction

Slug testing data from the Site reflect a range of hydraulic conductivities from 10<sup>-6</sup> to 10<sup>-3</sup> centimeters per second in the water table (overburden) hydrostratigraphic unit (Jacobs, 2021). Groundwater level gauging data from the Site show stable water level trends and the potentiometric surface maps depict groundwater flowing to the south, southeast, and northeast, in the direction of the Ocmulgee River and Beaverdam Creek (Figures 3 and 4).

## 1.3 Groundwater Monitoring Network

Georgia Power installed a temporary groundwater monitoring network within the uppermost aquifer at the Site. 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. Due to access constraints and safety concerns, downgradient wells at AP-1 Landfill were installed through CCR and will be removed during the closure by removal of the unit. A permanent groundwater monitoring network will be established following closure as noted in the 2018 CCR permit application.



# 2.0 Groundwater Monitoring Activities

The following describes monitoring-related activities performed between August 2022 and July 2023. Samples were collected from each of the wells in the monitoring network depicted in Figure 2. In accordance with 40 CFR § 257.93, Table 2 presents a summary of the groundwater sampling events completed for AP-1 Landfill during this monitoring period. Well AP1PZ-3 was damaged on February 2, 2023, and could not be accessed for sample collection during the February 2023 sampling event. The well was repaired on February 28, 2023, and sampled on June 13, 2023.

Due to construction activities at the Site, groundwater sampling for the Fall of 2023 was completed for monitoring well AP1PZ-6 on June 13, 2023 for the AP-1 Landfill. The remaining AP-1 Landfill monitoring wells will be sampled in October 2023. Laboratory data and reporting for these sampling events will be provided in the semiannual Groundwater Monitoring Report in February 2024.

## 2.1 Monitoring Well Installation and Maintenance

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 and January-February 2023, the monitoring wells were inspected. Well AP1PZ-3 was identified as damaged in February 2023 as described in the well inspection form provided in Appendix A and the well could not be sampled. The well was repaired and was later resampled (Appendix A). There was no need for corrective actions for the other wells at AP1 during this reporting period. Piezometer AP1PZ-6 was proposed for abandonment in a minor modification of Solid Waste Permit Number 011-030D(LI) on June 15, 2023 (Stantec 2023a) in preparation for Southpoint construction activities at Ash Pond 1 (Stantec 2023b). AP1PZ-6 was abandoned on June 20 and 21, 2023 and a well abandonment report can be found in Appendix B.

# 2.2 Additional Surface Water Sampling

Due to the close proximity of Beaverdam Creek and the Ocmulgee River in the downgradient direction, Georgia Power proactively collected surface water samples. Surface water samples were collected from four locations along the Ocmulgee River and two locations along Beaverdam Creek in August 2022 and February 2023, as depicted in Figure 2. Surface water samples were collected in accordance with U.S. Environmental Protection Agency (US EPA) Region 4 *Science and Ecosystem Support Division Operating Procedures for Surface Water Sampling* (SESDPROC-201-R4, December 16, 2016).

Surface water samples were analyzed for the full suites of 40 CFR Part 257 Appendix III and Appendix IV constituents, with the exception of BC-0.3 in August 2022 for which radium was not collected or analyzed. Previously sampled OR+1.0 was not sampled due to unsafe access conditions in the Ocmulgee River. Surface water samples were also submitted for analysis of total alkalinity, bicarbonate alkalinity, magnesium, potassium, and sodium.



#### 2023 Annual Groundwater Monitoring Report Plant Arkwright Ash Pond 1 Landfill 2.0 Groundwater Monitoring Activities

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 2022 and 2023 sampling events are provided in Appendix B. Georgia Power will continue collecting the surface water samples semi-annually during interim groundwater monitoring.



# 3.0 Sample Methodology & Analyses

The semi-annual groundwater sampling events completed in August-September 2022 and January-February 2023 for AP-1 Landfill include sampling for the constituents listed in 40 CFR Part 257 Appendix III and Appendix IV. Groundwater analytical data and chain-of-custody records are located in Appendix B. The following sections describe methods used to conduct groundwater monitoring at the Site.

## 3.1 Groundwater Elevation Measurements and Flow Direction

Prior to each sampling event, the static groundwater levels were measured in each piezometer at AP-1 Landfill. The water level indicator was properly decontaminated between each piezometer. Groundwater elevations are summarized in Table 3. The recorded groundwater levels were used to determine the groundwater elevations in each piezometer and develop potentiometric surface contour maps (Figures 3 and 4). Review of the figures indicates that the apparent groundwater flow direction in the uppermost aquifer is to the east, southeast, and northeast, in the direction of the Ocmulgee River and Beaverdam Creek. This groundwater flow pattern is consistent with historical groundwater flow patterns.

## 3.2 Groundwater Gradient and Flow Velocity

The groundwater flow velocity at AP-1 Landfill was calculated using a derivation of Darcy's Law. Specifically,

$$V = \frac{K*i}{n_e}$$
 Where: 
$$V = \quad \text{Groundwater flow velocity} \left(\frac{feet}{day}\right)$$
 
$$K = \quad \text{Average hydraulic conductivity of the aquifer} \left(\frac{feet}{day}\right)$$
 
$$i = \quad \text{Horizontal hydraulic gradient} \left(\frac{feet}{foot}\right)$$
 
$$n_e = \quad \text{Effective porosity (unitless)}$$

The general groundwater flow velocities were calculated for AP-1 Landfill based on hydraulic gradients, average hydraulic conductivity based on previous slug test data, and an estimated effective porosity of 0.20 for silty-sand (based on a review of several sources, including Driscoll, 1986; US EPA, we1989; Freeze and Cherry 1979). The general groundwater flow velocity values based on August 30, 2022 and January 30, 2023 are presented in Table 4. The results for groundwater flow velocities ranged from 0.002 feet/day in the southern portion of the Site to 0.272 feet/day in the northeastern portion of the Site (0.7 and 99.1 feet/year, respectively) on August 30, 2022 and January 30, 2023. The observed groundwater flow velocities calculated for this monitoring event are also generally consistent with expected velocities in the regolith-upper bedrock aquifers of the Georgia Piedmont.

#### 3.3 Groundwater Sampling

Groundwater samples were collected in September 2022, and February 2023. Sampling procedures were conducted in accordance with US EPA Region 4 *Science and Ecosystem Support Division*Operating Procedures for Groundwater Sampling (SESDPROC-301-R4, April 26, 2017). Monitoring wells were purged and sampled using low-flow sampling procedures. Dedicated 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 stabilization criteria were met for three (3) consecutive readings measured at five-minute intervals:

- pH ± 0.1 Standard Units
- Specific conductance ± 5 %
- $\pm$  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 (NTU)
- 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) in Charleston, South Carolina, following chain-of-custody protocols. Stabilization logs and Equipment Calibration forms are included in Appendix B.

## 3.4 Laboratory Analyses

The groundwater samples were analyzed for 40 CFR Part 257 Appendix III and Appendix IV constituents. 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. Tables 5A and 5B summarize the groundwater analytical results for September 2022 and February 2023, respectively, and the corresponding formal analytical reports are in Appendix B.

The August 2022 and February 2023 surface water samples were also analyzed for 40 CFR Part 257 Appendix III and Appendix IV constituents. Laboratory analyses of the surface water samples were performed by Pace, which is also a NELAP accredited laboratory. Tables 6A and 6B summarize the surface water analytical results for August 2022 and February 2023, respectively, and the corresponding formal analytical reports can be found in Appendix B.



## 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 was 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 events 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.

QA/QC 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 B.

The analytical results provided in Tables 5A, 5B,6A and 6B provide concentrations from the August-September 2022 and January-February 2023 groundwater and surface water sampling events 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 Groundwater and Surface Water Results

The analytical data for the 40 CFR Part 257 Appendix III and IV constituents for the September 2022 and February 2023 groundwater monitoring events and for the August 2022 and February 2023 surface water sampling events, are summarized in Tables 5A and 5B and Tables 6A and 6B, respectively. The complete laboratory and field data sheets are included in Appendix B.



# 5.0 Monitoring Program Status

The AP-1 Landfill is currently in post-closure care. Groundwater monitoring has been initiated at the request of GA EPD. Georgia Power will continue routine groundwater monitoring and reporting at the Site. Reports will be submitted to the GA EPD semi-annually.



## 6.0 Conclusions & Future Actions

This 2023 Annual Groundwater Monitoring Report was prepared to fulfill the requirements of the Interim Groundwater Monitoring Plan (Jacobs, 2021). Due to construction activities at the Site, groundwater sampling for the Fall of 2023 was completed for monitoring well AP1PZ-6 on June 13, 2023, for the AP-1 Landfill. The remaining AP-1 Landfill monitoring wells will be sampled in October 2023. Laboratory data and reporting for these sampling events will be provided in the semiannual Groundwater Monitoring Report in February 2024. The next semi-annual sampling event is scheduled for October 2023. The October 2023 semi-annual monitoring event will include sampling and analysis of the full suites of 40 CFR Part 257 Appendix III and IV constituents.



## 7.0 References

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- US EPA, 2017, Science and Ecosystem Support Division Operating Procedures for Groundwater Sampling SESDPROC-301-R4, April 26, 2017.

**(** 

# **TABLES**

# TABLE 1 SUMMARY OF PIEZOMETER CONSTRUCTION Georgia Power Company - Plant Arkwright AP-1 Landfill Macon, Georgia

Well	Installation Date	Northing <sup>(1)</sup>	Easting <sup>(1)</sup>	Top of Casing Elevation (feet NAVD88) <sup>(2)</sup>	Ground Surface Elevation (feet NAVD88) <sup>(2)</sup>	Top of Screen Elevation (feet NAVD88) <sup>(3)</sup>	Bottom of Screen Elevation (feet NAVD88) <sup>(3)</sup>	Screen Length (feet)	Groundwater Zone Screened	Hydraulic Location
AP1GWA-1	4/20/2018	1066048.91	2439462.98	345.44	342.28	318.6	308.6	10.0	Overburden/ Bedrock	Upgradient
AP1GWA-2	4/20/2018	1065095.10	2439623.37	341.42	338.55	320.9	310.9	10.0	Overburden/ Bedrock	Upgradient
AP1PZ-1	5/1/2021	1062799.79	2440164.34	338.97	335.92	261.9	251.9	10.0	Overburden/ Bedrock	Downgradient
AP1PZ-2	5/2/2021	1062573.21	2440300.14	339.58	336.64	287.5	277.5	10.0	Bedrock	Downgradient
AP1PZ-3	5/4/2021	1062286.28	2440387.36	338.57	335.50	281.7	271.7	10.0	Overburden/ Bedrock	Downgradient
AP1PZ-4	5/11/2021	1061989.86	2440520.65	338.36	334.98	281.4	271.4	10.0	Overburden	Downgradient
AP1PZ-5	5/13/2021	1061645.61	2440599.18	339.81	336.61	283.1	273.1	10.0	Overburden	Downgradient
AP1PZ-6	5/13/2021	1061273.40	2440714.78	347.56	344.25	285.4	275.4	10.0	Overburden/PWR	Downgradient
AP1PZ-7	5/15/2021	1061483.62	2440573.47	340.91	337.56	273.7	263.7	10.0	Overburden	Downgradient
AP1PZ-8	5/16/2021	1061721.72	2440362.39	338.31	334.94	282.7	272.7	10.0	Overburden/PWR	Downgradient
AP1PZ-9	5/17/2021	1062083.33	2440187.59	337.62	334.14	291.4	281.4	10.0	Bedrock	Downgradient
AP1PZ-10	5/19/2021	1062334.74	2440116.05	338.38	335.07	292.4	282.4	10.0	Bedrock	Downgradient
AP1PZ-11	5/26/2021	1062615.94	2440044.48	338.98	335.78	276.2	266.2	10.0	Overburden	Downgradient

- 1. Horizontal locations were referenced to Georgia State Plane West, North American Datum of 1983 (NAD 83).
- 2. Elevations are feet referenced to North American Vertical Datum of 1988 (NAVD 88).
- 3. Screen elevations were calculated using total depth and length of bottom sump.
- 4. PWR indicates Partially Weathered Rock.

# TABLE 2 GROUNDWATER SAMPLING EVENTS SUMMARY

# Georgia Power Company - Plant Arkwright

#### AP-1 Landfill Macon, Georgia

Well ID	Hydraulic	Summary of Sampling Event							
	Location	September 7-8, 2022	February 1-2, 2023	June 13, 2023  Monitoring					
Purpose of S	Sampling Event	Monitoring	Monitoring						
	AP-1 LAND	FILL INTERIM MONITORING	WELL NETWORK						
AP1GWA-1	Upgradient	X	Х						
AP1GWA-2	Upgradient	X	Х						
AP1PZ-1	Downgradient	X	Х						
AP1PZ-2	Downgradient	X	Х						
AP1PZ-3	Downgradient	X		Х					
AP1PZ-4	Downgradient	X	Х						
AP1PZ-5	Downgradient	X	Х						
AP1PZ-6	Downgradient	X	X						
AP1PZ-7	Downgradient	X	Х						
AP1PZ-8	Downgradient	X X							
AP1PZ-9	Downgradient	X X							
AP1PZ-10	Downgradient	X X							
AP1PZ-11	Downgradient	X X							

X - Indicates well sampled during event

<sup>--</sup> AP1PZ-3 not sampled during February 1-2, 2023, sampling event due to damaged well stick-up.

# TABLE 3 SUMMARY OF GROUNDWATER ELEVATIONS Georgia Power Company - Plant Arkwright AP-1 Landfill Macon, Georgia

Well ID	Top of Casing Elevation (feet NAVD88) <sup>(1)</sup>	Depth to Water (feet below TOC) <sup>(2)</sup>	Depth to Water (feet below TOC) <sup>(2)</sup>	Groundwater Elevation (feet NAVD88) <sup>(1)</sup>	
Measurement Date		8/3	8/30/2022		0/2023
AP1GWA-1	345.44	24.95	320.49	23.52	321.92
AP1GWA-2	341.42	18.65	322.77	17.90	323.52
AP1PZ-1	338.97	44.97	294.00	43.46	295.51
AP1PZ-2	339.58	42.16	297.42	42.40	297.18
AP1PZ-3	338.57	43.43	295.14	43.20	295.37
AP1PZ-4	338.36	47.17	291.19	45.33	293.03
AP1PZ-5	339.81	49.05	290.76	47.21	292.60
AP1PZ-6	347.56	57.30	290.26	55.19	292.37
AP1PZ-7	340.91	50.51	290.40	48.55	292.36
AP1PZ-8	338.31	46.94	291.37	45.26	293.05
AP1PZ-9	337.62	41.40	296.22	40.98	296.64
AP1PZ-10	338.38	34.95	303.43	37.51	300.87
AP1PZ-11	338.98	34.95	304.03	37.96	301.02

- 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 AP-1 Landfill

Macon, Georgia

Potentiometric Map Date	Location	in Wel	er Elevations Il Pairs , h <sub>2</sub> ) eet)	Change in Elevation (Δh) (feet)	Distance Measured (L) (feet)	Hydraulic Gradient (i) (feet/foot)	Average Hydraulic Conductivity (K) (feet/day)	Estimated Effective Porosity (n <sub>e</sub> )	Calculated Groundwater Flow Velocity (V) (feet/day)	Calculated Groundwater Flow Velocity (V) (feet/year)
August 30, 2022	AP1PZ-8 to AP1PZ-6	291.37	290.26	1.11	575	0.002	0.31	0.2	0.003	1.1
August 30, 2022	AP1PZ-11 to AP1PZ-1	304.03	294.00	10.03	222	0.045	1.20	0.2	0.272	99.1
January 30, 2023	AP1PZ-8 to AP1PZ-6	293.05	292.37	0.68	575	0.001	0.31	0.2	0.002	0.7
January 30, 2023	AP1PZ-11 to AP1PZ-1	301.02	295.51	5.51	222	0.025	1.20	0.2	0.149	54.4

- 1. The geometric mean of the in-situ hydraulic conductivity (K) slug test values for AP1PZ-8 and AP1PZ-6 used for AP1PZ-8 to AP1PZ-6 calculation; the slug test K value for AP1PZ-11 used for the AP1PZ-11 to AP1PZ-11 calculation.
- 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 5A

# ANALYTICAL DATA SUMMARY - GROUNDWATER, SEPTEMBER 2022 Georgia Power Company - Plant Arkwright

## AP-1 Landfill Macon, Georgia

								Well ID						
	Substance	AP1GWA-1	AP1GWA-2	AP1PZ-1	AP1PZ-2	AP1PZ-3	AP1PZ-4	AP1PZ-5	AP1PZ-6	AP1PZ-7	AP1PZ-8	AP1PZ-9	AP1PZ-10	AP1PZ-11
		9/7/2022	9/7/2022	9/7/2022	9/8/2022	9/7/2022	9/7/2022	9/8/2022	9/7/2022	9/7/2022	9/7/2022	9/7/2022	9/7/2022	9/8/2022
	Boron	0.109	0.0210	0.336	0.413	1.51	3.72	7.44	7.29	2.46	2.81	0.695	3.22	0.163
■ [	Calcium	18.8	4.98	31.8	143	381	370	552	461	338	300	69.6	835	27.3
	Chloride	1.86 J	2.22 J	2.58 J	3.35	4.92	5.10	7.55	8.49	8.77	2.88 J	6.84	9.91	1.45
APPENDIX	Fluoride	0.354	0.109	0.158	0.177	0.0468 J	0.249	0.263	<0.0330	0.255	0.166	0.671	0.524	0.173
PPE	Sulfate	59.4	1.41 J	112	616	1390	1420	1920	2520	1390	731	351	232	52.3
A	TDS	156	66.0	248	961	2010	2210	3070	3570	2190	1390	577	500	198
	рН	5.42	6.00	6.41	6.11	5.47	6.37	6.12	5.56	6.21	6.52	4.84	6.55	6.77
	Antimony	<0.00100	<0.00100	<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	<0.00200	<0.00200	<0.00200	0.00359 J	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	Barium	0.0523	0.0330	0.0452	0.0207	0.0237	0.0426	0.0405	0.0235	0.0511	0.0506	0.0254	0.0334	0.0221
	Beryllium	0.00131	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000859	<0.000200	<0.000200	0.000527	<0.000200	<0.000200
	Cadmium	0.000317 J	<0.000300	<0.000300	<0.000300	0.00144	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	0.000975 J	<0.000300	<0.000300
>	Chromium	0.00417 J	0.00501 J	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300
APPENDIX	Cobalt	0.00406	0.000341 J	0.000850 J	0.0616	0.0626	0.000335 J	0.0332	0.417	0.000739 J	0.000936 J	0.101	0.00189	<0.000300
ᇦ	Lead	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
AP	Lithium	0.00757 J	<0.00300	0.00421 J	0.0127	0.0638	0.00652 J	0.273	0.00800 J	<0.00300	<0.00300	0.135	0.0172	<0.00300
	Mercury	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670
	Molybdenum	<0.000200	<0.000200	0.000572 J	<0.000200	0.000673 J	0.00233	0.0410	0.000369 J	0.00233	0.489	0.000281 J	0.00265	0.00136
	Radium	1.77	1.49 U	1.33 U	1.76 U	2.43	2.32	1.41 U	0.959 U	0.479 U	0.958 U	0.482 U	1.34 U	1.06 U
	Selenium	0.00322 J	<0.00150	0.00163 J	<0.00150	<0.00150	<0.00150	<0.00150	0.00273 J	<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	<0.000600	<0.000600

- 1. Results for constituents are reported in milligrams per liter (mg/L). pH values are reported in standard units (s.u.)
- 2. Radium results are reported in picocuries per liter (pCi/L).
- 3. < indicates the constituent was not detected above the analytical method detection limit (MDL)
- 4. J indicates the constituent was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
- 5. TDS indicates total dissolved solids.
- 6. 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.

# TABLE 5B ANALYTICAL DATA SUMMARY - GROUNDWATER, FEBRUARY- JUNE, 2023 Georgia Power Company - Plant Arkwright AP-1 Landfill

Macon, Georgia

								Well ID						
	Substance	AP1GWA-1	AP1GWA-2	AP1PZ-1	AP1PZ-2	AP1PZ-3	AP1PZ-4	AP1PZ-5	AP1PZ-6	AP1PZ-7	AP1PZ-8	AP1PZ-9	AP1PZ-10	AP1PZ-11
		2/1/2023	2/1/2023	2/1/2023	2/1/2023	6/13/2023	2/1/2023	2/2/2023	2/1/2023	2/1/2023	2/2/2023	2/2/2023	2/1/2023	2/1/2023
	Boron	0.0954	0.00973 J	0.348	0.385	1.50	3.99	7.22	7.69	2.53	2.90	0.742	0.349	0.166
	Calcium	16.7	4.50	32.9	142	363	394	593	494	347	305	71.0	85.9	24.6
	Chloride	1.98	2.09	2.45	3.31	4.91	5.15	7.86	8.13	6.83	2.67	6.96	8.01	1.16
	Fluoride	0.288	<0.0330	0.141	0.0811 J	<0.500	0.143	0.258	0.0718 J	0.0931 J	0.215	0.733	0.482	0.124
APPENDIX	Sulfate	43.6	1.67 J	106	574	1330	1380	2060	2380	1390	702	336	238	44.7
I₹	TDS	112	38.0	207	851	2000	2190	3140	3800	2060	2800	563	498	170
	рН	5.55	6.08	6.45	6.28	5.57	6.47	6.12	5.45	6.51	6.60	4.62	6.38	6.83
	Antimony	<0.00100	<0.00100	<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	<0.00200	<0.00200	<0.00200	0.00353 J	0.00249 J	<0.00200	<0.00200	<0.00200	0.00294 J	<0.00200
	Barium	0.0571	0.0302	0.0417	0.0193	0.0215	0.0394	0.0425	0.0225	0.0409	0.0464	0.0247	0.0316	0.0196
	Beryllium	0.00103	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000829	<0.000200	<0.000200	0.000670	<0.000200	<0.000200
	Cadmium	<0.000300	<0.000300	<0.000300	0.000348 J	0.00361	<0.000300	<0.000300	<0.000300	<0.000300	<0.000300	0.00113	<0.000300	<0.000300
	Chromium	0.00448 J	0.00868 J	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300	<0.00300
APPENDIX	Cobalt	0.00334	<0.000300	0.000836 J	0.0858	0.0515	0.000752 J	0.0258	0.421	<0.000300	0.000677 J	0.113	0.00125	<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	<0.000500	<0.000500
APF	Lithium	0.00633 J	<0.00300	0.00412 J	0.0153	0.0625	0.00621 J	0.256	0.00849 J	<0.00300	0.00351 J	0.159	0.0148	<0.00300
	Mercury	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670	<0.0000670
	Molybdenum	<0.000200	0.00146	0.000721 J	<0.000200	0.000306 J	0.00360	0.0323	<0.000200	0.00204	0.510	0.000667 J	0.00257	0.00170
	Radium	1.12 U	1.46 U	2.69	2.17	1.53 J	2.85	2.36	2.12	3.75	0.723 U	1.48 U	0.990 U	1.21 U
	Selenium	0.00304 J	<0.00150	<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	<0.000600	<0.000600

- 1. Results for constituents are reported in milligrams per liter (mg/L). pH values are reported in standard units (s.u.)
- 2. Radium results are reported in picocuries per liter (pCi/L).
- 3. < indicates the constituent was not detected above the analytical method detection limit (MDL)
- 4. J indicates the constituent was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
- 5. TDS indicates total dissolved solids.
- 6. 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.

#### **TABLE 6A**

#### **ANALYTICAL DATA SUMMARY - SURFACE WATER, AUGUST 2022**

# Georgia Power Company - Plant Arkwright AP-1 Landfill

#### Macon, Georgia

				Surface Wa	ter Sample Location	1	
	Substance	OR-0.8	OR-0.3	OR-0.1	OR+0.25	BC-0.3	BC-0.1
		8/16/2022	8/16/2022	8/16/2022	8/16/2022	8/16/2022	8/16/2022
	Boron	<0.0086	<0.0086	<0.0086	<0.0086	<0.040	<0.0086
≡	Calcium	7.6	7.7	7.6	7.5	9.6	10.3
×	Chloride	7.8	7.9	6.9	7.9	7.0	7.0
APPENDIX III	Fluoride	0.12	0.12	0.11	0.12	0.11	0.11
7	Sulfate	5.1	5.2	7.1	5.2	5.4	7.1
Ā	TDS	56.9	103	45.9	43.9	90.9	85.9
	рН	7.25	7.15	7.31	7.40	7.16	7.18
	Antimony	<0.00078	<0.00078	<0.00078	<0.00078	<0.0030	<0.00078
	Arsenic	<0.0022	<0.0022	<0.0022	<0.0022	<0.0050	<0.0022
	Barium	0.021	0.022	0.022	0.021	0.028	0.070
	Beryllium	<0.000054	<0.000054	<0.000054	<0.000054	<0.00050	<0.000054
_	Cadmium	<0.00011	<0.00011	<0.00011	<0.00011	<0.00050	<0.00011
<b>×</b>	Chromium	<0.0011	<0.0011	<0.0011	<0.0011	<0.0050	<0.0011
Ê	Cobalt	<0.00039	<0.00039	<0.00039	<0.00039	<0.0050	<0.00039
APPENDIX IV	Lead	<0.00089	<0.00089	<0.00089	<0.00089	<0.0010	0.0012
Ä	Lithium	<0.00073	<0.00073	<0.00073	<0.00073	<0.030	<0.00073
•	Mercury	<0.00013	<0.00013	<0.00013	<0.00013	NS	<0.00013
	Molybdenum	<0.00074	<0.00074	<0.00074	<0.00074	<0.010	<0.00074
	Radium	0.160 U	0.445 U	0.708 U	0.148 U	NS	0.474 U
	Selenium	<0.0014	<0.0014	<0.0014	<0.0014	<0.0050	<0.0014
	Thallium	<0.00018	<0.00018	<0.00018	<0.00018	<0.0010	<0.00018
۲L S	Total Alkalinity	30.2	30.5	30.3	29.7	44.6	44.8
⋛Ё	Bicarbonate Alkalinity	30.2	30.5	30.3	29.7	44.6	44.8
ΪŽ	Magnesium	Magnesium         2.2         2.2         2.2		2.2	2.1	4.1	4.3
ADDITIONAL ANALYTES	Potassium	3.1	3.1	3.1	3.1	2.3	2.4
₹⋖	Sodium	8.0	8.2	8.0	8.0	7.5	7.5

- 1. Results for constituents are reported in milligrams per liter (mg/L). pH values are reported in standard units (s.u.)
- 2. Radium results are reported in picocuries per liter (pCi/L).
- 3. < indicates the constituent was not detected above the analytical method detection limit (MDL)
- 4. J indicates the constituent was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
- 5. TDS indicates total dissolved solids.
- 6. 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.
- 7. NA indicates constituent was not analyzed due to miscommunication with the lab.
- 8. NS indicates location was not sampled for the constituent.

#### **TABLE 6B**

#### **ANALYTICAL DATA SUMMARY - SURFACE WATER, FEBRUARY 2023**

#### Georgia Power Company - Plant Arkwright

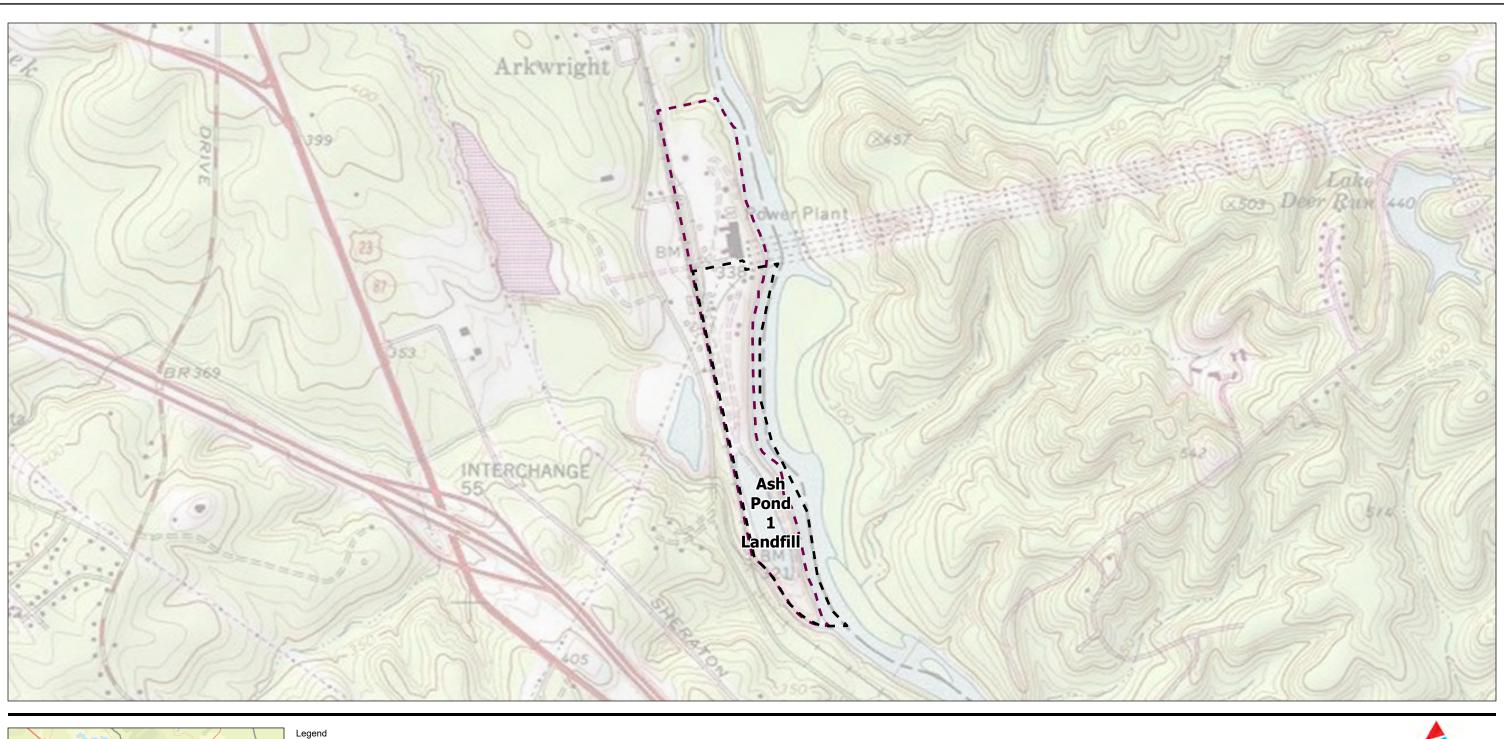
#### AP-1 Landfill

#### Macon, Georgia

				Surface Wate	r Sample Location		
	Substance	OR-0.8	OR-0.3	OR-0.1	OR+0.25	BC-0.3	BC-0.1
		2/9/2023	2/9/2023	2/9/2023	2/9/2023	2/8/2023	2/8/2023
	Boron	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086
=	Calcium	5.2	5.1	5.1	5.1	6.8	7
×	Chloride	5.5	5.5	5.5	5.5	6.3	6.4
l 🖁	Fluoride	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
APPENDIX III	Sulfate	4.6	4.6	4.6	4.6	7	7
¥	TDS	64	54	112	39	61	82
	pН	7.70	7.54	7.49	7.37	7.19	7.25
	Antimony	<0.00078	<0.00078	<0.00078	<0.00078	<0.00078	<0.00078
	Arsenic	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022
	Barium	0.026	0.026	0.025	0.025	0.032	0.033
	Beryllium	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054
_	Cadmium	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011
<	Chromium	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
	Cobalt	<0.00039	<0.00039	<0.00039	<0.00039	<0.00039	<0.00039
APPENDIX IV	Lead	<0.00089	<0.00089	<0.00089	<0.00089	<0.00089	<0.00089
1 4	Lithium	<0.00073	< 0.00073	<0.00073	<0.00073	<0.00073	<0.00073
_	Mercury	<0.00013	< 0.00013	<0.00013	<0.00013	<0.00013	<0.00013
	Molybdenum	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074
	Radium	1.48 U	2.12 U	1.71 U	1.85 U	2.12 U <sup>7</sup>	1.92 U <sup>7</sup>
	Selenium	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014
	Thallium	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018
S L	Total Alkalinity	20.5	20.9	20.4	20.4	32.5	32.7
	Bicarbonate Alkalinity	20.5	20.9	20.4	20.4	32.5	32.7
Ĕ ユ	Magnesium	1.6	1.6	1.6	1.6	3.3	3.4
ADDITIONAL ANALYTES	Potassium	2.5	2.3	2.4	2.3	1.9	2
₹ ₹	Sodium	5.3	5.3	5.4	5.2	6.7	6.8

- 1. Results for constituents are reported in milligrams per liter (mg/L), pH values are reported in standard units (s.u.)
- 2. Radium results are reported in picocuries per liter (pCi/L).
- 3. < indicates the constituent was not detected above the analytical method detection limit (MDL)
- 4. J indicates the constituent was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
- 5. TDS indicates total dissolved solids.
- 6. 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.
- 7. Radium sample collected on 2/14/2023

# **FIGURES**





Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet

2. Data Sources: Tax Parcel and AP-1 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

Ash Pond 1 Landfill Permit Boundary

Ash Pond 1 Tax Parcel

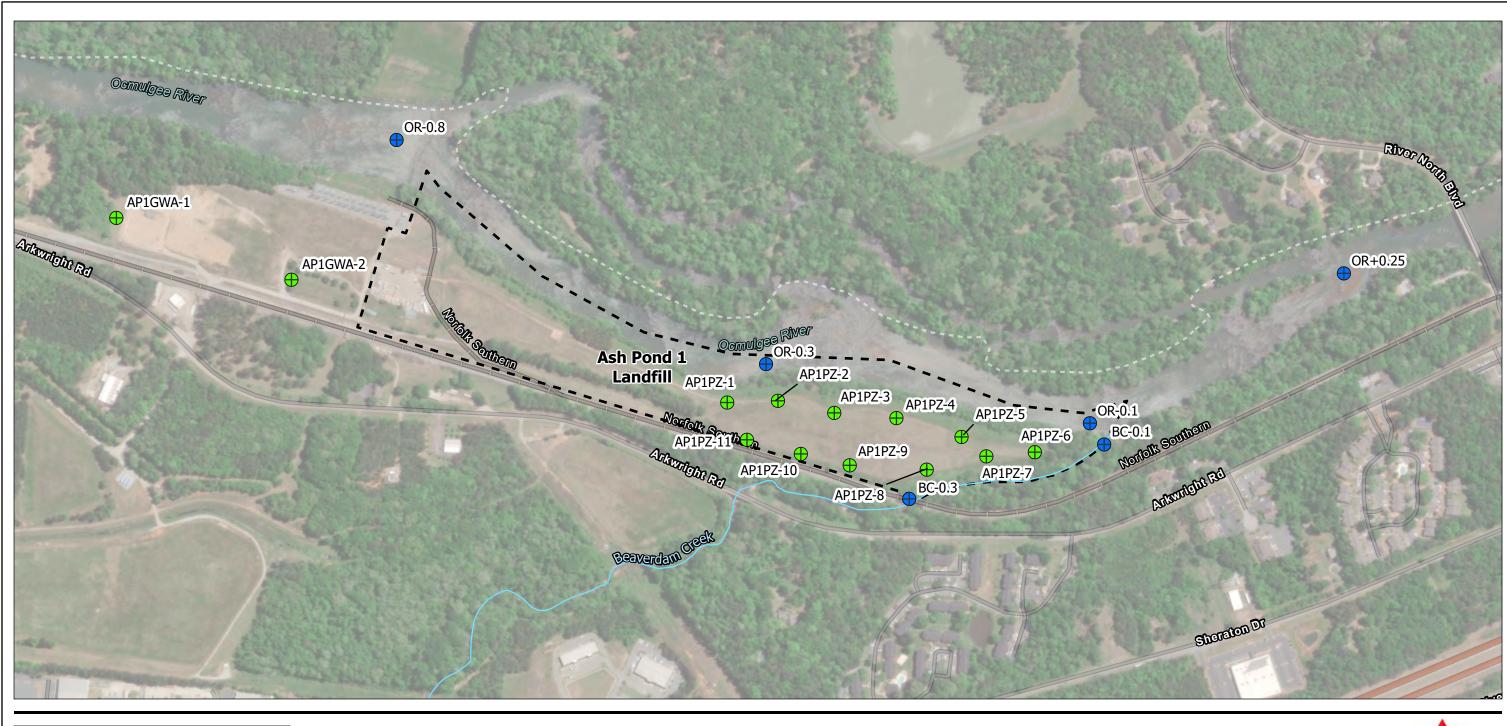




Prepared by DMB on 5/30/2023 TR by BS on 5/30/2023 IR by MD on 5/30/2023 Project Location Macon, Georgia

Client/Project
Georgia Power
2023 Annual Groundwater Monitoring Report
Plant Arkwright Ash Pond 1 Landfill

**Site Location Map** 





Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet

2. Data Sources: AP-1 Boundary, Surface Water Samples, Piezometers, 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, Geo Technologies, 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

Piezometer Location Surface Water Sampling Location Beaverdam Creek Ash Pond 1 Landfill Permit Boundary

(At original document size of 11x17)



Georgia Power

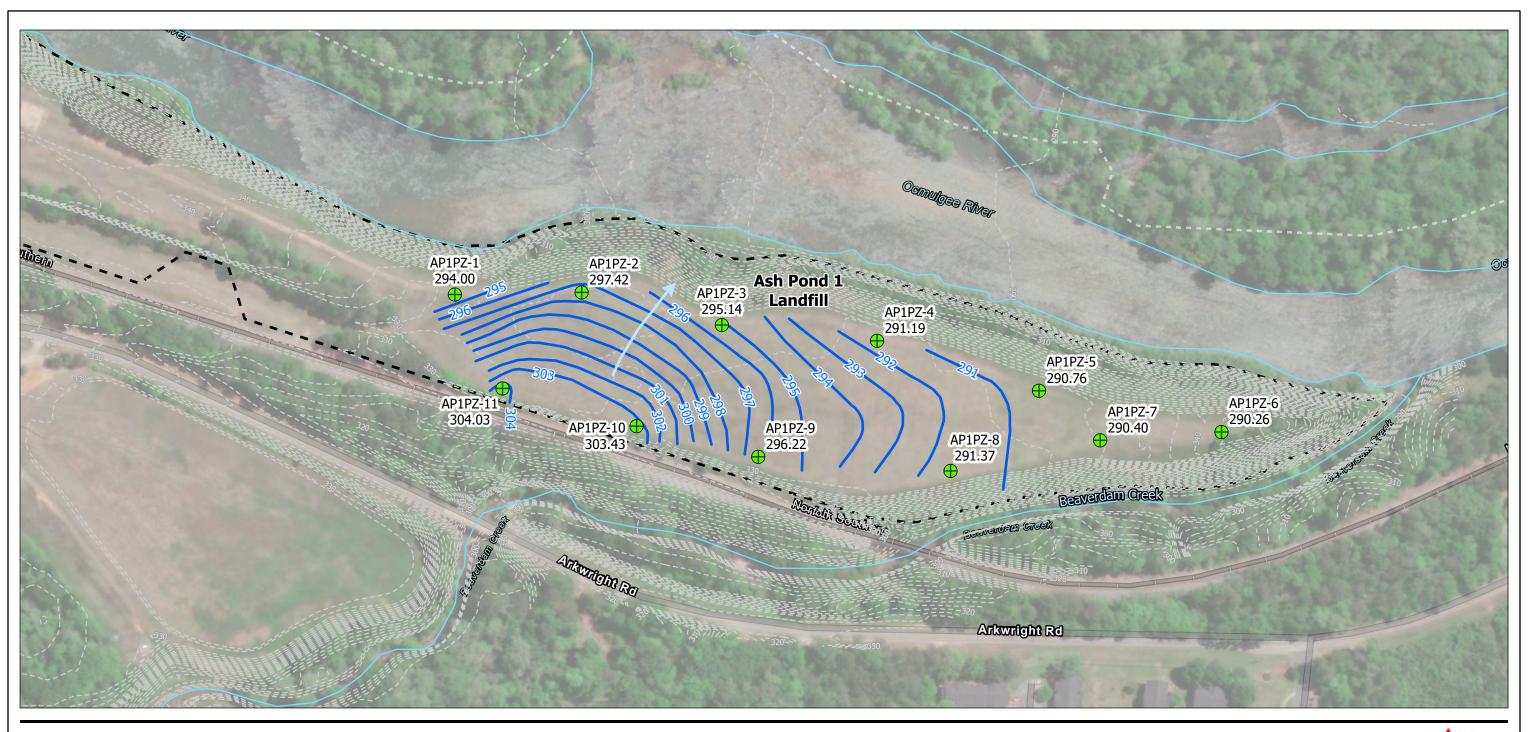
Prepared by DMB on 7/17/2023 TR by BS on 7/17/2023 IR by MD on 7/17/2023 Project Location Macon, Georgia

Client/Project Georgia Power 2023 Annual Groundwater Monitoring Report Plant Arkwright Ash Pond 1 Landfill

Figure No.

2

**Piezometer and Surface Water Sample Locations Map** 





Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet

2. Data Sources: AP-1 Boundary, Piezometers, Topography, and Beaverdam Creek provided by Southern Company Services and Wood Environment & Infrastructure Solutions; Groundwater 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

Piezometer Location

Beaverdam Creek/Ocmulgee River (Approximate)

▶ Interpreted Groundwater Flow Direction

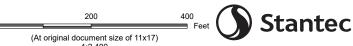
— Potentiometric Surface Contour Aug 2022 (feet (ft) NAVD88)

Topographic Contour 2018 (2 ft interval)

Approximate Limits of Ash Pond 1 Landfill

320.49 Groundwater Elevation (ft NAVD88)
AP1GWA-1 and AP1GWA-2 not included in contouring







Project Location
Macon, Georgia

Prepared by DMB on 5/30/2023 TR by BS on 5/30/2023 IR by MD on 5/30/2023

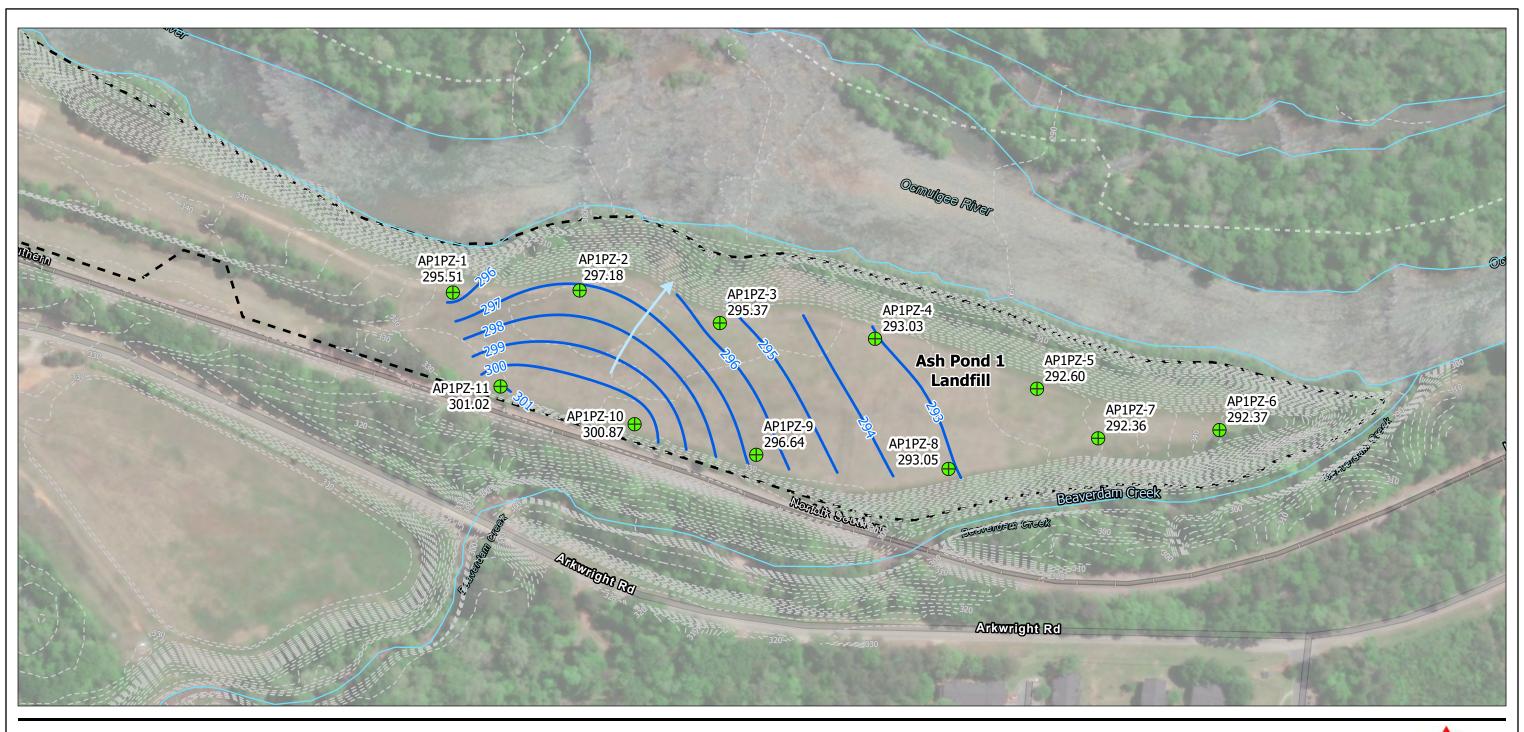
Client/Project
Georgia Power

2023 Annual Groundwater Monitoring Report Plant Arkwright Ash Pond 1 Landfill

Figure No.

Title

Potentiometric Surface Contour Map AP-1 Landfill - August 30, 2022





Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet

2. Data Sources: AP-1 Boundary, Piezometers, Topography, and Beaverdam Creek provid by Southern Company Services and Wood Environment & Infrastructure Solutions; Groundwater Contours, Flow Arrow, and Ocmulgee River provided by Stantec

3. Background: Esri Community Maps Contributors, @ OpenStreetMap, Microsoft, Esri, HERE, Garrmin, 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

Piezometer Location

Beaverdam Creek/Ocmulgee River (Approximate)

Interpreted Groundwater Flow Direction

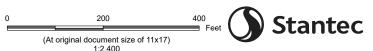
Potentiometric Surface Contour Jan 2023 (feet (ft) NAVD88)

Inferred Potentiometric Surface Contour Jan 2023 (ft NAVD88)

Topographic Contour 2018 (2 ft interval)

Approximate Limits of Ash Pond 1 Landfill 295.51 Groundwater Elevation (ft NAVD88)

AP1GWA-1 and AP1GWA-2 not included in contouring





Prepared by DMB on 5/30/2023 TR by BS on 5/30/2023 IR by MD on 5/30/2023 Project Location Macon, Georgia

Client/Project Georgia Power 2023 Annual Groundwater Monitoring Report Plant Arkwright Ash Pond 1 Landfill

Figure No.

**Potentiometric Surface Contour** Map AP-1 Landfill - January 30, 2023

# Appendix A Well Inspections and Repair



					Gearree
	Cautha are Canara area. Adul misulat				
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:	9/30/2022				
	8/30/2022 APIGWA-1			-	
Monitoring Well No.:				_	
Priority Maintenance I	tem Identified: NA NA			-	
	Description	Yes	No	NA	Comments
Location/Identification	1	J.			•
Is the well visible and	accessible?	Χ			
	entified with the correct well ID?	Χ			
Is the well in a high tra traffic?	ffic area and does the well require protection from		Х		
Is the drainage around located in obvious dra	d the well acceptable? (no standing water, nor is well sinage flow path)	Х			
			I		
Protective Casing					
Is the protective casin secured?	g free from apparent damage and able to be	Χ			
Is the casing free of de	egradation or deterioration?	Χ			
Does the casing have	a functioning weep hole?	Χ			
Is the annular space b with pea gravel/sand	netween casings clear of debris and water, or filled	Χ			
Is the well locked and	is the lock in good condition?	Χ			
		•			
Surface pad					
	d condition (not cracked or broken)?	Χ			
	away from the protective casing?	X			
· .	plete contact with the protective casing?	X			
	plete contact with the ground surface and ed by erosion, animal burrows, and does not move	Х			
	an (not covered with sediment or debris)?	Х			
is the pad solides of	an (no. concret ministration of document				
Internal casing					
Does the cap prevent	entry of foreign material into the well?	Χ			
Is the casing free of kir (such as bailers)?	nks or bends, or any obstructions from foreign objects	Х			
Is the well properly ve	nted for equilibrium of air pressure?	Χ			
	arly marked on the inner casing?	Χ			
Is the depth of the we	Il consistent with the original well log?	Χ			
	or does the pvc move easily when touched or can it and due to lack of grout or use of slip couplings in	Х			
I					
Sampling (Groundwat		V	ı		1
Does well recharge a	dequately when purged?	X			-
, ,	equipment installed, is it in good condition and ved groundwater plant for the facility?	Χ			

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

Does the well require redevelopment (low-flow, turbid)?

NOHE

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



			-0112.0	•	Starttec
Project Name:	Southern Company Arkwright				
Plant Name:	Plant Arkwright			-	
Plant Address:	5001 Arkwright Road, Macon, GA 31210			-	
	175569434			-	
Project Number:	Gauging/Inspection			•	
Goal/Task:	- Gaoging/inspection			-	
Date:	8/30/2022				
Monitoring Well No.	: APIGWA-2			•	
Priority Maintenanc	e Item Identified:			•	
				•	
	Description	Yes	No	NA	Comments
Location/Identificat	·	162	NO	INA	Comments
Is the well visible an		Х			
	identified with the correct well ID?	Χ			
_	traffic area and does the well require protection		Х		
from traffic?	and the constitution of th	Х			
	und the well acceptable? (no standing water, nor is ious drainage flow path)	^			
Brata ativa Casina					
Protective Casing	using free from apparent damage and able to be	Х			
secured?	using free from apparent damage and able to be	Λ			
Is the casing free of	degradation or deterioiration?	Χ			
Does the casing ha	ve a functioning weep hole?	Χ			
Is the annular space filled with pea grav	e between casings clear of debris and water, or el/sand?	Х			
Is the well locked a	nd is the lock in good condition?	Χ			
Surface pad					
·	ood conditon (not cracked or broken)?	X			
	ed away from the protective casing?	X			
,	omplete contact with the protective casing?	X			
· ·	omplete contact with the ground surface and ninde by erosion, animal burrows, and does not	Χ			
move when steppe	•				
Is the pad surface of	clean (not covered with sediment or debris)?	Χ			
Internal casing			1		
	ent entry of foreign material into the well?	X			
Is the casing free of objects (such as bo	kinks or bends, or any obstructions from foreign ilers)?	Χ			
Is the well properly	vented for equilibrium of air pressure?	Χ			
Is the survey point o	clearly marked on the inner casing?	Χ			
Is the depth of the	well consistent with the original well log?	Χ			
can it be taken apo	? (or does the pvc move easily when touched or art by hand due to lack of grout or use of slip	Χ			
couplings in constru	CHOH			<u> </u>	l
Sampling (Groundy	vater Wells Only)				
	adequetely when purged?	Х			
If dedicated sampl specified in the app	ing equipment installed, is it in good condition and broved groundwater groundwater plant for the	X			
facility?			,,		
Does the well requi	re redevelopment (low-flow, turbid)?		Х		

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

None

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



		MONITORING WELL INSI ECTIO	IN CIT	LCKLIS	•	Stantec		
	Project Name:	Southern Company Arkwright						
	Plant Name: Plant Arkwright							
		5001 Arkwright Road, Macon, GA 31210	-					
	Plant Address:	7757000						
	Project Number:	·						
	Goal/Task:	Gauging/Inspection			-			
	Date:	pate: 8/30/2022						
	Monitoring Well No.: AP1PZ-1							
	Priority Maintenand	ce Item Identified: None						
					•			
		December	V			[C		
	Location/Identifica	Description tion	Yes	No	NA	Comments		
	Is the well visible ar		Х					
		identified with the correct well ID?	X					
	Is the well in a high traffic area and does the well require protection from traffic?			Х				
		und the well acceptable? (no standing water, nor is	Х					
	•	vious drainage flow path)						
	Protective Casing							
		asing free from apparent damage and able to be	Х					
	secured?	asing free from apparem damage and able to be						
	Is the casing free o	f degradation or deterioration?	Χ					
	Does the casing ha	ave a functioning weep hole?	Χ					
	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?							
		and is the lock in good condition?	Χ					
	L				<u>l</u>	1		
	Surface pad							
	Is the well pad in g	ood condition (not cracked or broken)?	Χ					
	Is the well pad slop	ped away from the protective casing?	Χ					
		omplete contact with the protective casing?	Χ					
	Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).							
		clean (not covered with sediment or debris)?	Х					
	is the pad sonace	clean (not covered with scalinerin of debits);		1		<u>l</u>		
	Internal casing							
	Does the cap prev	ent entry of foreign material into the well?	Χ					
	Is the casing free o	f kinks or bends, or any obstructions from foreign silers)?	Х					
	Is the well properly	vented for equilibrium of air pressure?	Х					
		clearly marked on the inner casing?	Χ					
		well consistent with the original well log?	Χ					
	•	? (or does the pvc move easily when touched or art by hand due to lack of grout or use of slip	Χ					
	Coopings in Consin	Schory		<u> </u>		1		
	Sampling (Ground)	vater Wells Only)						
		e adequately when purged?	Χ					
	· ·	ling equipment installed, is it in good condition and proved groundwater plant for the facility?	Х					
_	Does the well requ	ire redevelopment (low-flow, turbid)?		Х				
on	nments: Include insp	pection details, including items requiring repair or main	ntenan	ce.				
None								

Prepared By / Date: Emily Scheiben 08/30/2022
DL/SME Review By / Date Edgar Smith 9/22/22



					-	<b>Stantec</b>
	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.:	: <u>AP1PZ-2</u>			=	
	Priority Maintenance	e Item Identified: None	_			
		Description	Yes	No	NA	Comments
	Location/Identificati	ion			•	
	Is the well visible an	d accessible?	Χ			
		dentified with the correct well ID?	Х	.,		
	Is the well in a high from traffic?	traffic area and does the well require protection		Χ		
	_	and the well acceptable? (no standing water, nor is ous drainage flow path)	Х			
	la o .					
	Protective Casing	sing a fire a fire we give a great alone are a great alone as	Х		1	1
	secured?	sing free from apparent damage and able to be	^			
	Is the casina free of	degradation or deterioration?	Х			
	ű	ve a functioning weep hole?	Χ			
	· ·	e between casings clear of debris and water, or	Χ			
	filled with pea grave					
	Is the well locked ar	nd is the lock in good condition?	Х			
	Surface pad					
	· · · · · · · · · · · · · · · · · · ·	ood condition (not cracked or broken)?	Χ			
	Is the well pad slope	ed away from the protective casing?	Χ			
	· ·	omplete contact with the protective casing?	Χ			
	Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).		Χ			
	Is the pad surface c	lean (not covered with sediment or debris)?	Χ			
	1					
	Internal casing	and a substant formal and more about a block of the substant in the substant i			1	1
		ent entry of foreign material into the well?	X			
	objects (such as bai	kinks or bends, or any obstructions from foreign ilers)?	Λ			
		vented for equilibrium of air pressure?	Х			
		learly marked on the inner casing?	X			
	·	well consistent with the original well log? ? (or does the pvc move easily when touched or	X			
		art by hand due to lack of grout or use of slip	Λ			
	la " (0 l	1 W # 0 1 )				
	Sampling (Groundw	adequately when purged?	Х			1
		· · · · · ·	X			
		ng equipment installed, is it in good condition and proved groundwater plant for the facility?				
	Does the well requir	e redevelopment (low-flow, turbid)?		Χ		
Cor	mments: Include inspe	ection details, including items requiring repair or mair	ntenana	ce.		
		None	23.10			

Prepared By / Date: Emily Scheiben 08/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22



				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			_	
Date: 8/30/2022  Monitoring Well No.: AP1PZ-3			=	
Priority Maintenance Item Identified: None			_	
Thomy Maintenance nerritaerinica.			=	
Description	Yes	No	NA	Comments
Location/Identification	Х	1		
Is the well visible and accessible?  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?	^	Х		
Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	Х			
Destructive Continu	•	•	•	•
Protective Casing  Is the protective casing free from apparent damage and able to be	Х	1		
is the profective casing free from apparent damage and able to be secured?	^			
Is the casing free of degradation or deterioration?	Х			
Does the casing have a functioning weep hole?	Х			
Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	Х			
Is the well locked and is the lock in good condition?	Х			
is the well lecked difa is the lock in good containent.	^			
Surface pad				
Is the well pad in good condition (not cracked or broken)?	Х			
Is the well pad sloped away from the protective casing?	Х			
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 undermined by erosion, animal burrows, and does not move when stepped on).	X			
Is the pad surface clean (not covered with sediment or debris)?	Х			
Internal casing				
Does the cap prevent entry of foreign material into the well?	Х			
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?	Х			
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)	Х			
				-
Sampling (Groundwater Wells Only)	Ιv	1		
Does well recharge adequately when purged?	X			
If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plant for the facility?	^			
Does the well require redevelopment (low-flow, turbid)?		Х		
mments: Include inspection details, including items requiring repair or mo	intenana	^p		
enments: Include inspection details, including items requiring repair or moone  spared By / Date: Emily Scheiben 08/30/2022	intenand	ce.		
/SME Review By / Date: Edgar Smith 9/22/22				



	Caratha and Carata and Adamsialat				
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	.: AP1PZ-4				
Priority Maintenanc				-	
,				_	
	Description	Yes	No	NA	Comments
Location/Identifica	tion				
Is the well visible ar		Χ			
	identified with the correct well ID?	Х			
from traffic?	traffic area and does the well require protection		Х		
	und the well acceptable? (no standing water, nor is rious drainage flow path)	Х			
Protective Casing					
	asing free from apparent damage and able to be	Х			
secured?	5 - 1 - 1 - 1 <sub>FF</sub> - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				
Is the casing free o	f degradation or deterioration?	Χ			
Does the casing ha	ve a functioning weep hole?	Χ			
Is the annular spac filled with pea grav	e between casings clear of debris and water, or rel/sand?	Х			
Is the well locked o	and is the lock in good condition?	Χ			
Surface pad					
	ood condition (not cracked or broken)?	X			
	ed away from the protective casing?	X			
	omplete contact with the protective casing?	X			
	omplete contact with the ground surface and nined by erosion, animal burrows, and does not ed on).	Х			
	clean (not covered with sediment or debris)?	Х			
		•	•		
Internal casing					
Does the cap prev	ent entry of foreign material into the well?	Х			
Is the casing free of objects (such as bo	f kinks or bends, or any obstructions from foreign uilers)?	Х			
Is the well properly	vented for equilibrium of air pressure?	Х			
	clearly marked on the inner casing?	Χ			
	well consistent with the original well log?	X		<u> </u>	
	? (or does the pvc move easily when touched or art by hand due to lack of grout or use of slip uction)	Х			
		_	_		
Sampling (Groundy					T
Does well recharge	e adequately when purged?	X		-	
·	ing equipment installed, is it in good condition and proved groundwater plant for the facility?	^			
Does the well requi	re redevelopment (low-flow, turbid)?		Х		
and a state of the	and in a default in all offers the second of				
nments: Include insp	pection details, including items requiring repair or main None	<u>ntenan</u>	ce.		
pared By / Date:	Emily Scheiben 08/30/2022				
ared By / Date: ME Review By / Date:					



		MONITORING WELL INSTEEME	IN CII	LCKLIS	•	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.				-	
	Priority Maintenance				-	
	Thomy Mainenance	in in in incidential incidenti			•	
		Description	Yes	No	NA	Comments
	Location/Identificat	•	163	110	IIA.	Comments
	Is the well visible an	-	Χ			T
		dentified with the correct well ID?	Χ			
	Is the well in a high from traffic?	traffic area and does the well require protection		Х		
	Is the drainage arou	und the well acceptable? (no standing water, nor is ous drainage flow path)	Х			
	well localed in obvi	ous drainage now parrij				
	Protective Casing					
	Is the protective car secured?	sing free from apparent damage and able to be	Χ			
	Is the casing free of	degradation or deterioiration?	Χ			
	Does the casing ha	ve a functioning weep hole?	Χ			
	Is the annular space	e between casings clear of debris and water, or el/sand?	Χ			
	Is the well locked a	nd is the lock in good condition?	Χ			
	T					
	Surface pad			1	1	T
		ood conditon (not cracked or broken)? ed away from the protective casing?	X			
		omplete contact with the protective casing?	X			
	Is the well pad in co	omplete contact with the ground surface and ninde by erosion, animal burrows, and does not	X			
	move when steppe	d on).				
	Is the pad surface o	lean (not covered with sediment or debris)?	Х			
	Internal casing					
	· -	ent entry of foreign material into the well?	Χ			
	Is the casing free of objects (such as bai	kinks or bends, or any obstructions from foreign	Х			
	, ,	vented for equilibrium of air pressure?	Х			
		learly marked on the inner casing?	X			
		vell consistent with the original well log?	Χ			
	_	(or does the pvc move easily when touched or art by hand due to lack of grout or use of slip	Х			
	Coopiii igs ii i consiio	Cliony				
	Sampling (Groundw	ater Wells Only)				
	Does well recharge	adequetely when purged?	Χ			
	specified in the app	ng equipment installed, is it in good condition and proved groundwater groundwater plant for the	Х			
	facility?  Does the well requir	e redeveopment (low-flow, turbid)?		Х		
	•				l	
or	mments: Include insp	ection details, including items requiring repair or mair	ntenan	ce.		
		None				

Prepared By / Date: Emily Scheiben 08/30/2022
DL/SME Review By / Date: Edgar Smith 9/22/22



	Project Name:	Southern Company Arkwright				
	Plant Name:	Plant Arkwright			_	
	Plant Address:	5001 Arkwright Road, Macon, GA 31210	-			
		175569434	_			
	Project Number:				-	
	Goal/Task:	Gauging/Inspection			_	
	Date:	8/30/2022				
		<del> </del>			-	
	Monitoring Well No.				_	
	Priority Maintenance	e Item Identified:			_	
		Description	Yes	No	NA	Comments
1	Location/Identificat	·			1	
а	Is the well visible an		Χ			
b	Is the well properly i	dentified with the correct well ID?	Χ			
С	Is the well in a high	traffic area and does the well require protection		Χ		
	from traffic?					
d	_	und the well acceptable? (no standing water, nor is ious drainage flow path)	Х			
_	Desta d'es Cartes					
2	Protective Casing	de la facilità della facilità della facilità de la facilità della	Х	I	I	T
а	secured?	sing free from apparent damage and able to be				
b	+	degradation or deterioiration?	X			
С		ve a functioning weep hole?	X			
d	filled with pea grav		Х			
е	Is the well locked a	nd is the lock in good condition?	Χ			
	T					
3	Surface pad			1	1	
a		ood conditon (not cracked or broken)?	Х	V		Anna ang lawal
b		ed away from the protective casing?	V	Х		Appears level
c d		omplete contact with the protective casing? Omplete contact with the ground surface and	X			
u	· ·	ninde by erosion, animal burrows, and does not	^			
е		clean (not covered with sediment or debris)?	Χ			
	,	,		l	I.	-
4	Internal casing					
а	Does the cap preve	ent entry of foreign material into the well?	Χ			
b	Is the casing free of objects (such as ba	kinks or bends, or any obstructions from foreign ilers)?	Х			
С	, ,	vented for equilibrium of air pressure?	Χ			
d		learly marked on the inner casing?	X			
е	Is the depth of the	well consistent with the original well log?	Х			
f	Is the casing stable?	or does the pvc move easily when touched or	Χ			
	· ·	art by hand due to lack of grout or use of slip				
	couplings in constru	oction)				
	S	onton Walla Only)				
5 a	Sampling (Groundw	adequetely when purged?	Х	1	1	1
b	,	ng equipment installed, is it in good condition and	X			
		proved groundwater groundwater plant for the	^			
С	Does the well requir	re redevelopment (low-flow, turbid)?		Χ		
	and the street of the	option details including themse as with a result.	1000	20		
COI	riments: include insp	ection details, including items requiring repair or mair None	nenana	Je.		
		None				
Dro	nared By / Data:	Rayan Ponnoll 8/20/22				
	pared By / Date:  SME Review By / Date:	Bryan Pennell 8/30/22 Edgar Smith 9/22/22				
	, , Dailo.					



	Dunin at Name at	Southern Company Arkwright				
	Project Name:	- <del></del>	-			
	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				-	
					-	
	Priority Maintenanc	e liem idenililed.			-	
		Description	Yes	No	NA	Comments
1	Location/Identificat	tion	•			•
а	Is the well visible ar	nd accessible?	Х			
b	Is the well properly	identified with the correct well ID?	Χ			
С	Is the well in a high from traffic?	traffic area and does the well require protection		Х		
d	_	und the well acceptable? (no standing water, nor is rious drainage flow path)	X			
_	<u> </u>					
2	Protective Casing		.,	ı		1
а	Is the protective co secured?	ssing free from apparent damage and able to be	Х			
b	Is the casing free of	f degradation or deterioiration?	Χ			
С	Does the casing ha	ve a functioning weep hole?	Х			
d	Is the annular spac filled with pea grav	e between casings clear of debris and water, or rel/sand?	Х			
е	Is the well locked a	nd is the lock in good condition?	Х			
			•			•
3	Surface pad					
а	Is the well pad in g	ood conditon (not cracked or broken)?	Χ			
b	Is the well pad slop	ed away from the protective casing?		Х		Appears level
С		omplete contact with the protective casing?	Х			
d	· ·	omplete contact with the ground surface and ninde by erosion, animal burrows, and does not	Х			
е		clean (not covered with sediment or debris)?	Х			
_	is me pad sonder (	cloan (not covorca viini scannoin or acens).				1
4	Internal casing					
а		ent entry of foreign material into the well?	Χ			
b		f kinks or bends, or any obstructions from foreign	Х			
С	, ,	vented for equilibrium of air pressure?	Χ			
d		clearly marked on the inner casing?	X			
e		well consistent with the original well log?	X			
f	Is the casing stable	? (or does the pvc move easily when touched or art by hand due to lack of grout or use of slip	Х			
5	Sampling (Groundy	vater Wells Only)				
а	Does well recharge	adequetely when purged?	Χ			
b	· ·	ing equipment installed, is it in good condition and proved groundwater groundwater plant for the	Х			
С	· '	re redevelopment (low-flow, turbid)?		Х		
Cor	mments: Include insp	pection details, including items requiring repair or mair	ntenana	ce.		
		None				
	pared By / Date:	Bryan Pennell 8/30/22				
DL/	SME Review By / Dat	te Edgar Smith 9/22/22				



	Dunin of Name of	Southern Company Arkwright				
	Project Name:	- <del></del>	-			
	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				-	
					-	
	Priority Maintenanc	e liem idenililed.			-	
		Description	Yes	No	NA	Comments
1	Location/Identificat	lion	l.	ı	1	
а	Is the well visible ar	nd accessible?	Х			
b	Is the well properly	identified with the correct well ID?	Χ			
С	Is the well in a high from traffic?	traffic area and does the well require protection		Х		
d	_	und the well acceptable? (no standing water, nor is rious drainage flow path)	Х			
2	Protective Casing		.,	ı	ı	
а	Is the protective co secured?	asing free from apparent damage and able to be	Х			
b	Is the casing free of	f degradation or deterioiration?	Χ			
С	Does the casing ha	ve a functioning weep hole?	Х			
d	Is the annular spac filled with pea grav	e between casings clear of debris and water, or rel/sand?	Х			
е	Is the well locked a	nd is the lock in good condition?	Х			
			•			
3	Surface pad					
а	Is the well pad in g	ood conditon (not cracked or broken)?	Χ			
b	Is the well pad slop	ed away from the protective casing?		Χ		Appears level
С		omplete contact with the protective casing?	Х			
d	· ·	omplete contact with the ground surface and ninde by erosion, animal burrows, and does not	Х			
е		clean (not covered with sediment or debris)?	Х			
_	is mo pad sondeo (	cloan (not covorca viini scannoin or acens).				_L
4	Internal casing					
а		ent entry of foreign material into the well?	Х			
b		f kinks or bends, or any obstructions from foreign	Х			
С	, ,	vented for equilibrium of air pressure?	Χ			
d		clearly marked on the inner casing?	X			
e		well consistent with the original well log?	X			
f	Is the casing stable	? (or does the pvc move easily when touched or art by hand due to lack of grout or use of slip	Х			
5	Sampling (Groundy	vater Wells Only)				
а		adequetely when purged?	Х			
b		ing equipment installed, is it in good condition and proved groundwater groundwater plant for the	Х			
С	Does the well requi	re redevelopment (low-flow, turbid)?		Х		
Cor	mments: Include insp	pection details, including items requiring repair or main	ntenand	ce.		
		None				
D:	an area of Doc / Doc /	Driver David III 0 /00 /00				
	pared By / Date: SMF Review By / Dat	Bryan Pennell 8/30/22 te Edgar Smith 9/22/2022				
	SITIL ROTION BY / Dal	CLASA JIIIII //ZZ/ZOZZ				



Southern Company Arkwright Project Name: Plant Arkwright Plant Name: 5001 Arkwright Road, Macon, GA 31210 Plant Address: 175569434 Project Number: Gauging/Inspection Goal/Task: Date: 8/30/2022 Monitoring Well No.: AP1PZ-9 Priority Maintenance Item Identified: Description No Comments Yes NA Location/Identification a Is the well visible and accessible? Χ Χ b Is the well properly identified with the correct well ID? Χ Is the well in a high traffic area and does the well require protection from traffic? Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) 2 Protective Casing Χ Is the protective casing free from apparent damage and able to be Is the casing free of degradation or deterioiration? Χ Does the casing have a functioning weep hole? Χ Χ Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? Is the well locked and is the lock in good condition? Χ 3 Surface pad Is the well pad in good conditon (not cracked or broken)? Χ Is the well pad sloped away from the protective casing? Χ Appears level Is the well pad in complete contact with the protective casing? Χ Is the well pad in complete contact with the ground surface and Χ stable? (Not underminde by erosion, animal burrows, and does not move when stepped on). Χ e Is the pad surface clean (not covered with sediment or debris)? 4 Internal casing Does the cap prevent entry of foreign material into the well? Χ Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? Is the well properly vented for equilibrium of air pressure? Χ Χ Is the survey point clearly marked on the inner casing? Is the depth of the well consistent with the original well log? Χ Χ 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) 5 Sampling (Groundwater Wells Only) Does well recharge adequetely when purged? Χ Some drawn down If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater groundwater plant for the facility? Χ c Does the well require redevelopment (low-flow, turbid)? Comments: Include inspection details, including items requiring repair or maintenance Prepared By / Date: Bryan Pennell 8/30/22 DL/SME Review By / Date Edgar Smith 9/22/22



		Could are Course and Adams and				
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.:				-	
	Priority Maintenance				•	
	Fliolity Maintenance	e nem identified.			•	
	1	Description	Yes	No	NA	Comments
1	Location/Identificati					
a	Is the well visible and		Х			
b		dentified with the correct well ID?	Χ			
С	from traffic?	raffic area and does the well require protection		Х		
d		nd the well acceptable? (no standing water, nor is ous drainage flow path)	Х			
_	I					
	Protective Casing		v 1		1	T
а	secured?	ing free from apparent damage and able to be	Х			
b		degradation or deterioiration?	Х			
С	Ŭ	ve a functioning weep hole?	Х			
d	Is the annular space filled with pea grave	between casings clear of debris and water, or el/sand?	Х			
е	Is the well locked ar	nd is the lock in good condition?	Χ			
_	T					
	Surface pad		v 1		1	T
a		od conditon (not cracked or broken)?	X			
b		ed away from the protective casing?  Implete contact with the protective casing?	X			
c d	·	mplete contact with the ground surface and	X			
u		inde by erosion, animal burrows, and does not	^			
е		lean (not covered with sediment or debris)?	Χ			
		·				
4	Internal casing					
а	Does the cap preve	nt entry of foreign material into the well?	Χ			
b	Is the casing free of objects (such as bail	kinks or bends, or any obstructions from foreign lers)?	Х			
С	Is the well properly v	vented for equilibrium of air pressure?	Χ			
d	Is the survey point cl	early marked on the inner casing?	Χ			
е	Is the depth of the w	vell consistent with the original well log?	Χ			
f		(or does the pvc move easily when touched or irt by hand due to lack of grout or use of slip ction)	Х			
	T.					
	Sampling (Groundw		- V I		1	
а		adequetely when purged?	X			<del> </del>
b		ng equipment installed, is it in good condition and roved groundwater groundwater plant for the	Х			
С	· · · · · · · · · · · · · · · · · · ·	e redevelopment (low-flow, turbid)?		Х		†
						<u> </u>
		ection details, including items requiring repair or main	tenanc	e.		
Nor	ne					

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



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	.: AP1PZ11
Priority Maintenand	te Item Identified: None

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

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

	Description	Yes	No	NA	Comments
1	Location/Identification	163	140	IVA	Comments
a	Is the well visible and accessible?	Χ	1		
	Is the well properly identified with the correct well ID?	X			
С	Is the well in a high traffic area and does the well require protection		Х		
C	from traffic?		^		
d	Is the drainage around the well acceptable? (no standing water, nor is	X			
	well located in obvious drainage flow path)				
2	Protective Casing				
а	Is the protective casing free from apparent damage and able to be secured?	Х			
b	Is the casing free of degradation or deterioration?	Х			
С	Does the casing have a functioning weep hole?	Х			
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	Х			
е	Is the well locked and is the lock in good condition?	Х			
	<u> </u>	i .			•
3	Surface pad				
а	Is the well pad in good condition (not cracked or broken)?	Х			
b	Is the well pad sloped away from the protective casing?	Х			
С	Is the well pad in complete contact with the protective casing?	Х			
d	Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).	Х			
е	Is the pad surface clean (not covered with sediment or debris)?	Х			
4	Internal casing				
а	Does the cap prevent entry of foreign material into the well?	Х			
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	Х			
С	Is the well properly vented for equilibrium of air pressure?	X			
d	Is the survey point clearly marked on the inner casing?	Х			
е	Is the depth of the well consistent with the original well log?	Х			
f	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)	Х			
		1	1	1	1
5	Sampling (Groundwater Wells Only)				
а	Does well recharge adequately when purged?	Χ			
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plant for the facility?	Х			
С	Does the well require redevelopment (low-flow, turbid)?		Χ		
	1200 ms manual of the manual frame manual fr		<u> </u>		ļ

None



		MONITORING WELL INSPECT	ION C	TECKLIST		Stantec
	Project Name:	Southern Company Arkwright				
	Plant Name:	Plant Arkwright	•			
	Plant Address:	5001 Arkwright Road, Macon, GA 31210		•		
	Project Number:	175569434			-	
	Goal/Task:	Hydrogeological investigation			-	
					-	
	Date:	2/2/2023			_	
	Monitoring Well No.:	AP1GWA-1			_	
	Priority Maintenance	Item Identified: N/A			_	
		Description	Yes	No	NA	Comments
1	Location/Identificatio				ı	
	Is the well visible and		Х			
		entified with the correct well ID?	Х			
С	from traffic?	affic area and does the well require protection		Х		
d		d the well acceptable? (no standing water, nor is us drainage flow path)	Х			
2	Protective Casing			I		T
		ng free from apparent damage and able to be	Х			
<u>.</u>	secured?	ig nee nom apparem damage and able to be				
b	Is the casing free of d	egradation or deterioration?	Х			
С	Does the casing have	e a functioning weep hole?	Х			
d	Is the annular space I with pea gravel/sand	petween casings clear of debris and water, or filled 12	Х			
е	Is the well locked and	d is the lock in good condition?	Х			
_	T		1	1	1	1
	Surface pad	d and difficult to the average of a vibration (2)				
		d condition (not cracked or broken)? d away from the protective casing?	X			
С		nplete contact with the protective casing?	X			
d		nplete contact with the ground surface and	X			
	stable?(Not undermir when stepped on).	ned by erosion, animal burrows, and does not move				
е	Is the pad surface cle	ean (not covered with sediment or debris)?	Х			
	I			ı	ı	
4 a	Internal casing	t ontry of foreign material into the well?	V			
u b		t entry of foreign material into the well?	X			
U	objects (such as baile		^			
C		ented for equilibrium of air pressure?	Х			
d		early marked on the inner casing?	X			
e f		ell consistent with the original well log? (or does the PVC move easily when touched or	X X			
•		by hand due to lack of grout or use of slip	^			
	, , ,	•		!	!	
5	Sampling (Groundwa					
а	Does well recharge a	dequately when purged?	Х			
b		g equipment installed, is it in good condition and oved groundwater plan for the facility?	X			
С	Does the well require	redevelopment (low-flow, turbid)?		Х		
or	nments: Include inspec	ction details, including items requiring repair or main N/A	itenanc	e.		
		N/A				
rep	oared By / Date:	Emily Scheiben		2/2/2023		

4/17/2023



		MONITORING WELL INSPECTIO	N CHE	CKLI31		Stantec
	Project Name:	Southern Company Arkwright				
	Plant Name:	Plant Arkwright			-	
	Plant Address:	5001 Arkwright Road, Macon, GA 31210			-	
	Project Number:	175569434			•	
	Goal/Task:	Hydrogeological investigation			•	
	2 3 4.7 1 451.11				-	
	Date:	1/31/2023				
	Monitoring Well No.:	AP1GWA-2			•	
	Priority Maintenance	Item Identified: N/A			•	
		-			•	
		Description	Yes	No	NA	Comments
1	Location/Identification		163	NO	INA	Comments
а	Is the well visible and		Х			
b	Is the well properly ic	dentified with the correct well ID?	Χ			
С	Is the well in a high tr from traffic?	raffic area and does the well require protection		Χ		
d		nd the well acceptable? (no standing water, nor is bus drainage flow path)	Х			
	3 1000.00 111 00 110		1		l	1
2	Protective Casing					
а	Is the protective casi secured?	ing free from apparent damage and able to be	Х			
b	Is the casing free of a	degradation or deterioration?	Χ			
С	Does the casing hav	e a functioning weep hole?	Χ			
d	Is the annular space with pea gravel/sand	between casings clear of debris and water, or filled d?	Х			
е	Is the well locked an	d is the lock in good condition?	Χ			
	T		1		ı	
	Surface pad		V			
		od condition (not cracked or broken)? d away from the protective casing?	X	Х		
		mplete contact with the protective casing?	Χ			
d		mplete contact with the ground surface and				
	stable?(Not undermi	ned by erosion, animal burrows, and does not move	Χ			
	when stepped on).					
е	Is the pad surtace cl	ean (not covered with sediment or debris)?	Χ			
1	Internal casing					
		nt entry of foreign material into the well?	Х			
b		kinks or bends, or any obstructions from foreign				
	objects (such as bail	ers)?	Х			
		ented for equilibrium of air pressure?	X			
	· · · · · · · · · · · · · · · · · · ·	early marked on the inner casing?	X			
	·	vell consistent with the original well log?	Χ			
f		(or does the PVC move easily when touched or it by hand due to lack of grout or use of slip ction)	Х			
5	Sampling (Groundwo					
a	Does well recharge	adequately when purged?	X			
b	· ·	ng equipment installed, is it in good condition and roved groundwater plan for the facility?	Х			
С	Does the well require	e redevelopment (low-flow, turbid)?		Х		
					•	
Cor	nments: Include inspe	ection details, including items requiring repair or main	tenance	э.		
		N/A				

Prepared By / Date: Jackson Bankston 1/31/2023 4/17/2023



		MONITORING WELL INSPECTION	N CHE	ECKLIST		<b>Stantec</b>
	Drainat Nama	Southern Company Arkwright				
	Project Name: Southern Company Arkwright  Plant Name: Plant Arkwright					
	Plant Address: 5001 Arkwright Road, Macon, GA 31210					
	Project Number:	175569434				
	Goal/Task:	Hydrogeological investigation				
	Codi, rask.					
	Date:	2/2/2023				
	Monitoring Well No.:	AP1PZ-1				
	Priority Maintenance	Item Identified: N/A				
		Description	Yes	No	NA	Comments
1	Location/Identification			1 1		
_	Is the well visible and		Х			
		entified with the correct well ID?	Х			
С	Is the well in a high tr from traffic?	affic area and does the well require protection		х		
d		nd the well acceptable? (no standing water, nor is ous drainage flow path)	х			
	Protective Casing					
а	Is the protective casil secured?	ng free from apparent damage and able to be	Х			
		degradation or deterioration?	Х			
		e a functioning weep hole?	X			
	with pea gravel/sand		Х			
е	Is the well locked and	d is the lock in good condition?	Х			
3	Surface pad					<u> </u>
	•	od condition (not cracked or broken)?	Х			
		d away from the protective casing?	Х			
		nplete contact with the protective casing?	Х			
d	stable?(Not undermir	nplete contact with the ground surface and ned by erosion, animal burrows, and does not move	Х			
е	when stepped on).	ean (not covered with sediment or debris)?	Х			
	is the pad solidce cit	ean (not covered with sealthern of debits)?	^			<u> </u>
4	Internal casing					
а	Does the cap prever	nt entry of foreign material into the well?	Х			
b	Is the casing free of k objects (such as baile	inks or bends, or any obstructions from foreign ers)?	Х			
С	Is the well properly ve	ented for equilibrium of air pressure?	Х			
		early marked on the inner casing?	Х			
		ell consistent with the original well log?	Х			
f		(or does the PVC move easily when touched or t by hand due to lack of grout or use of slip	Х			
	couplings in construc					
5	Sampling (Groundwa	iter Wells Only)				
		adequately when purged?	Х			
b	)	· · · · · · · · · · · · · · · · · · ·	X			
		g equipment installed, is it in good condition and oved groundwater plan for the facility?				
С	Does the well require	redevelopment (low-flow, turbid)?		Х		
Con	nments: Include inspe	ction details, including items requiring repair or main	tenana	·e		
201	сть. псточе търе	N/A	IUIIC			
		·				
Prep	oared By / Date:	Emily Scheiben		2/2/202	23	

4/17/2023



		MONITORING WELL INSPECT	ION C	HECKLIST		Stantec
	Project Name:	Southern Company Arkwright				
	Plant Name:	Plant Arkwright			-	
	Plant Address:	5001 Arkwright Road, Macon, GA 31210			-	
	Project Number:	175569434			-	
	Goal/Task:	Hydrogeological investigation			-	
	Codi, rask.				-	
	Date:	2/2/2023				
	Monitoring Well No.:	AP1PZ-2			-	
	Priority Maintenance	Item Identified: N/A			-	
	,	_			-	
				1	1	
1	Location/Identification	<u>Description</u>	Yes	No	NA	Comments
ı a	Is the well visible and		Х			
_		entified with the correct well ID?	X			
С		affic area and does the well require protection		Х		
	from traffic?					
d		nd the well acceptable? (no standing water, nor is ous drainage flow path)	х			
^	In 1 11 0 1			1	1	
2	Protective Casing					
а	is the protective casil secured?	ng free from apparent damage and able to be	X			
b		degradation or deterioration?	Х			
C		e a functioning weep hole?	Х			
d		between casings clear of debris and water, or filled	х			
е	Is the well locked and	d is the lock in good condition?	Х			
3	Surface pad					
		od condition (not cracked or broken)?	Х			
b		d away from the protective casing?	X			
c d		nplete contact with the protective casing? nplete contact with the ground surface and	X			
u		ned by erosion, animal burrows, and does not move				
е		ean (not covered with sediment or debris)?	Х			
	•			•		
	Internal casing					
а	Does the cap prever	nt entry of foreign material into the well?	Х			
b	Is the casing free of k objects (such as baile	inks or bends, or any obstructions from foreign ers)?	Х			
С	Is the well properly ve	ented for equilibrium of air pressure?	Х			
d	, ,	early marked on the inner casing?	Х			
e	· · · · · · · · · · · · · · · · · · ·	ell consistent with the original well log?	Х			
t	_	(or does the PVC move easily when touched or t by hand due to lack of grout or use of slip tion)	Х			
	•		•		•	
5	Sampling (Groundwa					
a	Does well recharge of	adequately when purged?	Х			
b	· ·	g equipment installed, is it in good condition and oved groundwater plan for the facility?	×			
С	Does the well require	redevelopment (low-flow, turbid)?		Х		
or	mments: Include inspe	ction details, including items requiring repair or main	itenanc	e.		
		N/A				
	e erre el Divi / Divi	Fresili, Colonila en		0.10.10000		
ret	oared Bv / Date:	Emily Scheiben		2/2/2023		

4/17/2023



Project Name:	Southern Company Arkwright	
Plant Name:	Plant Arkwright	
Plant Address:	5001 Arkwright Road, Macon, GA 31210	_
Project Number:	175569434	_
Goal/Task:	Hydrogeological investigation	
Date:	2/2/2023	
Monitoring Well No.:	AP1PZ-3	_
Priority Maintenance	Item Identified:	N/A

Description	Yes	No	NA	Comments
1 Location/Identification			-	
a Is the well visible and accessible?	Х			
b Is the well properly identified with the correct well ID?	Х			
c Is the well in a high traffic area and does the well require protection from traffic?		Х		
d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	Х			
2 Protective Casing				
a Is the protective casing free from apparent damage and able to be secured?		Х		Was dammaged by a vehicle on 2-23
b Is the casing free of degradation or deterioration?		Х		
c Does the casing have a functioning weep hole?	Х			
d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	х			
e Is the well locked and is the lock in good condition?	Х			
3 Surface pad		1	1	
3   Surface pad a   Is the well pad in good condition (not cracked or broken)?		V		
b Is the well pad sloped away from the protective casing?	Х	X		
c Is the well pad in complete contact with the protective casing?	^	X		
d Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).		×		
e Is the pad surface clean (not covered with sediment or debris)?	Х			
		1		
4 Internal casing				
a Does the cap prevent entry of foreign material into the well?	Х			
b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?		Х		
c Is the well properly vented for equilibrium of air pressure?	Х			
d Is the survey point clearly marked on the inner casing?	Χ			
<ul> <li>Is the depth of the well consistent with the original well log?</li> <li>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</li> </ul>	Х	x		
construction)				
5   Sampling (Groundwater Wells Only)				
Does well recharge adequately when purged?			х	Unable to sample due to recent vehicle incident
b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			х	
C Does the well require redevelopment (low-flow, turbid)?			х	
comments: Include inspection details, including items requiring repair or main Repair well - See photos for ext				
repared By / Date: Emily Scheiben		2/2/20		
DL/SME Review By / Date: <b>Dylan Quintal</b>		4/17/20	)23	



		MONITORING WELL INSPECT	ION C	HECKLIST		<b>Stantec</b>
	Project Name:	Southern Company Arkwright				
	Plant Name:	Plant Arkwright			-	
	Plant Address:	5001 Arkwright Road, Macon, GA 31210			_	
	Project Number:	175569434			_	
	Goal/Task:	Hydrogeological investigation			-	
	Codi, rask.				-	
	Date:	2/2/2023				
	Monitoring Well No.:	AP1PZ-4			_	
	Priority Maintenance	Item Identified: N/A			_	
	,	_			-	
						L
1	Location/Identification	Description	Yes	No	NA	Comments
a	Is the well visible and		Х			
b		entified with the correct well ID?	X			
С		affic area and does the well require protection		х		
	from traffic?					
d		nd the well acceptable? (no standing water, nor is us drainage flow path)	Х			
2	Protective Casing		1	1		
2 a		ng free from apparent damage and able to be	X			
u	secured?	ig liee from apparem damage and able to be	^			
b		legradation or deterioration?	Х			
С		e a functioning weep hole?	Х			
d	Is the annular space with pea gravel/sand	between casings clear of debris and water, or filled d?	х			
е	Is the well locked and	d is the lock in good condition?	Х			
	•			1	1	
_	Surface pad					
a b		od condition (not cracked or broken)?  d away from the protective casing?	X			
С		nplete contact with the protective casing?	X			
d		nplete contact with the ground surface and	X			
		ned by erosion, animal burrows, and does not move				
е	Is the pad surface cle	ean (not covered with sediment or debris)?	Х			
	T			1		
	Internal casing	t and a of foreign production into the country				
a h		at entry of foreign material into the well?	X			
D	objects (such as baile	·				
C		ented for equilibrium of air pressure?	X			
d e		early marked on the inner casing? ell consistent with the original well log?	X			
f	·	(or does the PVC move easily when touched or	X			
	_	t by hand due to lack of grout or use of slip				
	T			1	1	
	Sampling (Groundwa					
a b		adequately when purged?	X			
D	· ·	g equipment installed, is it in good condition and oved groundwater plan for the facility?	X			
С	Does the well require	redevelopment (low-flow, turbid)?		Х		
or	nments: Include inspe	ction details, including items requiring repair or main N/A	itenanc	ce.		
		N/A				
)r	agrad By / Dat-	Emily Schoibon		0.10.10000		
ret	oared By / Date:	Emily Scheiben		2/2/2023		

4/17/2023

		MONITORING WELL INSPECTION	N CHE	CKLIST		Stantec
	Project Name:	Southern Company Arkwright				
	Project Name: Plant Name:	Plant Arkwright				
	Plant Address:	5001 Arkwright Road, Macon, GA 31210				
	Project Number:	175569434				
	Goal/Task:	Hydrogeological investigation				
	Date:	1/31/2023				
	Monitoring Well No.:	AP1PZ-5				
	Priority Maintenance	Item Identified: N/A				
1	Location/Identification	Description	Yes	No	NA	Comments
a	Is the well visible and		Χ			T
		entified with the correct well ID?	X			
		affic area and does the well require protection	Λ	Х		
d	Is the drainage arour	nd the well acceptable? (no standing water, nor is us drainage flow path)	Х			
		or aramage new parry		I		<u> </u>
2	Protective Casing					
а	Is the protective casi secured?	ng free from apparent damage and able to be	Χ			
b	Is the casing free of a	legradation or deterioration?	Χ			
С	Does the casing have	e a functioning weep hole?	Χ			
d	Is the annular space with pea gravel/sand	between casings clear of debris and water, or filled	Χ			
е	Is the well locked and	d is the lock in good condition?	Χ			
	_					
	Surface pad					
		od condition (not cracked or broken)?	Χ			
		d away from the protective casing?		Х		
	•	nplete contact with the protective casing?	Χ			
а		nplete contact with the ground surface and ned by erosion, animal burrows, and does not move	Χ			
e		ean (not covered with sediment or debris)?	Χ			
	is the pad solides ex	can (not devoted with seamon of debits).	Λ	l l		
4	Internal casing					
		nt entry of foreign material into the well?	Χ			
b		inks or bends, or any obstructions from foreign	Х			
С	Is the well properly ve	ented for equilibrium of air pressure?	Χ			
		early marked on the inner casing?	X			
		ell consistent with the original well log?	Χ	l		
	Is the casing stable?	(or does the PVC move easily when touched or t by hand due to lack of grout or use of slip	Х			

5 Sampling (Groundwater Wells Only)

a Does well recharge adequately when purged?

b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?

c Does the well require redevelopment (low-flow, turbid)?

X

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

couplings in construction)

N/A

Prepared By / Date:	Jackson Bankston /	1/31/23	
DL/SME Review By / Dat	e: <b>Dylan Quintal</b>		4/17/2023



		MONITORING WELL INSPECTIO	N CHE	CKLIS	Γ	<b>Stantec</b>
	Project Name:	Southern Company Arkwright				
	Plant Name:	Plant Arkwright			-	
	Plant Address:	5001 Arkwright Road, Macon, GA 31210			-	
	Project Number:	175569434			-	
	Goal/Task:	Hydrogeological investigation			-	
					-	
	Date:	1/31/2023			_	
	Monitoring Well No.:	AP1PZ-6			_	
	Priority Maintenance	Item Identified: N/A			_	
		Description	Yes	No	NA	Comments
1	Location/Identification	on .				
	Is the well visible and		Х			
		entified with the correct well ID?	Х			
	from traffic?	affic area and does the well require protection		Χ		
d		nd the well acceptable? (no standing water, nor is ous drainage flow path)	Х			
0	Droto office Contract					
	Protective Casing	ng free from apparent damage and able to be	Х			
u	secured?	ng nee nom apparem aamage and able to be	^			
b	Is the casing free of a	degradation or deterioration?	Х			
		e a functioning weep hole?	Х			
d	Is the annular space with pea gravel/sand	between casings clear of debris and water, or filled d?	Х			
е	Is the well locked and	d is the lock in good condition?	Х			
	1					
	Surface pad		V			
		od condition (not cracked or broken)?  d away from the protective casing?	Х	Х		
		nplete contact with the protective casing?	Χ			
	Is the well pad in con	nplete contact with the ground surface and ned by erosion, animal burrows, and does not move				
е		ean (not covered with sediment or debris)?	Х			
	Internal casing					
		nt entry of foreign material into the well?	Х			
D	Is the casing tree of k objects (such as baile	inks or bends, or any obstructions from foreign ers)?	Х			
		ented for equilibrium of air pressure?	Χ			
		early marked on the inner casing?	Х			
		ell consistent with the original well log?	Х			
		(or does the PVC move easily when touched or t by hand due to lack of grout or use of slip tion)	Х			
5	Sampling (Groundwa	iter Wells Only)				
		adequately when purged?	Х			
b	· ·	g equipment installed, is it in good condition and oved groundwater plan for the facility?	Х			
С	Does the well require	redevelopment (low-flow, turbid)?		Χ		
		attended at the first of the state of the st	1			
.on	nments: Include inspe	ction details, including items requiring repair or main N/A	tenance	e		

Prepared By / Date: Jackson Bankston / 1/31/23



Project Name:	Southern Company Arkwright
Plant Name:	Plant Arkwright
Plant Address:	5001 Arkwright Road, Macon, GA 31210
Project Number:	175569434
Goal/Task:	Hydrogeological investigation
Date:	1/31/2023
Monitoring Well No.:	AP1PZ-7
Priority Maintenance	Item Identified: N/A

Description	Yes	No	NA	Comments
1 Location/Identification				
a Is the well visible and accessible?	Χ			
b Is the well properly identified with the correct well ID?	Χ			
Is the well in a high traffic area and does the well require protection from traffic?		Х		
d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	Х			
2 Protective Casing				
a ls the protective casing free from apparent damage and able to be	Х			
secured?	^			
ls the casing free of degradation or deterioration?	Χ			
Does the casing have a functioning weep hole?	Χ			
d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	Х			
e Is the well locked and is the lock in good condition?	Х			
3 Surface pad				
a Is the well pad in good condition (not cracked or broken)?	Х			
b Is the well pad sloped away from the protective casing?		Х		
c Is the well pad in complete contact with the protective casing?	Χ			
Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).	Х			
e Is the pad surface clean (not covered with sediment or debris)?	Х			
•		•	•	•
4 Internal casing				
Does the cap prevent entry of foreign material into the well?	Х			
ls the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	Х			
Is the well properly vented for equilibrium of air pressure?	Х			
d Is the survey point clearly marked on the inner casing?	Х			
e Is the depth of the well consistent with the original well log?	Х			
f 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)	Х			
SSSP(90 SS. ISH SSH SSH SSH SSH SSH SSH SSH SSH SSH	ļ	<u> </u>	<del></del>	<u> </u>
5 Sampling (Groundwater Wells Only)				
a Does well recharge adequately when purged?	Х			
If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	Х			
<u> </u>				
C Does the well require redevelopment (low-flow, turbid)?		Х		
omments: Include inspection details, including items requiring repair or main				

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

N/A

Prepared By / Date: Jackson Bankston / 1/31/23



		MONITORING WELL INSPECTIO	N CHE	CKLIS.	Γ	<b>Stantec</b>
	Project Name:	Southern Company Arkwright				
	Plant Name:	Plant Arkwright			-	
		5001 Arkwright Road, Macon, GA 31210			-	
	Plant Address:	·			-	
	Project Number:	175569434			-	
	Goal/Task:	Hydrogeological investigation			-	
	Date:	1/31/2023				
	Monitoring Well No.:	AP1PZ-8			-	
	Priority Maintenance				-	
	•				-	
		Description	Yes	No	NA	Comments
1	Location/Identificatio	n			•	•
	Is the well visible and		Х			
		entified with the correct well ID?	Х			
С	Is the well in a high tro from traffic?	affic area and does the well require protection		Χ		
d		nd the well acceptable? (no standing water, nor is us drainage flow path)	Х			
	511 1000100 111 00010	55 S. S. Indgo non panij	<u> </u>		<u> </u>	ı
2	Protective Casing					
	Is the protective casin	ng free from apparent damage and able to be	Х			
la.	secured?	la sura distina au distaviavation?	V			
b c		legradation or deterioration? e a functioning weep hole?	X			
d		between casings clear of debris and water, or filled	^			
	with pea gravel/sand	45	Х			
е	Is the well locked and	d is the lock in good condition?	Х			
_			1			
	Surface pad					
a b		ad condition (not cracked or broken)?  d away from the protective casing?	Х	Х		
		nplete contact with the protective casing?	Х	^		
		nplete contact with the ground surface and				
-		ned by erosion, animal burrows, and does not move	Х			
	when stepped on).					
е	Is the pad surface cle	ean (not covered with sediment or debris)?	Х			
			1			
	Internal casing	t entry of foreign material into the well?				
a b		it entry of foreign material into the well?	Х			
D	objects (such as baile	inks or bends, or any obstructions from foreign ers)?	Х			
		ented for equilibrium of air pressure?	Х			
		early marked on the inner casing?	Χ			
е		ell consistent with the original well log?	Χ			
t		(or does the PVC move easily when touched or t by hand due to lack of grout or use of slip tion)	Х			
	-					ļ
	Sampling (Groundwa					
a b	Does well recharge c	dequately when purged?	X		-	-
D	•	g equipment installed, is it in good condition and oved groundwater plan for the facility?	Х			
С	Does the well require	redevelopment (low-flow, turbid)?		Χ		
Cor	nments: Include inspe	ction details, including items requiring repair or main	tenance	<del>2</del> .		
ال ر	e	N/A	. 5. 101100			

Jackson Bankston / 1/31/23 Prepared By / Date:



b Is the well properly identified with the correct well ID?  c Is the well in a high traffic area and does the well require protection from traffic?  d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)  2 Protective Casing  a Is the protective cosing free from apparent damage and able to be secured?  b Is the cosing free of degradation or deterioration?  c Does the cosing have a functioning weep hole?  d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?  is the vell locked and is the lock in good condition?  x Is the well pad in good condition (not cracked or broken)?  is the well pad in good condition (not cracked or broken)?  x Is the well pad in good adought from the protective cosing?  x Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).  Is the pad surface clean (not covered with sediment or debris)?  Internal casing  a Does the cap prevent entry of foreign material into the well?  x Is the pad surface clean (not covered with sediment or debris)?  Internal casing  a Does the cap prevent entry of foreign material into the well?  x Is the survey point clearly marked on the inner casing?  x Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move the stable pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move the stable pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move the stable pad to the pad surface and stable? (Not undermined by erosion, animal burrows, and does not move the stable pad to the pad stable? (Not undermined by erosion, animal burrows, and does not move the stable pad to the pad stable? (Not undermined by erosion, animal burrows, and does not move the stable pad to the pa			MONITORING WELL INSPECTIO	N CHE	CKLIST	Γ	<b>Stantec</b>
Plant Name: Plant Address: SIOI Arkwright Road, Macon, GA 31210 Project Number: 17556743 Goot/Task: Hydrogeological investigation  Date: 1/31/2023 Monitoring Well No.: APTP2-9 Priority Maintenance Item Identified: N/A    Description   Yes   No   NA   Comments		Project Name:	Southern Company Arkwright				
Priorit Address: 5001 Arkwright Road, Macon, GA 31210   175369434		-				-	
Project Number: 175569434  Gool/Task: Hydrogeological investigation  Date: 1/31/7023  Monitoring Well No.: AFIP2-9  Priority Maintenance item Identified: N/A     Localian/Identification						-	
Gool/Task: Hydrogeological investigation  Date: 1/31/2023  Monitoring Well No.: AP127-9 Priority Maintenance Item Identified: N/A     Description						=	
Date: 1/31/2023  Monitoring Well No.: AF1P2-9 Priority Maintenance Item Identified: N/A    Description   Yes   No   NA   Comments		-				=	
Monitoring Well No.: APIPZ-9 Priority Maintenance Item Identified: N/A    Description   Yes   No   NA   Comments		ood, rabin				-	
Priority Maintenance Item Identified: N/A    Location/Identification   Security   Securi		Date:	1/31/2023			_	
Description   Yes   No   NA   Comments		Monitoring Well No.:	AP1PZ-9				
1   International Content		Priority Maintenance	Item Identified: N/A				
1   International Content							
1   International Content			Description	Yes	No	NA	Comments
b is the well properly identified with the correct well ID?  c is the well in a high traffic area and does the well require protection from traffic?  d is the well in a high traffic area and does the well require protection from traffic?  d is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)  2  Protective Casing  a is the protective cosing free from apparent damage and able to be secured?  b is the casing free of degradation or deterioration?  c Does the casing have a functioning weep hole?  d is the onnular space between casings clear of debris and water, or filled with pea gravel/sand?  is the well locked and is the lock in good condition?  x is the well locked and is the lock in good condition?  x is the well pod in good condition (not cracked or broken)?  x is the well pod in complete contact with the protective casing?  x is the well pod in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).  b is the well pod in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).  b is the easing free of kinks or bends, or any obstructions from foreign objects (such as balles)?  b is the well pod cleanly marked on the inner casing?  x is the casing free of kinks or bends, or any obstructions from foreign objects (such as balles)?  b 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 counting in construction.  5 Sampling (Groundwater Wells Only)  a Does the cap greater wells only)  b if dedicated sampling equipment installed, is if in good condition and specified in the approved groundwater plan for fine facility?  c Does the well require redevelopment (low-flow, turbid)?  c Does the well require redevelopment (low-flow, turbid)?	1	Location/Identification					
C is the well in a high traffic area and does the well require protection from traffic?  d is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)  2 Protective Casing  is the protective casing free from apparent damage and able to be socured?  5 Is the casing free of degradation or deterioration?  6 Is the protective casing free from apparent damage and able to be socured?  7 Is compared to the casing free from apparent damage and able to be socured?  8 Is the well protective casing free from apparent damage and able to be socured?  9 Is the casing free of degradation or deterioration?  1 Is compared to the casing free from apparent damage and able to be socured?  1 Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?  2 Is the well pad in good condition (not cracked or broken)?  3 Is surface pad  3 Is used by a surface pad  4 Is the well pad in good condition (not cracked or broken)?  5 Is the well pad in good condition (not cracked or broken)?  6 Is the well pad in complete contact with the protective casing?  7 Is the well pad in complete contact with the protective casing?  8 Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).  9 Is the pad surface clean (not covered with sediment or debris)?  1 Is the pad surface clean (not covered with sediment or debris)?  2 Is the well pad in complete contact with the ground surface and stable? (Is does not be sufficiently and the surface of this sor bends, or any obstructions from foreign objects (such as ballers)?  2 Is the well property vented for equilibrium of air pressure?  3 Is the well property vented for equilibrium of air pressure?  4 Is the casing free of kinks or bends, or any obstructions from foreign objects (such as ballers)?  5 Is the well property vented for equilibrium of air pressure?  5 Is the well property vented for equilibrium of air pressure?  5 I							
from traffic?    Site drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)    Protective Casing				Х			
Verticated in obvious drainage flow path)   X		from traffic?			Х		
a is the protective casing free from apparent damage and able to be secured?  b is the casing free of degradation or deterioration?  C Does the casing have a functioning weep hole?  d is the annular space between casings clear of debris and water, or filled with pea gravel/sand?  e is the annular space between casings clear of debris and water, or filled with pea gravel/sand?  e is the well locked and is the lock in good condition?  X Surface pad  a is the well pad in good condition (not cracked or broken)?  Is the well pad in good condition (not cracked or broken)?  Is the well pad sloped away from the protective casing?  Is the well pad in complete contact with the protective casing?  Is the well pad in complete contact with the protective casing?  Is the well pad in complete contact with the ground surface and stable?(Not undermined by erosion, animal burrows, and does not move when stepped on).  Is the pad surface clean (not covered with sediment or debris)?  Internal casing  Does the cap prevent entry of foreign material into the well?  Internal casing free of kinks or bends, or any obstructions from foreign objects (such as baliers)?  Is the well properly vented for equilibrium of air pressure?  Is the well properly vented for equilibrium of air pressure?  Is the well properly vented for equilibrium of air pressure?  Is the depth of the well consistent with the original well log?  Is the cosing 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)  S Sampling (Groundwater Wells Only)  Does well recharge adequately when purged?  X Does well recharge adequately when purged?  Does well recharge adequately when purged?  X Does well recharge adequately when purged?  X Does well recharge adequately when purged?  X Does well recharge adequa	d			Х			
a is the protective casing free from apparent damage and able to be secured?  b is the casing free of degradation or deterioration?  C Does the casing have a functioning weep hole?  d is the annular space between casings clear of debris and water, or filled with pea gravel/sand?  e is the annular space between casings clear of debris and water, or filled with pea gravel/sand?  e is the well locked and is the lock in good condition?  X Surface pad  a is the well pad in good condition (not cracked or broken)?  Is the well pad in good condition (not cracked or broken)?  Is the well pad sloped away from the protective casing?  Is the well pad in complete contact with the protective casing?  Is the well pad in complete contact with the protective casing?  Is the well pad in complete contact with the ground surface and stable?(Not undermined by erosion, animal burrows, and does not move when stepped on).  Is the pad surface clean (not covered with sediment or debris)?  Internal casing  Does the cap prevent entry of foreign material into the well?  Internal casing free of kinks or bends, or any obstructions from foreign objects (such as baliers)?  Is the well properly vented for equilibrium of air pressure?  Is the well properly vented for equilibrium of air pressure?  Is the well properly vented for equilibrium of air pressure?  Is the depth of the well consistent with the original well log?  Is the cosing 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)  S Sampling (Groundwater Wells Only)  Does well recharge adequately when purged?  X Does well recharge adequately when purged?  Does well recharge adequately when purged?  X Does well recharge adequately when purged?  X Does well recharge adequately when purged?  X Does well recharge adequa	_						
b is the casing free of degradation or deterioration?  b is the casing free of degradation or deterioration?  c Does the casing have a functioning weep hole?  x			and the afficient and a second along the second and a second a second and a second	v			
b is the casing free of degradation or deterioration?  C Does the casing have a functioning weep hole?  Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?  Is the well locked and is the lock in good condition?  Is the well locked and is the lock in good condition?  Surface pad  Is the well pad in good condition (not cracked or broken)?  Is the well pad sloped away from the protective casing?  Is the well pad in complete contact with the protective casing?  Is the well pad in complete contact with the ground surface and stable?(Not undermined by erosion, animal burrows, and does not move when stepped on).  Is the pad surface clean (not covered with sediment or debris)?  Is the pad surface clean (not covered with sediment or debris)?  Is the casing free of kinks or bends, or any obstructions from foreign objects (such as badies)?  Is the well properly vented for equilibrium of air pressure?  Is the well properly vented for equilibrium of air pressure?  Is the well properly vented for equilibrium of air pressure?  Is the casing stable? (or does the PVC move easily when touched or can if be taken apart by hand due to lack of grout or use of slip  Does well recharge adequately when purged?  Sampling (Groundwater Wells Only)  Does well recharge adequately when purged?  Does the well require redevelopment (low-flow, turbid)?  Comments: Include inspection details, including items requiring repair or maintenance.	a		ng free from apparent damage and able to be	X			
c Does the casing have a functioning weep hole?  d is the annular space between cosings clear of debris and water, or filled with pea gravel/sand?  e is the well locked and is the lock in good condition?  X  3 Surface pad  a is the well pad in good condition (not cracked or broken)?  b is the well pad in good condition (not cracked or broken)?  c is the well pad in complete contact with the protective casing?  c is the well pad in complete contact with the protective casing?  d is the well pad in complete contact with the protective casing?  d is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).  e is the pad surface clean (not covered with sediment or debris)?  X  d Internal casing  Does the cap prevent entry of foreign material into the well?  x is the well properly vented for equilibrium of air pressure?  x is the well properly vented for equilibrium of air pressure?  x is the depth of the well consistent with the original well log?  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)  5 Sampling (Groundwater Wells Only)  a Does well recharge adequately when purged?  x is dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?  c Does the well require redevelopment (low-flow, turbid)?  X comments: Include inspection details, including items requiring repair or maintenance.	b		legradation or deterioration?	Χ			
with pea gravel/sand?  Is the well locked and is the lock in good condition?  Surface pad  Is the well pad in good condition (not cracked or broken)?  Is the well pad in good condition (not cracked or broken)?  Is the well pad in good condition (not cracked or broken)?  Is the well pad in complete contact with the protective casing?  Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move xwhen stepped on).  Is the pad surface clean (not covered with sediment or debris)?  Is the pad surface clean (not covered with sediment or debris)?  Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?  Is the well property vented for equilibrium of air pressure?  Is the well property vented for equilibrium of air pressure?  Is the well property vented for equilibrium of air pressure?  Is the depth of the well consistent with the original well log?  Is the acsing 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)  Sampling (Groundwater Wells Only)  Does well recharge adequately when purged?  If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?  Does the well require redevelopment (low-flow, turbid)?  X Does the well require redevelopment (low-flow, turbid)?							
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Prepared By / Date: Jackson Bankston / 1/31/23



Date: Monitoring Well No.:	AP1PZ-10	1/31/2023	
Goal/Task:	Hydrogeological inve		
Plant Address: Project Number:	5001 Arkwright Road, 175569434	Macon, GA 31210	
Project Name: Plant Name:	Southern Company A Plant Arkwright		

	Description Leading (Identification)	Yes	No	NA	Comments
_	Location/Identification  Is the well visible and accessible?	V	1		
a b	Is the well properly identified with the correct well ID?	X			
С	Is the well in a high traffic area and does the well require protection	Α			
	from traffic?		Х		
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	Х			
2	Protective Casing				
а	Is the protective casing free from apparent damage and able to be	Х			
	secured?				
b	Is the casing free of degradation or deterioration?	Х			
С	Does the casing have a functioning weep hole?	Х			
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	Х			
е	Is the well locked and is the lock in good condition?	Х			
	<b>3</b>		1	I	1
3	Surface pad				
а	Is the well pad in good condition (not cracked or broken)?	Х			
b	Is the well pad sloped away from the protective casing?		Х		
С	Is the well pad in complete contact with the protective casing?	Х			
d	Is the well pad in complete contact with the ground surface and stable? (Not undermined by erosion, animal burrows, and does not move when stepped on).	х			
е	Is the pad surface clean (not covered with sediment or debris)?	Х			
	is the pad solided clour (not covered with scaline in a debis):		l	l	<u> </u>
4	Internal casing				
a	Does the cap prevent entry of foreign material into the well?	Х			
b	Is the casing free of kinks or bends, or any obstructions from foreign				
	objects (such as bailers)?	Х			
С	Is the well properly vented for equilibrium of air pressure?	Х			
_	Is the survey point clearly marked on the inner casing?	X			
e e	Is the depth of the well consistent with the original well log?	X			
f	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	X			
	couplings in construction)	,			
	Sampling (Groundwater Wells Only)				
5	I	Χ			
5 a	Does well recharge adequately when purged?				
	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	Х			

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

N/A

4/17/2023

Prepared By / Date: Jackson Bankston / 1/31/23



		MONITORING WELL INSPECTIO	N CHE	CKLISI		Stantec
	Project Name:	Southern Company Arkwright				
	Plant Name:	Plant Arkwright			-	
	Plant Address:	5001 Arkwright Road, Macon, GA 31210			•	
		175569434			-	
	Project Number: Goal/Task:				-	
	Godi/Task.	Hydrogeological investigation			-	
	Date:	1/31/2023				
	Monitoring Well No.:	AP1PZ-11				
	Priority Maintenance	Item Identified: N/A			•	
					-	
		5	.,			
1	Location/Identification	Description Description	Yes	No	NA	Comments
а	Is the well visible and		Χ			
		dentified with the correct well ID?	X			
		raffic area and does the well require protection		.,		
	from traffic?	and the second s		Χ		
d		nd the well acceptable? (no standing water, nor is ous drainage flow path)	Х			
	•					
2	Protective Casing					
а	Is the protective casi secured?	ng free from apparent damage and able to be	Х			
b		degradation or deterioration?	Χ			
С	Does the casing hav	e a functioning weep hole?	Х			
d	Is the annular space with pea gravel/sand	between casings clear of debris and water, or filled d?	Χ			
е	Is the well locked an	d is the lock in good condition?	Χ			
	I				1	
	Surface pad		V			
		od condition (not cracked or broken)? d away from the protective casing?	Х	Х		
		mplete contact with the protective casing?	Χ			
		mplete contact with the ground surface and				
-		ned by erosion, animal burrows, and does not move	Х			
	when stepped on).					
е	Is the pad surface cl	ean (not covered with sediment or debris)?	Χ			
	I				1	
	Internal casing	nt entry of foreign material into the well?				
b		Χ				
Ь	objects (such as bail	cinks or bends, or any obstructions from foreign ers)?	Х			
С	Is the well properly v	the well properly vented for equilibrium of air pressure?				
	Is the survey point cle	Χ				
		ell consistent with the original well log?	Χ			
f		(or does the PVC move easily when touched or t by hand due to lack of grout or use of slip ttion)	Х			
	•					-
5	Sampling (Groundwo					
а	Does well recharge of	adequately when purged?	Χ			
b	If dedicated samplin	g equipment installed, is it in good condition and	Х			

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

specified in the approved groundwater plan for the facility? c Does the well require redevelopment (low-flow, turbid)?

N/A

Prepared By / Date:	Jackson Bankston /	1/31/23		
DL/SME Review By / Date:	Dylan Quintal		4/17/2023	



#### **MEMORANDUM**

Date: 7/28/2023

To: Joju Abraham – Georgia Power

CC: Ben Hodges

From: Stantec Consulting Services Inc.

Subject: Plant Arkwright Ash Pond 1 - Well Maintenance and Repair Documentation

Georgia Power Company

Stantec Consulting Services Inc. (Stantec) has prepared this memorandum to provide documentation of groundwater monitoring well maintenance and/or repair performed at Plant Arkwright during the annual reporting period. All repairs and maintenance were completed in accordance with the Georgia Environmental Protection Division (GAEPD) guidance on routine visual inspections of groundwater monitoring wells.

Georgia Power Site/Unit	Date Performed	Well ID	Maintenance/ Repair Performed
Ash Pond 1	2/28/2023	AP1PZ-3	Bent stick-up protective cover was removed and replaced with a new straight stick-up cover; Bent well riser cut down flush with ground surface and new 2-in PVC section attached using a coupler; Old well pad was removed, and replaced with new pad with same dimensions (4'x 4' x 4"); A replacement survey pin set into new well pad; Bent bollard was removed and replaced with new straight bollard and new footing; Damaged well ID signage was removed and replaced with a new one.
Ash Pond 1	3/7/2023	AP1PZ-3	Reinstallation of dedicated pump into well
Ash Pond 1	6/20/2023	AP1PZ-3	Complete survey of PZ-3

All maintenance and repairs are also documented in the 2023 Annual groundwater monitoring report.

#### Plant Arkwright AP1 PZ-3 Repair

- Old PZ-3 pad, protective cover and bent bollard was removed.
- The well riser was not broken but bent approx. 8" above the top of the pad.
- The bent section of riser was cut off and a new section was installed with a 2" coupler (not glued in place).
- The old protective cover was imbedded in grout, so it was cut off approx. 3" above the grout and the corners were bent in to accept the new cover.
- The new protective cover was cut to length, flared at the base and placed over the stub of the old cover and secured with aluminum screws to hold in place.
- The inside of the protective cover was filled with pea gravel and vent/weep holes drilled.
- The new 4'x4'x4" pad was poured, and survey pin installed.
- The well sign was reinstalled.
- A new bollard was installed.







Figure 2 After Repair



Metro Engineering & Surveying Co., Inc.
Plant Arkwright
Macon, GA.
Monitoring Well Survey Data
June 20, 2023
MES Job No.: 15348

# Ash Pond 1

7 5	J	
Ground Elevation	(INCENTI)	335.66
Nail on Pad	ווסימוטו	335.77
Nail on Pad Fasting	B. III	2440388.4
Nail on Pad Northing		1062286.2
Top of Casing Elevation (PVC)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	338.41
Casing Easting	7 40004	2440387.3
Casing Northing	1060006 4	1002200.1
Longitude	W/83 698075	2000000
Latitude	N32 919622	10010101
Well ID	AP1PZ-3	



Survey Data Certification for Southern Company to determine the northing, easting and vertical elevation of the nail in the concrete pad & the top of the PVC well casing.

Date of field survey: June 20, 2023

Field survey positional tolerence: 0.5 feet horizontally-NAD83(2011), 0.01 feet vertical-NAVD88.

Equipment used for horizontal location: Leica GS16 (Base Unit) and Leica GS18T (Rover Unit).

The elevation location of each well was established based upon a level run with a digital level loop from the nail on the concrete pad of existing well AP1-PZ2 (El.=336.89) using a Leica DNA10 digital level.

# Appendix B 2023 AP1-PZ6 Abandonment Report – Plant Arkwright



## 2023 AP1PZ-6 ABANDONMENT REPORT – PLANT ARKWRIGHT

Ash Pond 1 Landfill Solid Waste Disposal Facility Permit No. 011-030D(LI)

July 31, 2023

#### Prepared for:



Prepared by: Stantec Consulting Services Inc. 10745 Westside Way, Suite 250 Alpharetta, Georgia 30009-7640

#### **CERTIFICATION STATEMENT**

I hereby certify that this 2023 AP1PZ-6 Abandonment Report – Plant Arkwright Ash Pond 1 has been prepared by, or under the direct supervision of, a Qualified Groundwater Scientist with Stantec Consulting Services, Inc. and is in compliance with the United States Environmental Protection Agency Coal Combustion Residual Rule [40 Code of Federal Regulations 257 Subpart D], specifically §257.91(e)(1), and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10.

According to 391-3-4-.01, a Qualified Groundwater Scientist is "a professional engineer or geologist registered to practice in Georgia who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action."

Josh Massey, P.G. Senior Geologist CEORGIA PROFESSION OF PROFESSI

July 31, 2023 Date

## **Table of Contents**

1	INTRODUCTION	1.
2	PIEZOMETER ABANDONMENT	2.′
3	REFERENCES	3.2

#### **TABLE**

Table 1 Summary Details of Abandoned Piezometer

**FIGURE** 

Figure 1 Location of Abandoned Piezometer AP1PZ-6

#### **LIST OF APPENDICES**

Appendix A AP1PZ-6 Abandonment Documents

Appendix B SCS-CFS Drilling Bond

### 1 Introduction

Stantec Consulting Services Inc. (Stantec) is submitting this Abandonment Report to Southern Company Services, Inc. (SCS) and Georgia Power Company (Georgia Power), which documents the abandonment of one piezometer, AP1PZ-6, at the Plant Arkwright site in Macon, Georgia.

Plant Arkwright is located in Bibb County, Georgia, approximately six miles northwest of the city of Macon. The Plant Arkwright coal-fired power plant was retired in 2002, decommissioned in 2003, and closed in 2010. When in operation, the coal-fired Plant Arkwright power plant consisted of four 40-megawatt units. A solid waste disposal facility, Plant Arkwright Coal Combustion Residual (CCR) Ash Pond 1 (AP-1 Landfill), received coal combustion by-products, coal ash and gypsum, from coal power generating processes at Plant Arkwright. AP-1 Landfill received a closure certificate on June 30, 2010, under Solid Waste Permit Number 011-030D(LI) and is currently in post-closure care. A CCR unit solid waste handling permit application dated November 2018 was submitted to Georgia Environmental Protection Division (Georgia EPD) pursuant to the requirements of 391-3-4-.10. The Groundwater Monitoring Plan (Jacobs 2021) describes the interim groundwater monitoring program for the site prior to the removal, as detailed in the November 2018 CCR Permit Application submittal under the Georgia CCR Rule. Piezometer AP1PZ-6 was proposed for abandonment in a minor modification of Solid Waste Permit Number 011-030D(LI) on June 15, 2023 (Stantec 2023a) in preparation for Southpoint construction activities at Ash Pond 1 (Stantec 2023b).

This report provides details for the abandonment of one piezometer, AP1PZ-6, located in the footprint of AP 1 Landfill. The piezometer is screened in the overburden, which includes partially weathered biotite gneiss rock. The local geology of the area is generally comprised of unconsolidated overburden soils (e.g. silt and clays) overlying gneissic bedrock.

AP1PZ-6 construction details are included in Table 1, and the location of AP1PZ-6 is shown in Figure 1. The abandonment procedures are discussed in forthcoming section 2.

## 2 Piezometer Abandonment

Piezometer AP1PZ-6 was abandoned in general accordance with the Georgia Water Well Standards Act (OCGA § 12-5-120 through 138), the U.S. Environmental Protection Agency (USEPA) Science and Ecosystem Support Division guidance document Design and Installation of Monitoring Wells (SESDGUID-101-R2) for well abandonment procedures (US EPA, 2017), and the procedures outlined in the approved Groundwater Monitoring Plan (Jacobs, 2021).

Prior to the abandonment of the piezometer, a dedicated pump and tubing, concrete pad, pro cover and four bollards were removed. Total depth of the piezometer was measured to confirm that the field measurement matched the boring log depth. A cement/bentonite grout mix was then pumped into the 2-inch-diameter piezometer with a tremie pipe from the bottom of the piezometer to approximately 20 feet



below grade, approximately 38 feet above the top of the piezometer screen and 20 feet above the bottom of the ash at AP-1. Curing time for the cement/bentonite mix was greater than two hours.

Southern Company Services-Civil Field Services (SCS-CFS) utilized a CME550X drilling rig to over drill AP1PZ-6 using 2.25-inch inner diameter hollow stem augers to produce a new 6-inch boring, such that the polyvinyl chloride (PVC) screen/casing, filter pack, grout and seal of the piezometer were removed completely. A slurry of Portland cement and water (i.e. neat cement) was mixed using a ratio of 94 pounds of Portland cement to 7-8 gallons of water. The neat cement was then pumped into the over-drilled borehole through a PVC tremie pipe placed at the bottom of the over-drilled boring and raised to target depth of 40 feet below existing grade. Neat cement in the over-drilled boring was allowed to cure for 18 hours. The field-measured top of the cement plug was 32 feet below existing grade, which is approximately 1.72 feet below the proposed excavation depth of 30.28 feet below existing grade at AP1PZ-6 (Stantec, 2023b). The remaining over-drilled borehole from existing ground surface to the top of the cement plug at approximately 32 feet below existing grade was filled with Aquaguard 30% solids bentonite grout.

The specific abandonment methods, measurements, and quantities of materials used for plugging and abandoning AP1PZ-6 are shown in Appendix A. Abandonment activities at AP-1 Landfill occurred on June 20-21, 2023. SCS-CFS has a current bond with the Water Wells Standards Advisory Council for the state of Georgia, which was valid at the time of abandonment (Appendix B).

### 3 References

- Jacobs (2021). "Interim Groundwater Monitoring Plan." Prepared for Southern Company Services, as updated in September 2021.
- Stantec (2023a). "Minor Modification AP-1: Update Groundwater Monitoring Plan." Prepared for Southern Company Services, June 2023.
- Stantec (2023b). "Minor Modification AP-1: South Point Slope Improvement." Prepared for Southern Company Services, June 2023.
- US EPA (2017). Groundwater Sampling; Science and Ecosystem Support Division, United States Environmental Protection Agency (US EPA) Region 4, SESDPROC-301-R4, April 26, 2017.



## **TABLE**

TABLE 1 Summary Details of Abandoned Piezometer

Georgia Power Company - Plant Arkwright AP-1 Landfill Bibb County, Georgia

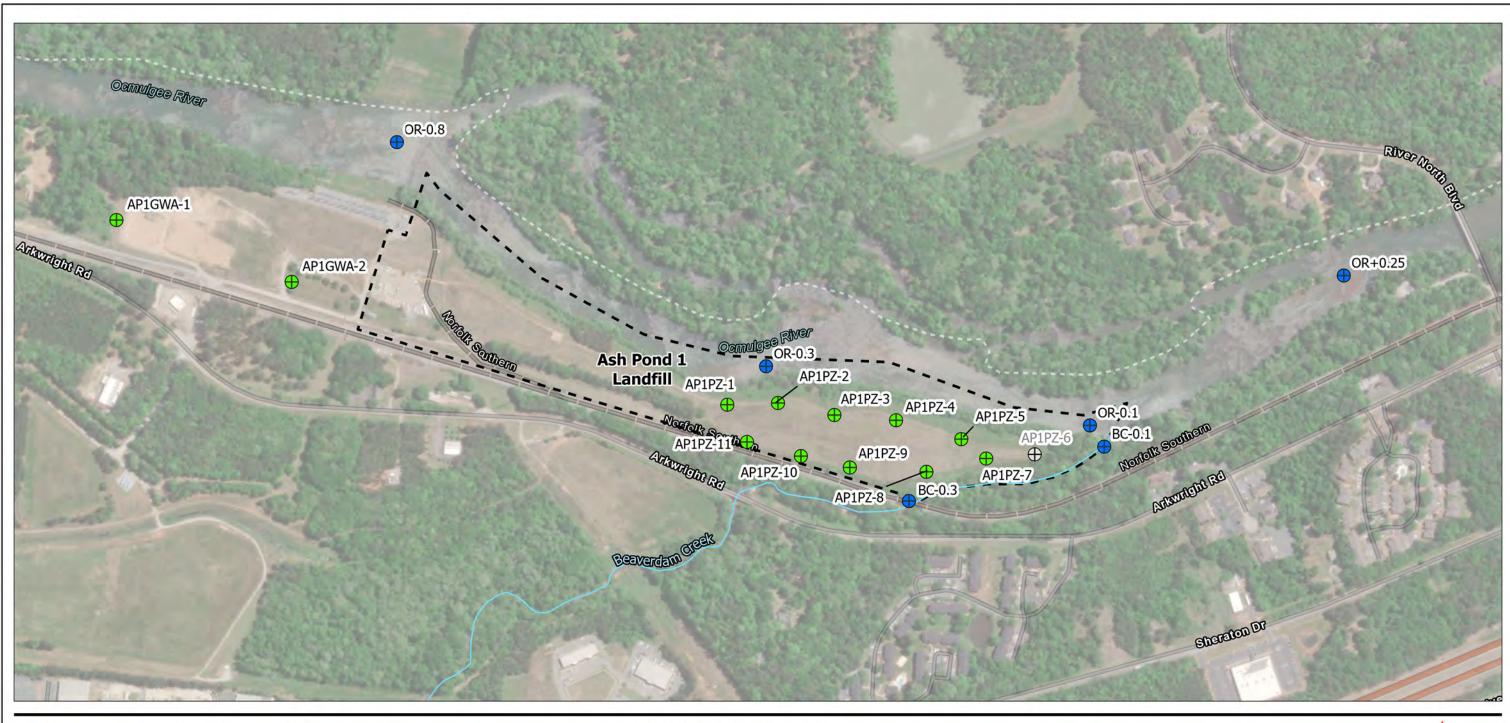
Well Name	Installation Date	Northing (ft NAD83) <sup>(1)</sup>	Easting (ft NAD83) <sup>(1)</sup>	Ground Surface Elevation (ft, NAVD88) <sup>(2)</sup>	Top of Casing Elevation (ft, NAVD88) <sup>(2)</sup>	Top of Screen Depth (ft)	Bottom of Screen Depth (ft)	Top of Screen Elevation (ft, NAVD88)	Bottom of Screen Elevation (ft, NAVD88)	Well Depth (ft below ground surface)	Lithology Screened	Hydraulic Location and Purpose
AP1PZ-6	5/13/2021	1061273.40	2440714.78	344.25	347.56	58.85	68.85	285.40	275.40	69.25	Overburden/PWR	Downgradient

1

#### Notes:

- 1. Horizontal locations were referenced to Georgia State Plane West, North American Datum of 1983 (NAD 83).
- 2. Elevations are feet (ft) referenced to North American Vertical Datum of 1988 (NAVD 88).
- 3. Screen elevations were calculated using total depth and length of bottom sump.
- PWR indicates Partially Weathered Rock.

# **FIGURE**





Notes

1. Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet

2. Data Sources: AP-1 Boundary, Surface Water Samples, Piezometers, 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, METUNASA, USGS, EPA, NPS, US Census Bureau, USDA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, HERE, Garmin, SafeGraph, FAO, METUNASA, USGS, EPA, NPS

#### Legend

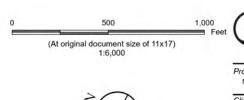
Piezometer

Abandoned Piezometer

Surface Water Sampling Location Beaverdam Creek

Ash Pond 1 Landfill Permit Boundary

AP1PZ-6 abandoned June 20-21, 2023







Prepared by DMB on 7/26/2023 TR by ES on 7/26/2023 IR by MD on 7/26/2023

Project Location Macon, Georgia

Client/Project Georgia Power 2023 AP1PZ-6 Abandonment Report -Plant Arkwright Ash Pond 1 Landfill

**Location of Abandoned Piezometer** AP1PZ-6

# APPENDIX A AP1PZ-6 ABANDONMENT DOCUMENTS

Project Name: AP-1 Southpoint Construction	Date Started:	6/20/2023	Date Completed:	6/21/2023
Borehole/Well No: AP1-PZ6	Northing (ft):	1061273.40	Easting (ft):	2440714.78
Plant Name: Arkwright	Location Datum:	Georgia State West	Elevation Datum:	NAVD88
Plant Address: Macon, GA 31211	Surface/ Ground Elevation (ft):	344.25	Stickup (ft, ags):	3.3
Project Number: 175569434	Borehole Diameter (in):	#	Borehole Depth (ft, bgs):	70.0
Goals/Task: Abandon AP1-PZ6	Well Casing Diameter (in):	#	Well Depth (ft, bgs):	69.25
Drilling Company: Southern Company- Civil Field Services	Top of Casing elev (ft):	347.56	Screen length (ft):	10
Drilling Equipment/Rig Type: CME 550x			_	
Abandonment Drilling Method: 2.25-inch Inner Diameter Hollow Stem Au	ugers			
Recovery Sampling Method: NA				
Prepared By: Calli Provenza				
Review By: Josh Massey, PG				
				*Not to Scale
Well Abandonment Construction (depths	in feet bgs)		Materials Inventory	
		Casing Type (steel or	PVC, schedule 40 or 80):	
	344.25 feet NAVD 88	_	2" ID PVC	
	<b>3</b>	Casing Top: 3.3 ft	, ags Bottom: 69.25	ft, bas
			, ags - Bollotti 07.20	_11, 293
Excavation Depth 30,28				
Excavation Depth 30.28 ft bgs		Screen Type:		
		Screen Type:	PVC U-Pack Type II	
	Top of neat cement 32 feet bgs	_	PVC U-Pack Type II	
	Top of neat cement 32 feet bgs	Screen Type:  Screen Slot Size:		
	Top of neat cement 32 feet bgs	_	PVC U-Pack Type II  0.010	
	Top of neat cement 32 feet bgs	_		

Depth to Water (ft bgs)

53.95

6/19/2023

Sump/end cap Top: 68.85

Bentonite:

Top:

Bottom of Overdrill, 6-inch boring

Neat cement, overdrill:

32

Abandonment Grout Type:

Abandonment Grout Quantity: Neat cement: 56 gallons

Abandonment Bentonite Type:

Aquaguard: 68 gallons

Abandonment Bentonite Quantity:

0 ft, bgs

ft, bgs

Neat cement (Portland cement and water slurry)

Aquaguard 30% solids bentonite grout

Concrete well pad, pro cover and bollards removed.

Portland cement/bentonite grout (94% cement to 6 % bentonite) initially used as abandonment grout type in PZ6. 8 gallons tremied from 69.25 feet bgs to 20 feet bgs. Curing time was 2 hours.

Existing piezometer overdrilled to create open 6-inch boring 70 ft bgs. Boring filled with neat cement from 70 ft bgs to 32 ft bgs.

Neat cement curing time was overnight (18 hours).

Aquaguard 30% solid bentonite grout placed from 32 ft bgs to

Notes: Dedicated pump & tubing removed prior to abandonment.

Bottom:

Bottom:

69.25 ft, bgs

70 ft, bgs

Bottom: 32 ft, bgs

## APPENDIX B SCS-CFS DRILLING BOND

### CONTINUATION CERTIFICATE

#### SAFECO Insurance Company of America

, Surety upon

a certain Bond No. 4993104

dated effective June 30, 1987

(MONTH-DAY-YEAR)

on behalf of Southern Company Services, Inc.

(PRINCIPAL)

and in favor of Georgia Department of Natural Resources, Environmental Protection Division

(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on June 30, 2021

(MONTH-DAY-YEAR)

and ending on June 30, 2022

(MONTH-DAY-YEAR)

Amount of bond Fifteen Thousand Dollars and 00/100 (\$15,000.00)

Description of bond Water Well Contractors & Drillers

Premium: \$100.00

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

05/06/2021

(MONTH-DAY-YEAR)

SAFECO Insurance Company of America

175 Berkeley Street, Boston, MA 02116

Attorney n-fact Jeffrey M. Wilson, Attorney-in-Fact

Curry Contraction

McGriff Insurance Services, Inc.

Agent

2211 7th Avenue South, Birmingham, AL 35233

Address of Agent

(205) 252-9871

Telephone Number of Agent



This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

> American States Insurance Company First National Insurance Company of America General Insurance Company of America Safeco Insurance Company of America

Certificate No: 8205019-016032

each individually if there he more than one named, its true and lawful attorney-in-fact to make.

#### POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American States Insurance Company is a corporation duly organized under the laws of the State of Indiana, that First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America are corporations duly organized under the laws of the State of New Hampshire (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Alisa B. Ferris; Anna Childress; Jeffrey M. Wilson; Mark W. Edwards II; Richard H. Mitchell; Robert R. Freel; Sam Audia; William M. Smith

	all of the city of <u>Birmingham</u> state of <u>AL</u> each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper	
	or treat presents and strain at the straining appearance companies and the straining appearance companies and straining appearance companies are straining appearance companies are straining appearance companies and straining appearance companies are straining appearance companies and straining appearance companies are straining a	
	IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed	
	thereto this 11th day of March , 2021 .	es, om.
an day an need	State of PENNSYLVANIA as  State of PENNSYLVANIA as  Country of MontGoMERY  On this 11th day of March 2021 before me personally appeared David M. Carey, who acknowledged hirnself to be the Assistant Secretary of American States Insurance Company of America and Safeco Insurance Company of American States Insurance Company, First National Insurance Company of American States Insurance Company, First National Insurance Company of American States Insurance Company, First National Insurance Company of American States Insurance Company, First National Insurance Company of American States Insurance Company of American States Insurance Company, First National Insurance Company of American States Insurance Company	ification inquir libertymutual.c
a vai	State of PENNSYLVANIA County of MONTGOMERY ss	JA) vei
noisal	On this 11th day of March , 2021 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of America, States insurance Company, First National Insurance Company of America, General Insurance Company of America, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.	ney (PC
0	IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.	e te
merest lan	Commonwealth of Pennsylvania - Notary Seal Teresa Pastella, Notary Seal Te	Power of A-832-8240 or
rency rate	This Power of Attorney is made and executed pursuant to and by authority of the following By-law and Authorizations of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America, which are now in full force and effect reading as follows:  ARTICLE IV – OFFICERS: Section 12. Power of Attorney.	r bond and/c ase call 610
3	Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surely any and all undertakings, bonds, recognizances and other surely obligations. Such attorney-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.	1
	Certificate of Designation — The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-infact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.	
	Authorization — By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surely bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.	
	<ol> <li>Renee C. Llewellyn, the undersigned, Assistant Secretary, of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.</li> </ol>	
	IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 6th day of May , 2021 .	
	1929   1928   1923   1953   19	
	7 742	

### CONTINUATION

SAFECO Insurance Company of America

, Surety upon

a certain Bond No. 4993104

dated effective June 30, 1987

(MONTH-DAY-YEAR)

on behalf of Southern Company Services, Inc.

(PRINCIPAL)

and in favor of Georgia Department of Natural Resources, Environmental Protection Division

(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on June 30, 2022

(MONTH-DAY-YEAR)

and ending on June 30, 2023

(MONTH-DAY-YEAR)

Amount of bond Fifteen Thousand Dollars and 00/100 (\$15,000.00)

Description of bond Water Well Contractors & Drillers

Premium: \$100.00

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

05/06/2021

(MONTH-DAY-YEAR)

SAFECO Insurance Company of America

175 Berkeley Street, Boston, MA 02116

Attorney-in-Fact

effrey M. Wilson, Attorney-in-Fact

McGriff Insurance Services, Inc.

Agent

2211 7th Avenue South, Birmingham, AL 35233

Address of Agent

(205) 252-9874

Telephone Number of Agent



This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

> American States Insurance Company First National Insurance Company of America General Insurance Company of America Safeco Insurance Company of America

Certificate No: 8205019-016032

each individually if there he more than one named, its true and lawful attorney-in-fact to make.

#### POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American States Insurance Company is a corporation duly organized under the laws of the State of Indiana, that First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America are corporations duly organized under the laws of the State of New Hampshire (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Alisa B. Ferris; Anna Childress; Jeffrey M. Wilson; Mark W. Edwards II; Richard H. Mitchell; Robert R. Freel; Sam Audia; William M. Smith

	all of the city of <u>Birmingham</u> state of <u>AL</u> each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper	
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	thereto this 11th day of March , 2021 .	es, om.
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noisal	On this 11th day of March , 2021 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of America, States insurance Company, First National Insurance Company of America, General Insurance Company of America, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.	ney (PC
0	IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.	e te
merest lan	Commonwealth of Pennsylvania - Notary Seal Teresa Pastella, Notary Seal Te	Power of A-832-8240 or
rency rate	This Power of Attorney is made and executed pursuant to and by authority of the following By-law and Authorizations of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America, which are now in full force and effect reading as follows:  ARTICLE IV – OFFICERS: Section 12. Power of Attorney.	r bond and/c ase call 610
3	Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surely any and all undertakings, bonds, recognizances and other surely obligations. Such attorney-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.	1
	Certificate of Designation — The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-infact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.	
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	<ol> <li>Renee C. Llewellyn, the undersigned, Assistant Secretary, of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.</li> </ol>	
	IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 6th day of May , 2021 .	
	1929   1928   1923   1953   19	
	7 742	

# Appendix C Field Sampling Data and Analytical Data Reports

### **C.1 Field Sampling Data**

Test Date / Time: 9/7/2022 9:29:47 AM

**Project:** Plant Arkwright AP-1 **Operator Name:** E. Scheiben

Location Name: AP1GWA-1 Latitude: 32.9299897952187 Longitude: -83.7009504809976

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 27.5 ft Total Depth: 37.5 ft

Initial Depth to Water: 24.36 ft

Pump Type: Peristaltic Tubing Type: LDPE

**Tubing Inner Diameter: 0.17 in** 

Tubing Length: 37.5 ft

Pump Intake From TOC: 32.5 ft Estimated Total Volume Pumped:

13500 ml

Flow Cell Volume: 90 ml Final Flow Rate: 300 ml/min

Final Draw Down: 0 ft

Instrument Used: Aqua TROLL 400

Serial Number: 728648

### **Test Notes:**

AP1GWA-1 collected at 10:20 EB-01 collected at 09:05

#### **Weather Conditions:**

Overcast

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
9/7/2022 9:29 AM	00:00	5.67 pH	21.22 °C	208.89 μS/cm	3.31 mg/L	25.00 NTU	64.6 mV	24.36 ft	300.00 ml/min
9/7/2022 9:34 AM	05:00	5.46 pH	20.45 °C	216.04 μS/cm	2.81 mg/L	25.10 NTU	133.8 mV	24.36 ft	300.00 ml/min
9/7/2022 9:39 AM	10:00	5.42 pH	20.42 °C	215.69 μS/cm	2.82 mg/L	10.10 NTU	101.8 mV	24.36 ft	300.00 ml/min
9/7/2022 9:44 AM	15:00	5.41 pH	20.42 °C	215.99 μS/cm	2.81 mg/L	8.31 NTU	101.2 mV	24.36 ft	300.00 ml/min
9/7/2022 9:49 AM	20:00	5.41 pH	20.37 °C	216.16 μS/cm	2.81 mg/L	5.66 NTU	105.9 mV	24.36 ft	300.00 ml/min
9/7/2022 9:54 AM	25:00	5.42 pH	20.37 °C	215.83 μS/cm	2.81 mg/L	2.29 NTU	142.1 mV	24.36 ft	300.00 ml/min
9/7/2022 9:59 AM	30:00	5.43 pH	20.40 °C	213.44 μS/cm	2.80 mg/L	2.46 NTU	108.8 mV	24.36 ft	300.00 ml/min
9/7/2022 10:04 AM	35:00	5.42 pH	20.42 °C	213.46 μS/cm	2.80 mg/L	2.34 NTU	107.6 mV	24.36 ft	300.00 ml/min
9/7/2022 10:09 AM	40:00	5.42 pH	20.42 °C	213.09 μS/cm	2.80 mg/L	1.44 NTU	107.6 mV	24.36 ft	300.00 ml/min
9/7/2022 10:14 AM	45:00	5.42 pH	20.46 °C	212.00 μS/cm	2.79 mg/L	1.91 NTU	108.1 mV	24.36 ft	300.00 ml/min

Sample ID:	Description:
------------	--------------

Test Date / Time: 9/7/2022 11:11:02 AM

**Project:** Plant Arkwright AP-1 **Operator Name:** E. Scheiben

Location Name: AP1GWA-2 Latitude: 32.930034257851 Longitude: -83.7009518221021

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 21.1 ft Total Depth: 31.1 ft

Initial Depth to Water: 18.38 ft

Pump Type: Peristaltic Tubing Type: LDPE

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 31.1 ft** 

Pump Intake From TOC: 26.1 ft Estimated Total Volume Pumped:

14000 ml

Flow Cell Volume: 90 ml Final Flow Rate: 350 ml/min

Final Draw Down: 0 ft

Instrument Used: Aqua TROLL 400

Serial Number: 728648

### **Test Notes:**

#### **Weather Conditions:**

Overcast

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
9/7/2022 11:11 AM	00:00	6.05 pH	21.92 °C	76.06 µS/cm	4.07 mg/L	16.30 NTU	152.4 mV	18.38 ft	350.00 ml/min
9/7/2022 11:16 AM	05:00	6.02 pH	21.72 °C	74.69 µS/cm	4.05 mg/L	27.50 NTU	116.0 mV	18.38 ft	350.00 ml/min
9/7/2022 11:21 AM	10:00	6.00 pH	21.69 °C	74.98 µS/cm	3.97 mg/L	15.80 NTU	106.9 mV	18.38 ft	350.00 ml/min
9/7/2022 11:26 AM	15:00	6.00 pH	21.71 °C	75.34 µS/cm	3.79 mg/L	9.99 NTU	103.6 mV	18.38 ft	350.00 ml/min
9/7/2022 11:31 AM	20:00	6.00 pH	21.72 °C	75.71 µS/cm	3.65 mg/L	7.39 NTU	126.0 mV	18.38 ft	350.00 ml/min
9/7/2022 11:36 AM	25:00	6.00 pH	21.76 °C	76.35 µS/cm	3.56 mg/L	6.05 NTU	90.9 mV	18.38 ft	350.00 ml/min
9/7/2022 11:41 AM	30:00	6.00 pH	21.84 °C	76.71 µS/cm	3.45 mg/L	3.99 NTU	76.0 mV	18.38 ft	350.00 ml/min
9/7/2022 11:46 AM	35:00	6.00 pH	21.83 °C	77.28 µS/cm	3.39 mg/L	3.29 NTU	64.8 mV	18.38 ft	350.00 ml/min
9/7/2022 11:51 AM	40:00	6.00 pH	21.80 °C	77.71 µS/cm	3.27 mg/L	2.73 NTU	67.9 mV	18.38 ft	350.00 ml/min

Sample ID: Description:
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AP1GWA-2 Sample collected at 11:55
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Test Date / Time: 9/7/2022 12:52:00 PM

**Project:** Plant Arkwright AP-1 **Operator Name:** E. Scheiben

Location Name: AP1PZ-1 Latitude: 32.9273225592229 Longitude: -83.7005008757114

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 77.62 ft Total Depth: 87.62 ft

Initial Depth to Water: 44.16 ft

Pump Type: Peristaltic Tubing Type: LDPE

**Tubing Inner Diameter: 0.17 in** 

Tubing Length: 87.62 ft

Pump Intake From TOC: 85.62 ft Estimated Total Volume Pumped:

5000 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 2.05 ft Instrument Used: Aqua TROLL 400

Serial Number: 728648

**Test Notes:** 

**Weather Conditions:** 

Sunny

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
9/7/2022 12:52 PM	00:00	6.36 pH	30.44 °C	325.27 μS/cm	1.67 mg/L	14.50 NTU	-19.3 mV	44.16 ft	100.00 ml/min
9/7/2022 12:57 PM	05:00	6.42 pH	24.32 °C	352.77 μS/cm	0.83 mg/L	13.70 NTU	30.3 mV	45.25 ft	100.00 ml/min
9/7/2022 1:02 PM	10:00	6.43 pH	23.55 °C	354.92 μS/cm	0.68 mg/L	11.70 NTU	60.7 mV	45.58 ft	100.00 ml/min
9/7/2022 1:07 PM	15:00	6.42 pH	23.43 °C	353.71 μS/cm	0.60 mg/L	9.07 NTU	58.5 mV	45.69 ft	100.00 ml/min
9/7/2022 1:12 PM	20:00	6.43 pH	23.31 °C	354.72 μS/cm	0.58 mg/L	6.69 NTU	73.1 mV	45.89 ft	100.00 ml/min
9/7/2022 1:17 PM	25:00	6.43 pH	23.14 °C	353.40 μS/cm	0.51 mg/L	5.64 NTU	76.1 mV	45.92 ft	100.00 ml/min
9/7/2022 1:22 PM	30:00	6.43 pH	22.92 °C	355.56 μS/cm	0.50 mg/L	5.33 NTU	76.6 mV	46.07 ft	100.00 ml/min
9/7/2022 1:27 PM	35:00	6.42 pH	22.77 °C	353.02 μS/cm	0.50 mg/L	4.38 NTU	62.7 mV	46.10 ft	100.00 ml/min
9/7/2022 1:32 PM	40:00	6.41 pH	22.80 °C	354.71 μS/cm	0.47 mg/L	4.46 NTU	74.2 mV	46.15 ft	100.00 ml/min
9/7/2022 1:37 PM	45:00	6.41 pH	22.81 °C	353.09 μS/cm	0.47 mg/L	4.23 NTU	75.7 mV	46.18 ft	100.00 ml/min
9/7/2022 1:42 PM	50:00	6.41 pH	22.95 °C	353.64 μS/cm	0.48 mg/L	4.25 NTU	62.8 mV	46.21 ft	100.00 ml/min

### **Samples**

Sample ID:	Description:
AP1PZ-1	Collected at 13:50

Test Date / Time: 9/8/2022 9:26:48 AM

**Project:** Plant Arkwright AP-1 **Operator Name:** E. Scheiben

Location Name: AP1PZ-2 Latitude: 32.9204371278322 Longitude: -83.6983309686184

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 52.67 ft Total Depth: 62.67 ft

Initial Depth to Water: 42.4 ft

Pump Type: Dedicated Bladder QED

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 62 ft** 

Pump Intake From TOC: 57 ft Estimated Total Volume Pumped:

5912 ml

Flow Cell Volume: 90 ml Final Flow Rate: 120 ml/min

Final Draw Down: 0 ft

Instrument Used: Aqua TROLL 400

Serial Number: 728648

**Test Notes:** 

**Weather Conditions:** 

Sunny

### Low-Flow Readings:

LOW-FIOW R	cadings.								
Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
9/8/2022 9:26 AM	00:00	7.49 pH	23.72 °C	969.08 μS/cm	8.21 mg/L		106.3 mV	42.40 ft	120.00 ml/min
9/8/2022 9:28 AM	01:28	6.82 pH	22.74 °C	1,157.2 μS/cm	1.91 mg/L	12.00 NTU	96.0 mV	42.40 ft	120.00 ml/min
9/8/2022 9:33 AM	06:28	6.27 pH	21.44 °C	1,067.1 μS/cm	0.95 mg/L	10.30 NTU	98.0 mV	42.40 ft	120.00 ml/min
9/8/2022 9:38 AM	11:28	6.20 pH	21.38 °C	1,063.3 μS/cm	0.71 mg/L	11.40 NTU	90.6 mV	42.40 ft	120.00 ml/min
9/8/2022 9:43 AM	16:28	6.18 pH	21.40 °C	1,061.7 μS/cm	0.60 mg/L	9.85 NTU	86.6 mV	42.40 ft	120.00 ml/min
9/8/2022 9:48 AM	21:28	6.17 pH	21.46 °C	1,078.1 μS/cm	0.46 mg/L	7.49 NTU	63.8 mV	42.40 ft	120.00 ml/min
9/8/2022 9:53 AM	26:28	6.16 pH	21.45 °C	1,093.4 μS/cm	0.41 mg/L	5.90 NTU	54.3 mV	42.40 ft	120.00 ml/min
9/8/2022 9:58 AM	31:28	6.14 pH	21.42 °C	1,089.9 μS/cm	0.37 mg/L	6.27 NTU	49.2 mV	42.40 ft	120.00 ml/min
9/8/2022 10:01 AM	34:16	6.14 pH	21.55 °C	1,107.5 μS/cm	0.37 mg/L	5.68 NTU	50.5 mV	42.40 ft	120.00 ml/min
9/8/2022 10:06 AM	39:16	6.12 pH	21.55 °C	1,114.3 μS/cm	0.35 mg/L	4.26 NTU	51.5 mV	42.40 ft	120.00 ml/min
9/8/2022 10:11 AM	44:16	6.11 pH	21.61 °C	1,127.1 μS/cm	0.36 mg/L	3.08 NTU	53.0 mV	42.40 ft	120.00 ml/min
9/8/2022 10:16 AM	49:16	6.11 pH	21.59 °C	1,134.0 μS/cm	0.34 mg/L	2.60 NTU	64.6 mV	42.40 ft	120.00 ml/min

### **Samples**

Sample ID:	Description:
AP1PZ-2	Collected at 1025

Test Date / Time: 9/7/2022 5:35:31 PM

**Project:** Plant Arkwright AP-1 **Operator Name:** J. Bankston

**Location Name: AP1PZ-3** 

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 57.38 ft Total Depth: 67.38 ft

Initial Depth to Water: 42.6 ft

Pump Type: Dedicated bladder

pump

**Tubing Type: Poly** 

Pump Intake From TOC: 62.38 ft Estimated Total Volume Pumped:

15000 ml

Flow Cell Volume: 90 ml Final Flow Rate: 300 ml/min Final Draw Down: 0.98 ft Instrument Used: Aqua TROLL 400

Serial Number: 850724

**Test Notes:** 

**Weather Conditions:** 

Sunny

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
9/7/2022 5:35 PM	00:00	5.58 pH	28.12 °C	2,408.8 μS/cm	1.98 mg/L	2.81 NTU	127.2 mV	42.60 ft	300 ml/min
9/7/2022 5:40 PM	05:00	5.59 pH	27.99 °C	2,392.5 μS/cm	1.63 mg/L	3.71 NTU	127.3 mV	42.17 ft	300 ml/min
9/7/2022 5:45 PM	10:00	5.54 pH	27.28 °C	2,375.5 μS/cm	1.42 mg/L	4.97 NTU	123.4 mV	43.60 ft	300 ml/min
9/7/2022 5:50 PM	15:00	5.52 pH	26.46 °C	2,397.1 μS/cm	1.13 mg/L	4.76 NTU	124.7 mV	43.52 ft	300 ml/min
9/7/2022 5:55 PM	20:01	5.49 pH	27.31 °C	2,413.5 μS/cm	0.59 mg/L	4.11 NTU	125.9 mV	43.50 ft	300 ml/min
9/7/2022 6:00 PM	25:01	5.49 pH	26.35 °C	2,390.8 μS/cm	0.50 mg/L	4.18 NTU	144.5 mV	43.55 ft	300 ml/min
9/7/2022 6:05 PM	30:01	5.48 pH	26.44 °C	2,392.7 μS/cm	0.41 mg/L	2.90 NTU	119.2 mV	43.58 ft	300 ml/min
9/7/2022 6:10 PM	35:01	5.48 pH	25.91 °C	2,389.8 μS/cm	0.42 mg/L	2.89 NTU	140.5 mV	43.55 ft	300 ml/min
9/7/2022 6:15 PM	40:01	5.48 pH	25.14 °C	2,380.7 μS/cm	0.38 mg/L	2.48 NTU	117.0 mV	43.53 ft	300 ml/min
9/7/2022 6:20 PM	45:01	5.48 pH	25.19 °C	2,392.4 μS/cm	0.37 mg/L	1.79 NTU	116.3 mV	43.49 ft	300 ml/min
9/7/2022 6:25 PM	50:01	5.47 pH	25.28 °C	2,394.3 μS/cm	0.36 mg/L	1.57 NTU	116.5 mV	43.58 ft	300 ml/min

### **Samples**

Sample ID:	Description:
AP1PZ-3	9/7/22 1830

Test Date / Time: 9/7/2022 2:51:43 PM

**Project:** Plant Arkwright AP-1 **Operator Name:** E. Scheiben

Location Name: AP1PZ-4 Latitude: 32.9210630471097 Longitude: -83.698776550591

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 57.44 ft Total Depth: 67.44 ft

Initial Depth to Water: 47.06 ft

Pump Type: Peristaltic Tubing Type: LDPE

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 68 ft** 

Pump Intake From TOC: 63 ft Estimated Total Volume Pumped:

4500 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.65 ft Instrument Used: Aqua TROLL 400

Serial Number: 728648

### **Test Notes:**

### **Weather Conditions:**

Sunny

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
9/7/2022 2:51 PM	00:00	6.44 pH	32.44 °C	2,153.4 μS/cm	2.98 mg/L	6.27 NTU	-31.8 mV	47.06 ft	100.00 ml/min
9/7/2022 2:56 PM	05:00	6.46 pH	24.40 °C	2,400.0 μS/cm	1.37 mg/L	6.79 NTU	-33.2 mV	47.06 ft	100.00 ml/min
9/7/2022 3:01 PM	10:00	6.45 pH	23.50 °C	2,418.4 μS/cm	0.98 mg/L	5.96 NTU	-56.6 mV	47.56 ft	100.00 ml/min
9/7/2022 3:06 PM	15:00	6.45 pH	23.46 °C	2,419.6 μS/cm	0.84 mg/L	4.75 NTU	-56.4 mV	47.64 ft	100.00 ml/min
9/7/2022 3:11 PM	20:00	6.43 pH	23.50 °C	2,417.1 μS/cm	0.67 mg/L	4.08 NTU	-58.6 mV	47.69 ft	100.00 ml/min
9/7/2022 3:16 PM	25:00	6.42 pH	23.27 °C	2,410.9 μS/cm	0.58 mg/L	4.11 NTU	-59.8 mV	47.71 ft	100.00 ml/min
9/7/2022 3:21 PM	30:00	6.41 pH	23.46 °C	2,409.4 μS/cm	0.52 mg/L	3.45 NTU	-35.4 mV	47.71 ft	100.00 ml/min
9/7/2022 3:26 PM	35:00	6.40 pH	23.35 °C	2,402.8 μS/cm	0.49 mg/L	2.83 NTU	-59.5 mV	47.71 ft	100.00 ml/min
9/7/2022 3:31 PM	40:00	6.39 pH	23.41 °C	2,393.9 μS/cm	0.44 mg/L	2.36 NTU	-60.0 mV	47.71 ft	100.00 ml/min
9/7/2022 3:36 PM	45:00	6.37 pH	23.32 °C	2,391.1 μS/cm	0.44 mg/L	2.54 NTU	-35.3 mV	47.71 ft	100.00 ml/min

Sample ID:	Description:
AP1PZ-4	Collected at 1545
DUP-01	Collected at AP1PZ-4

Test Date / Time: 9/8/2022 11:37:45 AM

**Project:** Plant Arkwright AP-1 **Operator Name:** E. Scheiben

Location Name: AP1PZ-5 Latitude: 32.917865859031 Longitude: -83.6973610147834

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 57.25 ft Total Depth: 67.25 ft

Initial Depth to Water: 48.89 ft

Pump Type: Dedicated Bladder QED

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 67 ft** 

Pump Intake From TOC: 62.25 ft Estimated Total Volume Pumped:

3631.667 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min

Final Draw Down: 0 ft

Instrument Used: Aqua TROLL 400

Serial Number: 728648

### **Test Notes:**

#### **Weather Conditions:**

Partly cloudy

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
9/8/2022 11:37 AM	00:00	6.21 pH	29.03 °C	2,760.6 μS/cm	4.37 mg/L		-28.0 mV	48.89 ft	100.00 ml/min
9/8/2022 11:42 AM	05:00	6.17 pH	22.31 °C	3,054.2 µS/cm	1.08 mg/L	4.31 NTU	-27.0 mV	48.89 ft	100.00 ml/min
9/8/2022 11:47 AM	10:00	6.16 pH	21.66 °C	3,079.7 µS/cm	0.93 mg/L	4.88 NTU	-49.5 mV	48.89 ft	100.00 ml/min
9/8/2022 11:52 AM	15:00	6.14 pH	21.51 °C	3,077.4 µS/cm	0.72 mg/L	2.72 NTU	-50.5 mV	48.89 ft	100.00 ml/min
9/8/2022 11:59 AM	21:19	6.13 pH	21.59 °C	3,069.2 μS/cm	0.61 mg/L	2.27 NTU	-27.8 mV	48.89 ft	100.00 ml/min
9/8/2022 12:04 PM	26:19	6.12 pH	21.38 °C	3,079.0 μS/cm	0.51 mg/L	1.78 NTU	-26.7 mV	48.89 ft	100.00 ml/min
9/8/2022 12:09 PM	31:19	6.12 pH	21.38 °C	3,081.4 µS/cm	0.45 mg/L	1.36 NTU	-53.8 mV	48.89 ft	100.00 ml/min
9/8/2022 12:14 PM	36:19	6.12 pH	21.47 °C	3,076.5 µS/cm	0.43 mg/L	1.41 NTU	-54.5 mV	48.89 ft	100.00 ml/min

Sample ID:	Description:
AP1PZ-5	Collected at 1225

Test Date / Time: 9/7/2022 5:52:37 PM

**Project:** Plant Arkwright AP-1 **Operator Name:** J. Meyer

Location Name: AP1PZ-6
Well Diameter: 2 in
Screen Length: 10 ft
Top of Screen: 62.2 ft

Total Depth: 72.2 ft

Initial Depth to Water: 56.7 ft

Pump Intake From TOC: 67.5 ft Estimated Total Volume Pumped:

5878 ml

Flow Cell Volume: 90 ml Final Flow Rate: 120 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: 67 ft** 

**Instrument Used: Aqua TROLL 400** 

Serial Number: 728623

**Test Notes:** 

**Weather Conditions:** 

Sunny 88 F

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/7/2022 5:52 PM	00:00	4.83 pH	23.01 °C	3,262.5 µS/cm	1.82 mg/L	12.80 NTU	155.1 mV	56.70 ft	120.00 ml/min
9/7/2022 5:57 PM	05:00	5.26 pH	22.09 °C	3,322.8 µS/cm	1.03 mg/L	9.11 NTU	81.4 mV	56.70 ft	120.00 ml/min
9/7/2022 6:01 PM	09:00	5.42 pH	21.78 °C	3,335.9 µS/cm	0.69 mg/L	6.15 NTU	56.2 mV	56.70 ft	120.00 ml/min
9/7/2022 6:06 PM	14:00	5.48 pH	21.82 °C	3,347.5 μS/cm	0.50 mg/L	5.50 NTU	46.0 mV	56.70 ft	120.00 ml/min
9/7/2022 6:11 PM	19:00	5.51 pH	21.46 °C	3,354.4 μS/cm	0.41 mg/L	4.47 NTU	39.0 mV	56.70 ft	120.00 ml/min
9/7/2022 6:16 PM	24:00	5.54 pH	21.28 °C	3,358.2 μS/cm	0.32 mg/L	2.97 NTU	33.4 mV	56.70 ft	120.00 ml/min
9/7/2022 6:21 PM	29:00	5.54 pH	21.16 °C	3,362.8 μS/cm	0.30 mg/L	2.82 NTU	31.0 mV	56.70 ft	120.00 ml/min
9/7/2022 6:26 PM	33:59	5.55 pH	21.21 °C	3,356.5 μS/cm	0.27 mg/L	2.22 NTU	29.2 mV	56.70 ft	120.00 ml/min
9/7/2022 6:31 PM	38:59	5.55 pH	21.34 °C	3,363.1 µS/cm	0.26 mg/L	1.99 NTU	28.1 mV	56.70 ft	120.00 ml/min
9/7/2022 6:36 PM	43:59	5.56 pH	21.04 °C	3,358.9 µS/cm	0.24 mg/L	1.77 NTU	26.9 mV	56.70 ft	120.00 ml/min
9/7/2022 6:41 PM	48:59	5.56 pH	21.04 °C	3,362.2 µS/cm	0.24 mg/L	1.34 NTU	26.0 mV	56.70 ft	120.00 ml/min

	Sample ID:	Description:	l
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AP1PZ-6	Sample collected at 1845
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Test Date / Time: 9/7/2022 1:32:54 PM

**Project:** Plant Arkwright AP-1 **Operator Name:** J. Bankston

**Location Name: AP1PZ-7** 

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 58.3 ft Total Depth: 68.3 ft

Initial Depth to Water: 49.45 ft

Pump Type: Dedicated bladder

pump

**Tubing Type: Poly** 

Pump Intake From TOC: 63.3 ft Estimated Total Volume Pumped:

1766.667 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 3.16 ft Instrument Used: Aqua TROLL 400

Serial Number: 850724

#### **Test Notes:**

#### **Weather Conditions:**

Partly cloudy

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3	+/- 0.3	+/- 10	+/- 10	+/- 5	
9/7/2022 1:32 PM	00:00	6.25 pH	25.37 °C	2.59 mS/cm	1.10 mg/L	6.39 NTU	-27.4 mV	49.77 ft	100.00 ml/min
9/7/2022 1:35 PM	03:00	6.24 pH	25.32 °C	2.60 mS/cm	0.96 mg/L	6.22 NTU	-26.8 mV	51.40 ft	100.00 ml/min
9/7/2022 1:38 PM	06:00	6.21 pH	25.59 °C	2.60 mS/cm	0.72 mg/L	7.20 NTU	-27.3 mV	51.73 ft	100.00 ml/min
9/7/2022 1:39 PM	06:54	6.21 pH	25.59 °C	2.60 mS/cm	0.64 mg/L	7.10 NTU	-27.3 mV	51.73 ft	100.00 ml/min
9/7/2022 1:42 PM	09:27	6.21 pH	25.50 °C	2.60 mS/cm	0.53 mg/L	5.67 NTU	-27.2 mV	52.03 ft	100.00 ml/min
9/7/2022 1:45 PM	12:27	6.21 pH	25.77 °C	2.59 mS/cm	0.43 mg/L	3.94 NTU	-26.3 mV	52.22 ft	100.00 ml/min
9/7/2022 1:47 PM	14:40	6.21 pH	25.87 °C	2.58 mS/cm	0.41 mg/L	4.14 NTU	-24.8 mV	52.49 ft	100.00 ml/min
9/7/2022 1:50 PM	17:40	6.21 pH	25.57 °C	2.55 mS/cm	0.38 mg/L	4.46 NTU	-20.9 mV	52.61 ft	100.00 ml/min

Sample ID:	Description:
AP1PZ-7	9/7/22
AF IFZ-7	1400

Test Date / Time: 9/7/2022 3:18:18 PM

**Project:** Plant Arkwright AP-1 **Operator Name:** J. Bankston

**Location Name: AP1PZ-8** 

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 56.09 ft Total Depth: 66.09 ft

Initial Depth to Water: 46.3 ft

Pump Type: Dedicated Bladder

**Pump** 

**Tubing Type: Poly** 

Pump Intake From TOC: 61.09 ft Estimated Total Volume Pumped:

6756.667 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 2.82 ft Instrument Used: Aqua TROLL 400

Serial Number: 850724

Test Notes:

#### **Weather Conditions:**

Partly cloudy

### Low-Flow Readings:

LOW-FIOW R	eadings.								
Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
9/7/2022 3:18 PM	00:00	6.56 pH	25.32 °C	1,819.3 μS/cm	1.50 mg/L	10.10 NTU	-38.4 mV	46.30 ft	100.00 ml/min
9/7/2022 3:18 PM	00:21	6.55 pH	25.40 °C	1,827.9 μS/cm	1.46 mg/L	10.00 NTU	-41.7 mV	46.79 ft	100.00 ml/min
9/7/2022 3:23 PM	05:21	6.53 pH	26.64 °C	1,802.5 μS/cm	2.19 mg/L	6.40 NTU	-34.9 mV	47.90 ft	100.00 ml/min
9/7/2022 3:28 PM	10:21	6.53 pH	26.37 °C	1,808.0 μS/cm	3.03 mg/L	5.13 NTU	-34.2 mV	48.50 ft	100.00 ml/min
9/7/2022 3:33 PM	15:21	6.52 pH	25.53 °C	1,799.5 μS/cm	2.06 mg/L	2.98 NTU	-37.0 mV	48.75 ft	100.00 ml/min
9/7/2022 3:38 PM	20:21	6.53 pH	25.07 °C	1,804.3 μS/cm	0.92 mg/L	1.81 NTU	-33.0 mV	48.77 ft	100.00 ml/min
9/7/2022 3:43 PM	25:21	6.53 pH	25.01 °C	1,814.6 μS/cm	1.32 mg/L	1.18 NTU	-37.1 mV	48.92 ft	100.00 ml/min
9/7/2022 3:48 PM	30:21	6.52 pH	25.08 °C	1,815.6 μS/cm	0.79 mg/L	0.90 NTU	-32.9 mV	48.98 ft	100.00 ml/min
9/7/2022 3:53 PM	35:21	6.53 pH	24.24 °C	1,815.6 μS/cm	0.92 mg/L	0.99 NTU	-37.2 mV	48.99 ft	100.00 ml/min
9/7/2022 3:58 PM	40:21	6.52 pH	24.46 °C	1,843.4 μS/cm	0.84 mg/L	0.79 NTU	-33.6 mV	49.02 ft	100.00 ml/min
9/7/2022 4:03 PM	45:21	6.52 pH	26.00 °C	1,825.9 μS/cm	0.46 mg/L	1.32 NTU	-34.7 mV	49.10 ft	100.00 ml/min
9/7/2022 4:08 PM	50:21	6.52 pH	26.14 °C	1,814.1 μS/cm	0.38 mg/L	0.58 NTU	-34.2 mV	49.11 ft	100.00 ml/min
9/7/2022 4:15 PM	56:59	6.52 pH	25.69 °C	1,847.9 μS/cm	0.30 mg/L	0.60 NTU	-34.5 mV	49.18 ft	100.00 ml/min

9/7/2022 4:20	01:01:59	6.51 pH	25.85 °C	1,861.9	0.41 mg/L	0.59 NTU	-33.7 mV	49.13 ft	100.00 ml/min
PM	01.01.59			μS/cm			-55.7 1110	49.1310	
9/7/2022 4:25	25 01:06:59	6.52 pH	24.90 °C	1,845.1	0.25 mg/L	0.63 NTU	-35.6 mV	49.13 ft	100.00 ml/min
PM				μS/cm			-35.6 1117		
9/7/2022 4:25	01:07:34	6.52 pH	24.86 °C	1,848.5	0.25 mg/L	2.80 NTU	-35.6 mV	49.12 ft	100.00 ml/min
PM				μS/cm					

### Samples

Sample ID:	Description:
AP1PZ-8	9/7/22 1627

Test Date / Time: 9/7/2022 3:43:27 PM

**Project:** Plant Arkwright AP-1 **Operator Name:** J. Meyer

Location Name: AP1PZ-9
Well Diameter: 2 in
Screen Length: 10 ft
Top of Screen: 46.3 ft
Total Depth: 56.3 ft

Initial Depth to Water: 42.1 ft

Pump Intake From TOC: 52.3 ft Estimated Total Volume Pumped:

2726.667 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 2.9 ft **Casing Type: PVC** 

Pump Type: QED Bladder Pump

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

Tubing Length: 56 ft

**Instrument Used: Aqua TROLL 400** 

Serial Number: 728623

#### **Test Notes:**

#### **Weather Conditions:**

Sunny 89 F

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 0.5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/7/2022 3:43 PM	00:00	5.37 pH	24.33 °C	710.20 μS/cm	1.86 mg/L	11.10 NTU	141.2 mV	42.25 ft	100.00 ml/min
9/7/2022 3:48 PM	05:00	5.22 pH	23.25 °C	711.36 µS/cm	1.24 mg/L	9.12 NTU	156.0 mV	42.80 ft	100.00 ml/min
9/7/2022 3:53 PM	10:00	5.00 pH	22.80 °C	704.56 μS/cm	1.49 mg/L	5.97 NTU	178.2 mV	43.28 ft	100.00 ml/min
9/7/2022 3:58 PM	15:00	4.89 pH	22.50 °C	704.01 μS/cm	1.93 mg/L	3.01 NTU	190.1 mV	43.89 ft	100.00 ml/min
9/7/2022 3:58 PM	15:16	4.88 pH	22.49 °C	704.47 μS/cm	1.94 mg/L	3.01 NTU	196.2 mV	43.89 ft	100.00 ml/min
9/7/2022 4:01 PM	18:16	4.84 pH	22.72 °C	705.47 μS/cm	2.10 mg/L	4.31 NTU	194.3 mV	44.25 ft	100.00 ml/min
9/7/2022 4:04 PM	21:16	4.82 pH	22.90 °C	703.93 μS/cm	2.18 mg/L	4.54 NTU	197.5 mV	44.50 ft	100.00 ml/min
9/7/2022 4:07 PM	24:16	4.82 pH	22.98 °C	702.83 μS/cm	2.24 mg/L	1.71 NTU	197.3 mV	44.81 ft	100.00 ml/min
9/7/2022 4:10 PM	27:16	4.84 pH	23.06 °C	702.65 μS/cm	2.28 mg/L	2.08 NTU	196.1 mV	45.00 ft	100.00 ml/min

Sample ID:	Description:
AP1-PZ9	Sample collected at 1615
EB-02	Sample collected at 1705

Test Date / Time: 9/7/2022 1:40:35 PM

**Project:** Plant Arkwright AP-1 **Operator Name:** J. Meyer

**Location Name: AP1PZ-10** 

Well Diameter: 2 in Screen Length: 10 ft Top of Screen: 44 ft

Total Depth: 54 ft

Initial Depth to Water: 40 ft

Pump Intake From TOC: 51.7 ft Estimated Total Volume Pumped:

4000 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 1.8 ft **Casing Type: PVC** 

Pump Type: QED Bladder Pump

**Tubing Type: LDPE** 

Tubing Inner Diameter: 0.17 in Tubing

Length: 54 ft

**Instrument Used: Aqua TROLL 400** 

Serial Number: 728623

#### **Test Notes:**

### **Weather Conditions:**

Sunny 87 F

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/7/2022 1:40 PM	00:00	6.48 pH	23.57 °C	666.26 μS/cm	1.36 mg/L	2.21 NTU	-45.0 mV	40.20 ft	100.00 ml/min
9/7/2022 1:45 PM	05:00	6.44 pH	23.57 °C	671.52 μS/cm	1.02 mg/L	4.23 NTU	-45.3 mV	40.50 ft	100.00 ml/min
9/7/2022 1:50 PM	10:00	6.46 pH	23.70 °C	668.54 μS/cm	1.03 mg/L	3.47 NTU	-51.9 mV	40.78 ft	100.00 ml/min
9/7/2022 1:55 PM	15:00	6.47 pH	23.62 °C	688.13 μS/cm	0.81 mg/L	3.24 NTU	-76.1 mV	41.03 ft	100.00 ml/min
9/7/2022 2:00 PM	20:00	6.56 pH	23.61 °C	751.10 μS/cm	0.66 mg/L	2.08 NTU	-97.7 mV	41.20 ft	100.00 ml/min
9/7/2022 2:05 PM	25:00	6.61 pH	23.52 °C	771.07 μS/cm	0.43 mg/L	1.61 NTU	-99.8 mV	41.38 ft	100.00 ml/min
9/7/2022 2:10 PM	30:00	6.60 pH	23.26 °C	770.86 μS/cm	0.37 mg/L	2.02 NTU	-95.4 mV	41.54 ft	100.00 ml/min
9/7/2022 2:15 PM	35:00	6.57 pH	23.31 °C	762.77 μS/cm	0.38 mg/L	2.53 NTU	-89.0 mV	41.70 ft	100.00 ml/min
9/7/2022 2:20 PM	40:00	6.55 pH	23.16 °C	750.02 µS/cm	0.38 mg/L	1.60 NTU	-82.1 mV	41.80 ft	100.00 ml/min

Sample ID:	Description:
AP1PZ-10	Sample collected at 14:30
FB-02	Sample collected at 14:45

Test Date / Time: 9/8/2022 9:51:29 AM

**Project:** Plant Arkwright AP-1 **Operator Name:** J. Meyer

Location Name: AP1PZ-11
Well Diameter: 2 in

Screen Length: 10 ft Top of Screen: 62.8 ft Total Depth: 72.8 ft

Initial Depth to Water: 37.5 ft

Pump Intake From TOC: 63.8 ft Estimated Total Volume Pumped:

2020 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: 72 ft** 

**Instrument Used: Aqua TROLL 400** 

Serial Number: 728623

#### **Test Notes:**

#### **Weather Conditions:**

Sunny 74 F

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
9/8/2022 9:51 AM	00:00	6.96 pH	22.06 °C	310.11 μS/cm	2.08 mg/L	3.41 NTU	64.2 mV	37.50 ft	100.00 ml/min
9/8/2022 9:56 AM	05:00	6.85 pH	21.34 °C	318.79 μS/cm	1.63 mg/L	3.26 NTU	94.8 mV	37.50 ft	100.00 ml/min
9/8/2022 10:01 AM	10:00	6.81 pH	21.29 °C	318.74 μS/cm	1.61 mg/L	4.05 NTU	84.1 mV	37.50 ft	100.00 ml/min
9/8/2022 10:06 AM	15:12	6.79 pH	21.37 °C	316.47 μS/cm	1.51 mg/L	4.29 NTU	88.0 mV	37.50 ft	100.00 ml/min
9/8/2022 10:11 AM	20:12	6.77 pH	21.50 °C	318.41 μS/cm	1.52 mg/L	3.90 NTU	109.3 mV	37.50 ft	100.00 ml/min

### **Samples**

Sample ID:	Description:
AP1-PZ11	Sample collected at 1015
DUP-02	

Test Date / Time: 2/1/2023 9:37:43 AM

**Project:** Plant Arkwright **Operator Name:** E. Scheiben

Location Name: AP1GWA-1 Latitude: 32.9299897952187 Longitude: -83.7009504809976

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 27.5 ft Total Depth: 37.5 ft

Initial Depth to Water: 23.25 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

Tubing Length: 37.5 ft

Pump Intake From TOC: 32.5 ft Estimated Total Volume Pumped:

13691.667 ml

Flow Cell Volume: 90 ml Final Flow Rate: 500 ml/min

Final Draw Down: 0 ft

Instrument Used: Aqua TROLL 400

Serial Number: 728550

### **Test Notes:**

Turbidity = 0 indicates test was paused/resumed

### **Weather Conditions:**

Sunny

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
2/1/2023 9:37 AM	00:00	5.68 pH	21.19 °C	178.27 μS/cm	4.17 mg/L	15.20 NTU	94.1 mV	23.25 ft	500.00 ml/min
2/1/2023 9:42 AM	05:00	5.55 pH	20.55 °C	184.64 μS/cm	3.44 mg/L	9.60 NTU	179.4 mV	23.25 ft	500.00 ml/min
2/1/2023 9:45 AM	07:23	5.58 pH	20.62 °C	184.88 μS/cm	3.46 mg/L	0.00 NTU	182.1 mV	23.25 ft	500.00 ml/min
2/1/2023 9:50 AM	12:23	5.55 pH	20.71 °C	185.60 μS/cm	3.49 mg/L	5.03 NTU	187.8 mV	23.25 ft	500.00 ml/min
2/1/2023 9:55 AM	17:23	5.52 pH	20.92 °C	185.22 μS/cm	3.47 mg/L	2.87 NTU	151.5 mV	23.25 ft	500.00 ml/min
2/1/2023 10:00 AM	22:23	5.52 pH	21.00 °C	184.89 μS/cm	3.43 mg/L	2.65 NTU	146.4 mV	23.25 ft	500.00 ml/min
2/1/2023 10:05 AM	27:23	5.55 pH	20.78 °C	185.09 μS/cm	3.46 mg/L	1.98 NTU	173.0 mV	23.25 ft	500.00 ml/min

Sample ID:	Description:
ARK-AP1GWA-1	5 bottles filled at 1010

Test Date / Time: 2/1/2023 10:53:57 AM

**Project:** Plant Arkwright

**Operator Name:** Jackson Bankston

Location Name: AP1GWA-2

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 21.1 ft Total Depth: 31.1 ft

Initial Depth to Water: 17.71 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: Poly** 

Pump Intake From TOC: 26.1 ft Estimated Total Volume Pumped:

5361.667 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.08 ft Instrument Used: Aqua TROLL 400

Serial Number: 883530

#### **Test Notes:**

Lost connection with Aqua troll caused time change during low flow test

### **Weather Conditions:**

Cloudy, 65-70

### Low-Flow Readings:

LOW-FIOW N				Specific	RDO	<b>—</b> 1.1.1%	000	Depth to		
Date Time	Elapsed Time	рН	Temperature	Conductivity	Concentration	Turbidity	ORP	Water	Flow	
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 5		
2/1/2023	00:00	6.36 pH	20.18 °C	82.34 μS/cm	6.42 mg/L	1.68 NTU	97.4 mV	17.83 ft	100.00 ml/min	
10:53 AM				-	-					
2/1/2023 10:58 AM	05:00	6.12 pH	19.42 °C	78.86 μS/cm	4.64 mg/L	4.83 NTU	99.2 mV	17.83 ft	100.00 ml/min	
2/1/2023	10:00	6.11 pH	19.44 °C	78.85 µS/cm	4.52 mg/L	7.64 NTU	102.5 mV	17.76 ft	100.00 ml/min	
11:03 AM	10.00	0.11 pm	19.44 C	70.05 μο/οπ	4.52 Hig/L	7.04 1110	102.5 1110	17.7010	100.00 111/111111	
2/1/2023 11:08 AM	15:00	6.09 pH	19.46 °C	78.24 µS/cm	4.48 mg/L	11.00 NTU	104.1 mV	17.80 ft	100.00 ml/min	
2/1/2023	20.00	0.00 -11	40.50.00	70.460/	4.40/1	44.00 NTU	407.0\/	47.70.6	400.00 1/	
11:13 AM	20:00	20.00	6.08 pH	19.59 °C	78.16 µS/cm	4.46 mg/L	11.00 NTU	107.8 mV	17.78 ft	100.00 ml/min
2/1/2023	22:26	6.08 pH	19.69 °C	78.69 µS/cm	4.44 mg/L	10.77 NTU	102.1 mV	17.77 ft	100.00 ml/min	
11:16 AM	5 AM	0.00 pr 1	10.00	7 σ.σσ μο/σ	1.11.119/2		102.11111		100.00 1111/11111	
2/1/2023 11:17 AM	23:37	6.08 pH	19.73 °C	78.95 μS/cm	4.44 mg/L	10.35 NTU	97.5 mV	17.82 ft	100.00 ml/min	
2/1/2023	28:37	6.09 pH	19.71 °C	77.70 µS/cm	4.43 mg/L	7.82 NTU	109.6 mV	17.75 ft	100.00 ml/min	
11:22 AM	20.37	0.09 pm	19.71 C	77.70 μ3/σπ	4.43 Hig/L	7.02 1110	109.01110	17.7511	100.00 111/11111	
2/1/2023	33:37	6.08 pH	19.83 °C	78.00 µS/cm	4.43 mg/L	7.71 NTU	114.0 mV	17.75 ft	100.00 ml/min	
11:27 AM	33.3.			. 0.00 µ0,0	g, _					
2/1/2023	38:37	6.08 pH	19.77 °C	77.52 µS/cm	4.42 mg/L	5.55 NTU	151.3 mV	17.72 ft	100.00 ml/min	
11:32 AM		•		·						
2/1/2023 11:37 AM	43:37	6.08 pH	19.81 °C	77.54 µS/cm	4.42 mg/L	4.97 NTU	158.4 mV	17.79 ft	100.00 ml/min	
2/1/2023										
11:42 AM	48:37	6.07 pH	19.98 °C	77.92 µS/cm	4.42 mg/L	4.29 NTU	126.7 mV	17.79 ft	100.00 ml/min	
2/1/2023	53:37	6.08 pH	19.91 °C	77.72 µS/cm	4.41 mg/L	4.19 NTU	127.7 mV	17.79 ft	100.00 ml/min	
11:47 AM	33.3,	0.00 p	10.01	2 µ0,3111	7. 11 mg, 2		721.1.1.1	17.170.10	. 30.00 111,11111	

Sample ID:		Description:
ARK-AP1GWA-2	2/1/2023 1155 2 1000 ml Ra-226/Ra-228 2 250 ml Metals, Anions 1 500 ml TDS	
ARK-AP1-FB-02	2/1/2023 0930 2 1000ml Ra-226Ra-228 2 250ml Metals, Anions 1 500ml TDS	Created using VuSitu from In-Situ, Inc.

Test Date / Time: 2/1/2023 11:07:22 AM

**Project:** Plant Arkwright Operator Name: E. Scheiben

**Location Name: AP1PZ-1** Latitude: 32.9273225592229 Longitude: -83.7005008757114

Well Diameter: 2 in **Casing Type: PVC** Screen Length: 10 ft Top of Screen: 77.62 ft Total Depth: 87.62 ft

Initial Depth to Water: 44 ft

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

**Pump Type: Dedicated Bladder Pump** 

**Tubing Length: 90 ft** 

Pump Intake From TOC: 85.62 ft **Estimated Total Volume Pumped:** 

3620 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 1.45 ft

Instrument Used: Aqua TROLL 400

Serial Number: 728550

### **Test Notes:**

Turbidity=0 indicates test was paused/resumed.

### Low-Flow Readings:

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
2/1/2023 11:07 AM	00:00	6.45 pH	19.64 °C	349.04 μS/cm	2.40 mg/L	8.17 NTU	33.4 mV	44.00 ft	100.00 ml/min
2/1/2023 11:12 AM	05:00	6.42 pH	19.81 °C	347.74 μS/cm	2.13 mg/L	8.32 NTU	63.8 mV	44.35 ft	100.00 ml/min
2/1/2023 11:17 AM	10:00	6.42 pH	19.85 °C	348.54 μS/cm	2.15 mg/L	8.02 NTU	69.9 mV	44.80 ft	100.00 ml/min
2/1/2023 11:18 AM	11:12	6.43 pH	20.63 °C	343.49 μS/cm	2.09 mg/L	0.00 NTU	68.1 mV	44.80 ft	100.00 ml/min
2/1/2023 11:23 AM	16:12	6.43 pH	19.89 °C	348.40 μS/cm	2.05 mg/L	7.48 NTU	71.6 mV	45.05 ft	100.00 ml/min
2/1/2023 11:28 AM	21:12	6.44 pH	19.91 °C	349.86 μS/cm	1.96 mg/L	5.38 NTU	89.0 mV	45.22 ft	100.00 ml/min
2/1/2023 11:33 AM	26:12	6.44 pH	19.77 °C	350.58 μS/cm	1.89 mg/L	4.95 NTU	92.5 mV	45.28 ft	100.00 ml/min
2/1/2023 11:38 AM	31:12	6.44 pH	20.03 °C	348.97 μS/cm	1.83 mg/L	3.84 NTU	94.5 mV	45.40 ft	100.00 ml/min
2/1/2023 11:43 AM	36:12	6.45 pH	20.13 °C	347.88 μS/cm	1.80 mg/L	4.09 NTU	74.8 mV	45.45 ft	100.00 ml/min

### **Samples**

Sample ID:	Description:
ARK-AP1PZ-1	5 bottles filled at 1150

ARK-AP1-EB-02

5 bottles filled at 10:45 at AP1PZ-1

Created using VuSitu from In-Situ, Inc.

Test Date / Time: 2/1/2023 12:43:04 PM

**Project:** Plant Arkwright **Operator Name:** E. Scheiben

Location Name: AP1PZ-2 Latitude: 32.9204371278322 Longitude: -83.6983309686184

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 52.67 ft Total Depth: 62.67 ft

Initial Depth to Water: 42.66 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 62 ft** 

Pump Intake From TOC: 57 ft Estimated Total Volume Pumped:

8487.5 ml

Flow Cell Volume: 90 ml Final Flow Rate: 150 ml/min

Final Draw Down: 0 ft

Instrument Used: Aqua TROLL 400

Serial Number: 728550

# **Test Notes:**

Turbidity=0 indicates test was paused/resumed.

### **Weather Conditions:**

Cloudy

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
2/1/2023 12:43 PM	00:00	6.35 pH	19.73 °C	1,056.6 μS/cm	4.56 mg/L	16.10 NTU	52.4 mV	42.66 ft	150.00 ml/min
2/1/2023 12:44 PM	01:35	6.33 pH	20.70 °C	970.37 μS/cm	2.31 mg/L	0.00 NTU	46.8 mV	42.66 ft	150.00 ml/min
2/1/2023 12:49 PM	06:35	6.32 pH	20.01 °C	976.60 μS/cm	2.13 mg/L	35.90 NTU	44.2 mV	42.66 ft	150.00 ml/min
2/1/2023 12:54 PM	11:35	6.33 pH	20.21 °C	972.96 μS/cm	1.85 mg/L	31.90 NTU	42.0 mV	42.66 ft	150.00 ml/min
2/1/2023 12:59 PM	16:35	6.32 pH	20.25 °C	989.17 μS/cm	1.70 mg/L	21.70 NTU	40.0 mV	42.66 ft	150.00 ml/min
2/1/2023 1:04 PM	21:35	6.31 pH	20.09 °C	1,011.9 μS/cm	1.63 mg/L	17.20 NTU	36.7 mV	42.66 ft	150.00 ml/min
2/1/2023 1:09 PM	26:35	6.30 pH	19.77 °C	1,033.6 μS/cm	1.60 mg/L	10.10 NTU	39.2 mV	42.66 ft	150.00 ml/min
2/1/2023 1:14 PM	31:35	6.29 pH	19.82 °C	1,046.1 μS/cm	1.56 mg/L	7.49 NTU	37.6 mV	42.66 ft	150.00 ml/min
2/1/2023 1:19 PM	36:35	6.29 pH	19.77 °C	1,053.7 μS/cm	1.55 mg/L	7.03 NTU	37.2 mV	42.66 ft	150.00 ml/min
2/1/2023 1:24 PM	41:35	6.27 pH	19.86 °C	1,061.0 μS/cm	1.54 mg/L	6.70 NTU	37.6 mV	42.66 ft	150.00 ml/min
2/1/2023 1:29 PM	46:35	6.28 pH	19.97 °C	1,064.5 μS/cm	1.52 mg/L	4.39 NTU	37.8 mV	42.66 ft	150.00 ml/min
2/1/2023 1:34 PM	51:35	6.28 pH	19.91 °C	1,074.0 μS/cm	1.52 mg/L	3.33 NTU	37.5 mV	42.66 ft	150.00 ml/min

2/1/2023 1:39	FC-2F	6.28 pH	10.06.00	1,081.6	1.52 ma/L	2.96 NTU	27.1 m)/	42.66 ft	150.00 ml/min
PM	56:35	6.26 pm	19.86 °C	μS/cm	1.52 mg/L	2.96 NTU	37.1 mV	42.00 II	150.00 m/min

# **Samples**

Sample ID:	Description:
AP1PZ-2	5 bottles filled at 1345

Created using VuSitu from In-Situ, Inc.

Test Date / Time: 2/1/2023 2:30:42 PM

**Project:** Plant Arkwright **Operator Name:** E. Scheiben

Location Name: AP1PZ-4 Latitude: 32.9210630471097 Longitude: -83.698776550591

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 57.44 ft Total Depth: 67.44 ft

Initial Depth to Water: 45.67 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 68 ft** 

Pump Intake From TOC: 63 ft Estimated Total Volume Pumped:

6050 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.49 ft Instrument Used: Aqua TROLL 400

Serial Number: 728550

### **Test Notes:**

### **Weather Conditions:**

Cloudy

### **Low-Flow Readings:**

LOW-I IOW IX	3-								
Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
2/1/2023 2:30 PM	00:00	6.52 pH	19.67 °C	2,366.8 μS/cm	2.34 mg/L	12.00 NTU	-98.4 mV	45.67 ft	110.00 ml/min
2/1/2023 2:35 PM	05:00	6.51 pH	19.42 °C	2,425.0 μS/cm	1.91 mg/L	16.10 NTU	-96.0 mV	45.94 ft	100.00 ml/min
2/1/2023 2:40 PM	10:00	6.52 pH	19.29 °C	2,431.1 μS/cm	1.84 mg/L	19.00 NTU	-112.9 mV	46.02 ft	100.00 ml/min
2/1/2023 2:45 PM	15:00	6.52 pH	19.26 °C	2,431.2 μS/cm	1.78 mg/L	13.60 NTU	-113.4 mV	46.06 ft	100.00 ml/min
2/1/2023 2:50 PM	20:00	6.51 pH	19.54 °C	2,412.2 μS/cm	1.69 mg/L	10.80 NTU	-95.2 mV	46.13 ft	100.00 ml/min
2/1/2023 2:55 PM	25:00	6.51 pH	19.47 °C	2,419.5 μS/cm	1.66 mg/L	7.87 NTU	-94.7 mV	46.16 ft	100.00 ml/min
2/1/2023 3:00 PM	30:00	6.51 pH	19.48 °C	2,411.6 μS/cm	1.63 mg/L	6.77 NTU	-93.6 mV	46.16 ft	100.00 ml/min
2/1/2023 3:05 PM	35:00	6.50 pH	19.40 °C	2,416.7 μS/cm	1.65 mg/L	6.36 NTU	-110.7 mV	46.16 ft	100.00 ml/min
2/1/2023 3:10 PM	40:00	6.50 pH	19.60 °C	2,404.3 μS/cm	1.64 mg/L	5.40 NTU	-91.2 mV	46.16 ft	100.00 ml/min
2/1/2023 3:15 PM	45:00	6.49 pH	19.72 °C	2,395.5 μS/cm	1.62 mg/L	5.29 NTU	-88.5 mV	46.16 ft	100.00 ml/min
2/1/2023 3:20 PM	50:00	6.48 pH	19.64 °C	2,392.8 μS/cm	1.62 mg/L	3.93 NTU	-89.1 mV	46.16 ft	100.00 ml/min
2/1/2023 3:25 PM	55:00	6.48 pH	19.51 °C	2,396.2 μS/cm	1.61 mg/L	3.51 NTU	-107.7 mV	46.16 ft	100.00 ml/min

2/1/2023 3:30	04.00.00	C 47 -11	40.00.00	2,399.4	4.00//	2 OC NEU	407.2\/	40.40.5	400.001/
PM	01:00:00	6.47 pH	19.38 °C	μS/cm	1.63 mg/L	3.26 NTU	-107.3 mV	46.16 ft	100.00 ml/min

# **Samples**

Sample ID:	Description:
ARK-AP1PZ-4	5 bottles filled at 1540
ARK-AP1-FD-02	5 bottles filled at AP1PZ-4

Created using VuSitu from In-Situ, Inc.

Test Date / Time: 2/2/2023 11:50:04 AM

**Project:** Plant Arkwright **Operator Name:** B. Pennell

**Location Name: AP1PZ-5** 

Latitude: 32.9178326481967 Longitude: -83.6973771080375

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 57.25 ft Total Depth: 66.25 ft

Initial Depth to Water: 47.14 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 67 ft** 

Pump Intake From TOC: 62.25 ft Estimated Total Volume Pumped:

4000 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 1.24 ft Instrument Used: Aqua TROLL 400

Serial Number: 728623

**Test Notes:** 

Sample time: 1233

### **Weather Conditions:**

Cloudy, 11 C

# Low-Flow Readings:

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.33	
2/2/2023 11:50 AM	00:00	5.99 pH	16.24 °C	3,188.8 μS/cm	2.88 mg/L	27.70 NTU	-3.4 mV	47.82 ft	100.00 ml/min
2/2/2023 11:55 AM	05:00	6.07 pH	17.45 °C	3,140.2 μS/cm	1.39 mg/L	5.20 NTU	-31.6 mV	48.09 ft	100.00 ml/min
2/2/2023 12:00 PM	10:00	6.08 pH	17.45 °C	3,139.9 µS/cm	1.01 mg/L	4.27 NTU	-42.7 mV	48.17 ft	100.00 ml/min
2/2/2023 12:05 PM	15:00	6.09 pH	17.53 °C	3,141.5 μS/cm	0.88 mg/L	3.05 NTU	-47.4 mV	48.25 ft	100.00 ml/min
2/2/2023 12:10 PM	20:00	6.10 pH	17.56 °C	3,144.2 μS/cm	0.77 mg/L	1.96 NTU	-77.4 mV	48.31 ft	100.00 ml/min
2/2/2023 12:15 PM	25:00	6.10 pH	17.57 °C	3,146.8 µS/cm	0.70 mg/L	1.27 NTU	-53.7 mV	48.34 ft	100.00 ml/min
2/2/2023 12:20 PM	30:00	6.10 pH	17.54 °C	3,145.8 μS/cm	0.65 mg/L	1.03 NTU	-55.4 mV	48.35 ft	100.00 ml/min
2/2/2023 12:25 PM	35:00	6.11 pH	17.59 °C	3,148.6 μS/cm	0.63 mg/L	0.83 NTU	-56.5 mV	48.37 ft	100.00 ml/min
2/2/2023 12:30 PM	40:00	6.12 pH	17.59 °C	3,146.6 μS/cm	0.62 mg/L	0.74 NTU	-57.6 mV	48.38 ft	100.00 ml/min

Sample ID:	Description:
Janipie ID.	Description.

ARK-AP1PZ-5	5 Polys collected at 1233
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ARK-AP1-EB-01

5 Bottles filled at AP1PZ-5; collection time 1310

Created using VuSitu from In-Situ, Inc.

Test Date / Time: 2/1/2023 1:26:42 PM

**Project:** Plant Arkwright

**Operator Name:** Jackson Bankston

**Location Name: AP1PZ-6** 

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft

Top of Screen: 62.2 ft Total Depth: 72.2 ft

Initial Depth to Water: 54.65 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: Poly** 

Pump Intake From TOC: 67.6 ft Estimated Total Volume Pumped:

1741.667 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: -1.62 ft Instrument Used: Aqua TROLL 400

Serial Number: 883530

### **Test Notes:**

Initial Depth to water was 54.65

### **Weather Conditions:**

Cloudy, 65-70

# Low-Flow Readings:

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10	+/- 10	+/- 10	+/- 5	
2/1/2023 1:26 PM	00:00	5.17 pH	18.42 °C	3,267.7 μS/cm	2.04 mg/L	6.14 NTU	61.6 mV	54.81 ft	100.00 ml/min
2/1/2023 1:29 PM	02:25	5.25 pH	18.35 °C	3,320.1 μS/cm	2.10 mg/L	6.45 NTU	58.6 mV	54.76 ft	100.00 ml/min
2/1/2023 1:34 PM	07:25	5.36 pH	18.40 °C	3,335.7 μS/cm	1.70 mg/L	4.62 NTU	40.7 mV	54.84 ft	100.00 ml/min
2/1/2023 1:39 PM	12:25	5.43 pH	18.35 °C	3,339.3 μS/cm	1.58 mg/L	3.66 NTU	32.1 mV	54.88 ft	100.00 ml/min
2/1/2023 1:44 PM	17:25	5.45 pH	18.28 °C	3,341.9 µS/cm	1.48 mg/L	2.77 NTU	27.9 mV	54.88 ft	100.00 ml/min

Sample ID:		Description:
ARK-AP1PZ-6	2 1000ml Ra-226/Ra-228 2 250ml Metals, Anions 1 500ml TDS	Collection time: 13:55
ARK-AP1FD-01	2 1000ml Ra-226Ra-228 2 250ml Metals, Anions 1 500ml TDS	Collection Location: AP1PZ-6

Test Date / Time: 2/1/2023 3:37:02 PM

Project: Plant Arkwright

**Operator Name:** Jackson Bankston

Location Name: AP1PZ-7
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 10 ft

Top of Screen: 58.3 ft Total Depth: 68.3 ft

Initial Depth to Water: 48.05 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: Poly** 

Pump Intake From TOC: 63.6 ft Estimated Total Volume Pumped:

2471.667 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 2.2 ft Instrument Used: Aqua TROLL 400

Serial Number: 883530

### **Test Notes:**

Disregard last three data entries, after stabilization was reached aqua troll had connectivity issues

### **Weather Conditions:**

Cloudy, 68-72

# Low-Flow Readings:

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10	+/- 10	+/- 10	+/- 0.3	
2/1/2023 3:37 PM	00:00	6.23 pH	18.55 °C	2,447.6 μS/cm	0.82 mg/L	8.31 NTU	-17.8 mV	48.91 ft	100.00 ml/min
2/1/2023 3:42 PM	05:00	6.23 pH	19.15 °C	2,405.3 μS/cm	0.54 mg/L	7.95 NTU	-11.8 mV	49.51 ft	100.00 ml/min
2/1/2023 3:47 PM	10:00	6.24 pH	18.92 °C	2,390.4 μS/cm	0.51 mg/L	4.40 NTU	-10.2 mV	50.02 ft	100.00 ml/min
2/1/2023 3:52 PM	15:00	6.25 pH	18.89 °C	2,398.8 μS/cm	0.55 mg/L	3.87 NTU	-13.2 mV	50.25 ft	100.00 ml/min
2/1/2023 3:56 PM	19:56	6.24 pH	19.01 °C	2,400.1 μS/cm	0.50 mg/L	2.99 NTU	-8.5 mV	50.25 ft	100.00 ml/min
2/1/2023 4:00 PM	23:40	6.45 pH	19.47 °C	1.45 µS/cm	8.58 mg/L		-29.5 mV	50.25 ft	100.00 ml/min
2/1/2023 4:01 PM	24:43	6.51 pH	19.73 °C	1.29 µS/cm	8.75 mg/L		-19.1 mV	50.25 ft	100.00 ml/min

Sample ID:	Description:
	2/1/23 1600
ARK-AP1PZ-7	2 1000ml Ra-226/Ra-228
	2 250 ml Metals, Anions
	1 500ml TDS

Created using VuSitu from In-Situ, Inc.

Test Date / Time: 2/2/2023 9:20:46 AM

**Project:** Plant Arkwright

**Operator Name:** Jackson Bankston

**Location Name: AP1PZ-8** 

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 56.1 ft Total Depth: 66.09 ft

Initial Depth to Water: 45.14 ft

Pump Type: Dedicated Bladder Pump

**Tubing Type: Poly** 

Pump Intake From TOC: 61.09 ft Estimated Total Volume Pumped:

45180 ml

Flow Cell Volume: 90 ml Final Flow Rate: 1004 ml/min Final Draw Down: 2.16 ft Instrument Used: Aqua TROLL 400

Serial Number: 883530

#### **Test Notes:**

### **Weather Conditions:**

Overcast, 55, slight rain

## **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
2/2/2023 9:20 AM	00:00	6.60 pH	16.52 °C	1,767.2 μS/cm	2.88 mg/L	6.37 NTU	-22.7 mV	45.69 ft	1,004.0 ml/min
2/2/2023 9:25 AM	05:00	6.58 pH	16.77 °C	1,699.1 μS/cm	2.52 mg/L	6.50 NTU	-18.3 mV	46.02 ft	1,004.0 ml/min
2/2/2023 9:30 AM	10:00	6.59 pH	16.79 °C	1,774.9 μS/cm	2.71 mg/L	5.94 NTU	-16.4 mV	46.84 ft	1,004.0 ml/min
2/2/2023 9:35 AM	15:00	6.61 pH	16.84 °C	1,715.0 μS/cm	2.49 mg/L	4.22 NTU	-15.8 mV	47.21 ft	1,004.0 ml/min
2/2/2023 9:40 AM	20:00	6.61 pH	16.85 °C	1,711.7 μS/cm	2.59 mg/L	3.06 NTU	-15.3 mV	47.33 ft	1,004.0 ml/min
2/2/2023 9:45 AM	25:00	6.60 pH	16.87 °C	1,723.7 μS/cm	2.34 mg/L	2.84 NTU	-15.3 mV	47.16 ft	1,004.0 ml/min
2/2/2023 9:50 AM	30:00	6.60 pH	16.83 °C	1,714.4 μS/cm	2.18 mg/L	1.69 NTU	-15.5 mV	47.20 ft	1,004.0 ml/min
2/2/2023 9:55 AM	35:00	6.64 pH	16.49 °C	1,721.5 μS/cm	1.91 mg/L	1.67 NTU	-15.5 mV	47.27 ft	1,004.0 ml/min
2/2/2023 10:00 AM	40:00	6.61 pH	16.66 °C	1,730.2 μS/cm	1.91 mg/L	1.17 NTU	-15.9 mV	47.19 ft	1,004.0 ml/min
2/2/2023 10:05 AM	45:00	6.60 pH	16.65 °C	1,729.7 μS/cm	1.96 mg/L	1.19 NTU	-16.3 mV	47.30 ft	1,004.0 ml/min

Sample ID:	Description:
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	2/2/23 1010
ARK-AP1PZ-8	2 1000 ml Ra-226/Ra-228
	2 250 ml Anions, Metals
	1 500 ml TDS
	2/2/23 1045
ARK-AP1-FB-01	2 1000 ml Ra-226/Ra-228
	2 250 ml Anions, Metals
	1 500 ml TDS

Created using VuSitu from In-Situ, Inc.

Test Date / Time: 2/2/2023 9:35:09 AM

**Project:** Plant Arkwright **Operator Name:** B. Pennell

**Location Name: AP1PZ-9** 

Latitude: 32.9190746686314 Longitude: -83.6986903846264

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 46.3 ft Total Depth: 56.3 ft

Initial Depth to Water: 40.72 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 57 ft** 

Pump Intake From TOC: 52.3 ft Estimated Total Volume Pumped:

3500 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 5.21 ft Instrument Used: Aqua TROLL 400

Serial Number: 728623

**Test Notes:** 

Sample time: 1013

Weather Conditions: Cloudy, light rain, 11 C

### Low-Flow Readings:

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.33	
2/2/2023 9:35 AM	00:00	5.13 pH	16.41 °C	701.52 μS/cm	0.92 mg/L	22.30 NTU	181.7 mV	42.33 ft	100.00 ml/min
2/2/2023 9:40 AM	05:00	4.71 pH	16.74 °C	691.11 μS/cm	1.08 mg/L	17.20 NTU	251.9 mV	42.84 ft	100.00 ml/min
2/2/2023 9:45 AM	10:00	4.48 pH	16.75 °C	690.96 μS/cm	1.62 mg/L	12.30 NTU	280.3 mV	43.47 ft	100.00 ml/min
2/2/2023 9:50 AM	15:00	4.44 pH	16.78 °C	688.15 μS/cm	1.88 mg/L	8.88 NTU	266.3 mV	43.99 ft	100.00 ml/min
2/2/2023 9:55 AM	20:00	4.48 pH	16.83 °C	685.21 μS/cm	2.11 mg/L	6.17 NTU	259.6 mV	44.54 ft	100.00 ml/min
2/2/2023 10:00 AM	25:00	4.52 pH	16.81 °C	684.24 μS/cm	2.17 mg/L	3.87 NTU	253.8 mV	45.05 ft	100.00 ml/min
2/2/2023 10:05 AM	30:00	4.56 pH	16.61 °C	682.58 μS/cm	2.30 mg/L	3.03 NTU	248.9 mV	45.56 ft	100.00 ml/min
2/2/2023 10:10 AM	35:00	4.62 pH	16.41 °C	681.83 μS/cm	2.41 mg/L	2.74 NTU	241.4 mV	45.93 ft	100.00 ml/min

Sample ID:	Description:	
		48.

ARR-AFTEZ-9 5 Folys collected at 1015	ARK-AP1PZ-9	5 Polys collected at 1013
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Created using VuSitu from In-Situ, Inc.

Test Date / Time: 2/1/2023 2:10:07 PM

**Project:** Plant Arkwright **Operator Name:** B. Pennell

**Location Name: AP1PZ-10** 

Latitude: 32.9197923475445 Longitude: -83.6989267542958

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 44 ft Total Depth: 54 ft

Initial Depth to Water: 39.26 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 56 ft** 

Pump Intake From TOC: 51.7 ft Estimated Total Volume Pumped:

1500 ml

Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 2.86 ft Instrument Used: Aqua TROLL 400

Serial Number: 728623

**Test Notes:** 

Sample time: 1428

### **Weather Conditions:**

Cloudy, 18 C

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.33	
2/1/2023 2:10 PM	00:00	6.41 pH	18.21 °C	741.36 μS/cm	0.91 mg/L	3.70 NTU	-54.8 mV	41.66 ft	100.00 ml/min
2/1/2023 2:15 PM	05:00	6.42 pH	18.24 °C	743.24 µS/cm	0.56 mg/L	2.84 NTU	-52.8 mV	41.87 ft	100.00 ml/min
2/1/2023 2:20 PM	10:00	6.40 pH	18.26 °C	734.77 µS/cm	0.52 mg/L	2.43 NTU	-47.8 mV	42.03 ft	100.00 ml/min
2/1/2023 2:25 PM	15:00	6.38 pH	18.27 °C	725.48 µS/cm	0.50 mg/L	1.99 NTU	-42.8 mV	42.12 ft	100.00 ml/min

Sample ID:	Description:
ARK-AP1PZ-10	5 Polys collected at 1428

Test Date / Time: 2/1/2023 3:30:06 PM

**Project:** Plant Arkwright **Operator Name:** B. Pennell

**Location Name: AP1PZ-11** 

Latitude: 32.9205668713555 Longitude: -83.6991245672107

Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 62.8 ft Total Depth: 72.8 ft

Initial Depth to Water: 37.24 ft

**Pump Type: Dedicated Bladder Pump** 

**Tubing Type: LDPE** 

**Tubing Inner Diameter: 0.17 in** 

**Tubing Length: 73 ft** 

Pump Intake From TOC: 68.3 ft Estimated Total Volume Pumped:

2250 ml

Flow Cell Volume: 90 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.23 ft Instrument Used: Aqua TROLL 400

Serial Number: 728623

**Test Notes:** 

Sample time: 1548

### **Weather Conditions:**

Cloudy, 18 C

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.33	
2/1/2023 3:30 PM	00:00	6.91 pH	19.06 °C	277.19 μS/cm	2.00 mg/L	4.23 NTU	38.3 mV	37.47 ft	150.00 ml/min
2/1/2023 3:35 PM	05:00	6.87 pH	18.39 °C	281.68 μS/cm	1.84 mg/L	4.94 NTU	67.9 mV	37.47 ft	150.00 ml/min
2/1/2023 3:40 PM	10:00	6.85 pH	18.52 °C	280.34 μS/cm	1.89 mg/L	3.98 NTU	57.4 mV	37.47 ft	150.00 ml/min
2/1/2023 3:45 PM	15:00	6.83 pH	18.51 °C	280.18 μS/cm	1.99 mg/L	3.92 NTU	59.3 mV	37.47 ft	150.00 ml/min

Sample ID:	Description:
ARK-AP1PZ-11	5 Polys collected at 1548

# Plant Arkwright (Ocmulgee River) Surface Water Samples 8/16/2022

Sample ID	Total Depth	Sample Depth	Time	Temp(C)	рН	OPR (mV)	DO (mg/L)	Turbidity (NTU)	Conductance – (mS/cm)	Coordinates
OR-0.8			1015	81.8	7.25	64.7	7.67	2.55	0.117	32.926994,-83.697536
OR-0.3			1100	82.3	7.15	101.0	7.68	3.49	0.055	32.919226, -83.697100
OR-0.1			1125	81.6	7.31	86.0	7.72	3.00	0.102	32.916342,-83.696092
BC-0.1			1220	77.1	7.18	97.9	7.02	12.96	0.126	32.916017,-83.696292
OR+0.25			1230	80.8	7.40	99.9	7.09	5.07	0.104	32.914186,-83.691789

OR samples collected with aerial drone utilizing a bailer

# Plant Arkwright AP-2 (Beaverdam Creek) Surface Water Samples 08/16/2022

Sample ID	Time	Temp(F)	рН	OPR (mV)	DO (mg/L)	Turbidity (NTU)	Conductance – (mS/cm)	Coordinates
BC-0.8a	1555	84.3	7.22	68.4	7.21	2.14	0.119	32.922739, -83.705772
BC-0.5.7	1625	79.4	7.30	74.9	7.11	3.82	0.173	32.921547, -83.702854
BC-0.5.6	1605	80.2	7.42	70.5	7.30	2.36	0.126	32.921139, -83.701900
BC-0.5.5	1615	80.6	7.26	72.0	6.92	4.27	0.128	32.920558,-83.701663
BC-BR	1700	79.40	7.27	81.1	7.19	2.67	0.127	32.920236,-83.699817
BC-0.3	1155	76.30	7.16	84.8	7.74	3.13	0.117	32.918089,-83.698692

# Plant Arkwright Surface Water Samples 2/8-9/2023

Sample ID*	Date	Time	Sample Depth	Temp(C)	рН	OPR (mV)	DO (mg/L)	Turbidity (NTU)	Conductance (mS/cm)	Coordinates
ARK-BC-0.3	2/9/2023	1635	Surface	15.0	7.19	85.8	12.02	41.9	0.148	32.918089,-83.698692
ARC-BC-0.1	2/8/2023	1625	Surface	14.8	7.25	87.7	11.80	37.2	0.152	32.916017,-83.696292
ARC-OR-0.8	2/9/2023	1058	Surface	14.1	7.70	87.7	10.38	33.1	0.218	32.926994,-83.697536
ARC-OR-0.1	2/9/2023	1210	Surface	15.5	7.49	80.7	8.46	26.3	0.258	32.916342,-83.696092
ARC-OR-0.3	2/8/2023	1130	Surface	15.0	7.54	82.3	9.07	48.1	0.219	32.919226, -83.697100
ARC-OR+0.25	2/9/2023	1245	Surface	15.5	7.37	87.5	10.36	59.2	0.248	32.914186,-83.691789

<sup>\*</sup>OR samples collected with aerial drone utilizing a bailer

# Plant Arkwright (Ocmulgee River) Surface Water Samples 2/14/2023

Sample ID	Total Depth	Sample Depth	Time	Temp(C)	рН	OPR (mV)	DO (mg/L)	Turbidity (NTU)	Conductance – (mS/cm)	Coordinates
ARK-BC-0.3	Surface	Surface	1105	10.1	7.25	75.3	12.56	58.2	0.082	32.918089,-83.698692
ARC-BC-0.1	Surface	Surface	1055	9.8	7.52	62.3	13.33	38.5	0.083	32.916017,-83.696292

# **C.2 Calibration Data**

**Project Name:** Arkwright Groundwater Sampling Plant Name: Plant Arkwright Date: 8/30/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: John Mver Weather: Sunny 87 F Time (24hr) Start: 14:15 Time (24hr) Finish: 14:50 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 28.1 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1003.7 31.8 Turbidity (NTUs): 100 NTU Standard 10 NTU Verification 20 NTU Standard 800 NTU Standard Acceptance Criteria 19.8 100 793 10.2 +/- 3 % Cal Sol Temp (°C) Calibration Value Post Calibration Acceptance Criteria 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 +/- .1 (SU) pH 4 (SU) 27.1 4 00 4 00 NA +/- .1 (SU) pH 10 (SU) 10.00 10.01 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 Time (24hr) Finish: 23:10 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 21.5 1015.6 +/- 4°C Aqua TROLL 400. 22.0 Aqua TROLL 400 10 NTU Verification Turbidity (NTUs): 800 NTU Standard Acceptance Criteria 20 NTU Standard 100 NTU Standard 19.9 102 785 10.2 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 4526.6 +/- 1% 23.1 NA pH 7 (SU) 7.00 +/- .1 (SU) 23.4 7.01 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. (%) 95-105 % 22.5 N/A 96.1 NA ORP (mV) 231.7 231.2 NA Calibration Standards Information Certified Value Standard (@ 25°C) **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 21470032 4/30/2023 PM pH 4 (SU) 4.00 AIR pH 7 (SU) 7.00 РМ 21380102 AIR 4/30/2023 PM pH 10 (SU) 10.00 AIR 20080056 4/30/2023 Specific Conductance 4,490 (µS/cm) 4490 4/30/2023 21470032 AIR ORP (mV) 228.0 AIR 21140143 4/30/2023 Turbidity - 20 NTU 5/31/2023 20.0 Hach A1168 Turbidity - 100 NTU 100 Hach A1027 1/31/2023 Turbidity - 800 NTU 800 Hach A1103 4/30/2023 Turbidity - 10 NTU 10.0 A1071 3/31/2023 Hach Instruments **Calibrated Within** Manufacturer Model Serial Number Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 850724 Yes Turbidity Meter 19010C073360 Yes Hach 2100Q NIST Thermometer Thomas Instruments **NIST Thermometer** 221620133 Expiration Date: 6/28/2024

NA

Signature:

20 Wo Myon

Signature: 20 NO Myon

**Explanations:** 

Prepared By:

Review By:

John Myer

John Myer

Date:

Date:

8/30/2022

**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 of 1 Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: **Emily Scheiben** Weather: Partly cloudy Time (24hr) Start: 14:07 Time (24hr) Finish: 14:52 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 28.8 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1002.0 28.5 Turbidity (NTUs): 10 NTU Verification 20 NTU Standard 100 NTU Standard 800 NTU Standard Acceptance Criteria 20.4 99.7 789 10.1 +/- 3 % Cal Sol Temp (°C) Calibration Value Acceptance Criteria Post Calibration 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 +/- .1 (SU) pH 4 (SU) 29.7 4 00 4 02 NA +/- .1 (SU) 30.0 pH 10 (SU) 10.00 9.94 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 Time (24hr) Finish: 22:05 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 33.30 1013.7 +/- 4°C Aqua TROLL 400. 32.48 Aqua TROLL 400 10 NTU Verification Turbidity (NTUs): 800 NTU Standard Acceptance Criteria 20 NTU Standard 100 NTU Standard 20.1 99 798 9.72 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 4529.3 +/- 1% 32.37 NA pH 7 (SU) 7.00 +/- .1 (SU) 33.21 NA 6.98 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. (%) 31.68 95-105 % N/A 97.2 NA ORP (mV) 218.7 +/- 10 mV NA Calibration Standards Information Certified Value Standard (@ 25°C) **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 10.00 4/1/2023 AM pH 10 (SU) AIR 20080056 PM pH 4 (SU) 4.00 AIR 21470032 4/1/2023 ΡМ pH 7 (SU) 7.00 AIR 21380102 4/1/2023 pH 10 (SU) 10.00 20080056 4/1/2023 PM AIR Specific Conductance 4,490 (µS/cm) 4490 AIR 21470032 4/1/2023 ORP (mV) 228.0 AIR 22200085 8/1/2023 Turbidity - 20 NTU 5/1/2023 (JM 9/22/22) 20.0 Hach A1168 Turbidity - 100 NTU 100 Hach A1027 1/1/2023 (JM 9/22/22) Turbidity - 800 NTU 800 4/1/2023 (JM 9/22/22) Hach A1103 Turbidity - 10 NTU 10.0 Hach A1071 3/1/2023 (JM 9/22/22) Instruments **Calibrated Within** Manufacturer Model Serial Number Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 850033 yes Turbidity Meter 2100Q 21030D000600 Hach yes NIST Thermometer Thomas Instruments **NIST Thermometer** 221620127 Expiration Date: 6/24/2024

NA (JM 9/22/22)

Signature:

Signature:

20 hr Myon

**Explanations:** 

Prepared By:

Review By:

**Emily Scheiben** 

John Myer

Date:

Date:

8/30/2022

**Project Name:** Arkwright Groundwater Sampling Plant Name: Plant Arkwright Date: 8/30/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: Bryan Pennell Weather: Partly cloudy, 29 C Time (24hr) Start: 14:13 Time (24hr) Finish: 14:52 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 27.7 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1003.5 27.3 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 Acceptance Criteria Cal Sol Temp (°C) Post Calibration 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 +/- .1 (SU) pH 4 (SU) 27.0 4 00 3.99 NA +/- .1 (SU) 26.9 pH 10 (SU) 10.00 9.99 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 Mostly sunny, 32 C Weather: Time (24hr) Start: 18:07 Time (24hr) Finish: 18:36 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 29.2 1012.8 +/- 4°C Aqua TROLL 400. 29.7 Aqua TROLL 400 Turbidity (NTUs): 800 NTU Standard 10 NTU Verification Acceptance Criteria 20 NTU Standard 100 NTU Standard 20.4 98.2 796 10.2 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 4506.5 +/- 1% 29.7 NA pH 7 (SU) 7.00 +/- .1 (SU) 28.2 7.00 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. (%) 95-105 % 26.7 N/A 101.8 NA ORP (mV) 222.8 222.8 +/- 10 mV 27.5 NA **Calibration Standards Information** Certified Value Standard (@ 25°C) **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 21470032 4/1/2023 PM pH 4 (SU) 4.00 AIR pH 7 (SU) 7.00 РМ 21380102 AIR 4/1/2023 PM pH 10 (SU) 10.00 AIR 20080056 4/1/2023 Specific Conductance 4,490 (µS/cm) 4490 21470032 4/1/2023 AIR ORP (mV) 228.0 AIR 21140143 4/1/2023 Turbidity - 20 NTU 5/1/2023 20.0 A1168 Hach Turbidity - 100 NTU 100 Hach A1027 1/1/2023 Turbidity - 800 NTU 800 Hach A1103 4/1/2023 10.0 A1071 3/1/2023 Turbidity - 10 NTU Hach Instruments **Calibrated Within** Manufacturer Model **Serial Number** Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 728623 Turbidity Meter 15030C039370 Hach 2100Q NIST Thermometer Thomas Instruments **NIST Thermometer** 221620123 Expiration Date: 6/28/2024

NA

Signature:

Signature:

20hromyon

**Explanations:** 

Prepared By:

Review By:

Bryan Pennell

John Myer

Date:

Date:

8/30/2022

**Project Name:** Arkwright Groundwater Sampling Plant Name: Plant Arkwright Date: 8/31/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: John Myer Weather: Overcast 70 F Time (24hr) Start: 7:50 Time (24hr) Finish: 8:15 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 22.4 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1004.6 22.4 Turbidity (NTUs): 10 NTU Verification 20 NTU Standard 100 NTU Standard 800 NTU Standard Acceptance Criteria 19.4 99.8 802 10.3 +/- 3 % Calibration Value Acceptance Criteria Cal Sol Temp (°C) Post Calibration 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) +/- .1 (SU) 4 00 4 04 22.7 NA +/- .1 (SU) 22.7 pH 10 (SU) 10.00 10.00 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 Time (24hr) Finish: 21:45 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 23.4 1014.2 +/- 4°C Aqua TROLL 400. 23.8 Aqua TROLL 400 800 NTU Standard 10 NTU Verification Turbidity (NTUs): Acceptance Criteria 20 NTU Standard 100 NTU Standard 20.6 100 812 10.3 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 4509 +/- 1% 24.6 NA pH 7 (SU) 7.00 +/- .1 (SU) 23.5 NA 6.98 pH 4 (SU) 4.00 3.99 +/- .1 (SU) 24.3 NA pH 10 (SU) 10.00 9.97 +/- .1 (SU) 23.9 NA 23.6 D.O. (%) 95-105 % N/A 97.1 NA ORP (mV) 228.0 +/- 10 mV NA Calibration Standards Information Certified Value Standard (@ 25°C) **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 21470032 4/30/2023 PM pH 4 (SU) 4.00 AIR pH 7 (SU) 7.00 РМ 21380102 AIR 4/30/2023 PM pH 10 (SU) 10.00 AIR 20080056 4/30/2023 Specific Conductance 4,490 (µS/cm) 4490 4/30/2023 21470032 AIR ORP (mV) 228.0 AIR 21140143 4/30/2023 Turbidity - 20 NTU 5/31/2023 20.0 A1168 Hach Turbidity - 100 NTU 100 Hach A1027 1/31/2023 Turbidity - 800 NTU 800 Hach A1103 4/30/2023 Turbidity - 10 NTU 10.0 A1071 3/31/2023 Hach Instruments **Calibrated Within** Manufacturer Model Serial Number Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 850724 Yes Turbidity Meter 19010C073360 Yes Hach 2100Q NIST Thermometer Thomas Instruments **NIST Thermometer** 221620133 Expiration Date: 6/28/2024 **Explanations:** NA

Prepared By:

Review By:

John Myer

John Myer

Date:

Date:

8/31/2022

9/22/2022

20 hr myon

20 WO Myon

Signature:

Signature:

	Project Name: Plant Name: Plant Address: Project Number: Goal/Task:	Arkwright Groundwater Sa Plant Arkwright 5001 Arkwright Road, Mac 175569434 Groundwater Sampling		Date: 8/31/2022 Page 1	of <u>1</u>
Morning (AM) Calibration			Calibrated By:	Emily Scheibe	n
Weather:			overcast		
Time (24hr) Start:	8:00	Annuatanna Cuitauia	Time (24hr) Finish:	8:38	
Temperature (°C)	) <b>:</b>	Acceptance Criteria	Baro	metric Pressure (mbar):	
NIST Thermometer:	24.0	+/- 4°C	Local Weather Station:	1015.0	
Aqua TROLL 400:	23.6	17-40	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 (°C)	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 Scheibe	n
Weather:			Sunny		
Time (24hr) Start:	15:55	Acceptance Criteria	Time (24hr) Finish:	16:15	
Temperature (°C)	):	Acceptance Chiena		metric 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 %
Specific Conductance 4490 (µS/cm)	Calibration Value	Verification	Acceptance Criteria +/- 1 %	Cal Sol Temp (°C)	Notes:
	4490	4484.5			NA NA
pH 7 (SU)	7.00 4.00	7.08 4.08	+/1 (SU) +/1 (SU)	26.0 26.5	NA NA
pH 4 (SU)			+/1 (SU)	26.2	
pH 10 (SU)	10.00	9.98	95-105 %	27.5	NA NA
D.O. (%)	<i>N/A</i> 228.0	98.1 227.8	95-105 % +/- 10 mV	26.7	NA NA
ORP (mV)	220.0	_		26.7	INA
		Calibration Standards Info			
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
AM pH 7 (SU)	7.00 10.00	AIR AIR	21380102 20080056	4/1/202 4/1/202	
AM pH 10 (SU) PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
PM pH 4 (SU) PM pH 7 (SU)	7.00	AIR	21380102	4/1/202	
PM pH 10 (SU)	10.00	AIR	20080056	4/1/202	
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/202	
ORP (mV)	228.0	AIR	22200085	8/1/202	
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023 (JM	
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023 (JM	,
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023 (JM	
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023 (JM	9/22/22)
		Instruments		Calibrated V	Vithin
	Manufacturer	Model	Serial Number	Acceptance C	
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:

Review By:

Emily Scheiben

John Myer

Date:

Date:

8/31/2022

9/22/2022

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20hromya

Signature:

Signature:

**Project Name:** Arkwright Groundwater Sampling Plant Name: Plant Arkwright Date: 8/31/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: Bryan Pennell Weather: Mostly sunny, 22 C Time (24hr) Start: 7:40 Time (24hr) Finish: 8:10 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 19.2 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1004.3 20.1 Turbidity (NTUs): 100 NTU Standard 20 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 (°C) 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 +/- .1 (SU) pH 4 (SU) 20.1 4 00 3.99 NA +/- .1 (SU) pH 10 (SU) 10.00 9.99 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 Time (24hr) Finish: 19:32 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 26.2 1012.7 +/- 4°C Aqua TROLL 400. 25.1 Aqua TROLL 400 800 NTU Standard 10 NTU Verification Turbidity (NTUs): 100 NTU Standard Acceptance Criteria 20 NTU Standard 19.4 100 803 9.93 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4,490 4,487.60 +/- 1% 25.1 NA pH 7 (SU) +/- .1 (SU) 25.6 7.00 7.01 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 25.5 D.O. (%) 95-105 % N/A 100.4 NA ORP (mV) 221.9 221.7 +/- 10 mV NA **Calibration Standards Information** Certified Value Standard (@ 25°C) **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 21470032 4/1/2023 PM pH 4 (SU) 4.00 AIR pH 7 (SU) 7.00 РМ 21380102 AIR 4/1/2023 PM pH 10 (SU) 10.00 AIR 20080056 4/1/2023 Specific Conductance 4,490 (µS/cm) 4490 21470032 4/1/2023 AIR ORP (mV) 228.0 AIR 21140143 4/1/2023 Turbidity - 20 NTU 5/1/2023 20.0 A1168 Hach Turbidity - 100 NTU 100 Hach A1027 1/1/2023 Turbidity - 800 NTU 800 Hach A1103 4/1/2023 10.0 A1071 3/1/2023 Turbidity - 10 NTU Hach Instruments **Calibrated Within** Manufacturer Model **Serial Number** Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 728623 Turbidity Meter 20030C083517 Hach 2100Q NIST Thermometer Thomas Instruments **NIST Thermometer** 221620123 Expiration Date: 6/28/2024 **Explanations:** NA

Prepared By:

Review By:

Bryan Pennell

John Myer

Date:

Date:

8/31/2022

9/22/2022

Signature:

Signature:

John Myon

**Project Name:** Arkwright Groundwater Sampling Plant Name: Plant Arkwright Date: 9/1/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: John Myer Weather: Sunny 70 F Time (24hr) Start: 8:25 Time (24hr) Finish: 8:55 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 21.7 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1005.3 21.9 Turbidity (NTUs): 10 NTU Verification 20 NTU Standard 100 NTU Standard 800 NTU Standard Acceptance Criteria 20.0 101 798 10.3 +/- 3 % Cal Sol Temp (°C) Calibration Value Post Calibration Acceptance Criteria 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 +/- .1 (SU) pH 4 (SU) 4 00 4 03 22.5 NA +/- .1 (SU) pH 10 (SU) 10.00 9.93 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 Time (24hr) Finish: 21:00 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 23.3 1014.9 +/- 4°C Aqua TROLL 400. 23.7 Aqua TROLL 400 10 NTU Verification Turbidity (NTUs): 800 NTU Standard Acceptance Criteria 20 NTU Standard 100 NTU Standard 20.1 102 797 10.3 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 4505 +/- 1% 24.8 NA pH 7 (SU) 7.00 +/- .1 (SU) 25.1 7.05 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. (%) 95-105 % 25.2 N/A 95.9 NA ORP (mV) 228.0 226.1 +/- 10 mV NA Calibration Standards Information Certified Value Standard (@ 25°C) **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 21470032 4/30/2023 PM pH 4 (SU) 4.00 AIR pH 7 (SU) 7.00 РМ 21380102 4/30/2023 AIR PM pH 10 (SU) 10.00 AIR 20080056 4/30/2023 Specific Conductance 4,490 (µS/cm) 4490 4/30/2023 21470032 AIR ORP (mV) 228.0 AIR 21140143 4/30/2023 Turbidity - 20 NTU 5/31/2023 20.0 Hach A1168 Turbidity - 100 NTU 100 Hach A1027 1/31/2023 Turbidity - 800 NTU 800 Hach A1103 4/30/2023 Turbidity - 10 NTU 10.0 A1071 3/31/2023 Hach Instruments **Calibrated Within** Manufacturer Model Serial Number Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 850724 Yes Turbidity Meter 19010C073360 Yes Hach 2100Q NIST Thermometer Thomas Instruments **NIST Thermometer** 221620133 Expiration Date: 6/28/2024 **Explanations:** NA

Prepared By:

Review By:

John Myer

John Myer

Date:

Date:

9/1/2022

9/22/2022

20hromya

20 WOMER

Signature:

Signature:

	Project Name:	Arkwright Groundwater Sai			
	Plant Name:	Plant Arkwright	9	Date: 9/1/2022	
	Plant Address:	5001 Arkwright Road, Mac	on, GA 31210		
	Project Number:	175569434		Page 1	of 1
	Goal/Task:	Groundwater Sampling			
Morning (AM) Calibration			Calibrated By:	Emily Scheibe	n
Weather:			Sunny, 23		
Time (24hr) Start:	8:15	Acceptance Criteria	Time (24hr) Finish:	8:55	
Temperature (°C)		,		metric Pressure (mbar):	
NIST Thermometer:	25.7 24.7	+/- 4°C	Local Weather Station:	1015.2 1003.3	
Aqua TROLL 400: Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	Aqua TROLL 400: 800 NTU Standard	10 NTU Verification	Acceptance Criteria
ruibidity (N105).	20.0 Standard	100 N 10 Standard	778	10.3	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	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 Scheibe	n
Weather:			Overcast, 29		
Time (24hr) Start:	17:35	Acceptance Criteria	Time (24hr) Finish:	17:55	
Temperature (°C)				metric Pressure (mbar):	
NIST Thermometer:	24.4	+/- 4°C	Local Weather Station:	1015.1	
Aqua TROLL 400: Turbidity (NTUs):	25.4 20 NTU Standard	100 NTU Standard	Aqua TROLL 400: 800 NTU Standard	1003.8 10 NTU Verification	Acceptance Criteria
rurbialty (NTOS).	19.8	100 N 10 Standard	783	10.3	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	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 NA
pH 4 (SU)	4.00	4.06	+/1 (SU)	26.12	NA 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
, 7 <sub>1</sub>		Calibration Standards Info	rmation		
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
AM pH 7 (SU)	7.00	AIR	21380102	4/1/202	
AM pH 10 (SU)	10.00	AIR	20080056	4/1/202	
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
PM pH 7 (SU) PM pH 10 (SU)	7.00	AIR AIR	21380102	4/1/202 4/1/202	
PM pH 10 (SU) Specific Conductance 4,490 (µS/cm)	10.00 4490	AIR	20080056	4/1/202	
ORP (mV)	228.0	AIR	21470032 22200085	8/1/202	
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/2023 (JM	
Turbidity - 100 NTU	100	Hach	A1027	1/1/2023 (JM	
Turbidity - 800 NTU	800	Hach	A1103	4/1/2023 (JM	,
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023 (JM	,
		Instruments		Calibrated V	,
	Manufacturer	Model	Serial Number	Acceptance C	
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:

Review By:

Emily Scheiben

John Myer

Date:

Date:

9/1/2022

9/22/2022

Signature:

Signature:

20 hr myon

**Project Name:** Arkwright Groundwater Sampling Plant Name: Plant Arkwright Date: 9/1/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: Bryan Pennell Weather: Sunny, 21 C Time (24hr) Start: 8:10 Time (24hr) Finish: 8:40 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 17.8 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 17.9 1004.6 Turbidity (NTUs): 100 NTU Standard 20 NTU Standard 800 NTU Standard 10 NTU Verification Acceptance Criteria 20.1 102 809 10.1 +/- 3 % Cal Sol Temp (°C) Calibration Value Post Calibration Acceptance Criteria 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 +/- .1 (SU) pH 4 (SU) 17.9 4 00 3.98 NA +/- .1 (SU) pH 10 (SU) 10.00 10.02 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 Partly cloudy, 26 C Weather: Time (24hr) Start: 18:33 Time (24hr) Finish: Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 22.2 1014.8 +/- 4°C Aqua TROLL 400. 21.4 Aqua TROLL 400 800 NTU Standard 10 NTU Verification Turbidity (NTUs): Acceptance Criteria 20 NTU Standard 100 NTU Standard 20.3 98.5 798 10.3 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4,490 4451.1 +/- 1% 21.4 NA pH 7 (SU) +/- .1 (SU) 22.3 7.00 7.03 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. (%) 95-105 % 22.5 N/A 101.9 NA ORP (mV) 229.2 +/- 10 mV 23.1 NA **Calibration Standards Information** Certified Value Standard (@ 25°C) **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 21470032 4/1/2023 PM pH 4 (SU) 4.00 AIR pH 7 (SU) 7.00 РМ 21380102 AIR 4/1/2023 PM pH 10 (SU) 10.00 AIR 20080056 4/1/2023 Specific Conductance 4,490 (µS/cm) 4490 21470032 4/1/2023 AIR ORP (mV) 228.0 AIR 21140143 4/1/2023 Turbidity - 20 NTU 5/1/2023 20.0 A1168 Hach Turbidity - 100 NTU 100 Hach A1027 1/1/2023 Turbidity - 800 NTU 800 Hach A1103 4/1/2023 10.0 A1071 3/1/2023 Turbidity - 10 NTU Hach Instruments **Calibrated Within** Manufacturer Model **Serial Number** Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 728623 Turbidity Meter 20030C083517 Hach 2100Q NIST Thermometer Thomas Instruments **NIST Thermometer** 221620123 Expiration Date: 6/28/2024 **Explanations:** NA

Prepared By:

Review By:

Bryan Pennell

John Myer

Date:

Date:

9/1/2022

9/22/2022

Signature:

Signature:

**Project Name:** Arkwright Groundwater Sampling Plant Name: Plant Arkwright Date: 9/2/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: John Myer Weather: Sunny 70 F Time (24hr) Start: 7:30 Time (24hr) Finish: 7:55 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 21.6 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 21.9 1007.8 Turbidity (NTUs): 100 NTU Standard 10 NTU Verification 20 NTU Standard 800 NTU Standard Acceptance Criteria 20.4 102 814 10.3 +/- 3 % Calibration Value Post Calibration Acceptance Criteria Cal Sol Temp (°C) 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 +/- .1 (SU) pH 4 (SU) 4 00 4 00 22.9 NA +/- .1 (SU) 22.9 pH 10 (SU) 10.00 10.00 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 Sunny 85 F Weather: Time (24hr) Start: 16:35 Time (24hr) Finish: Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 31.1 1017.6 +/- 4°C Aqua TROLL 400. 30.0 Aqua TROLL 400 10 NTU Verification Turbidity (NTUs): 800 NTU Standard Acceptance Criteria 20 NTU Standard 100 NTU Standard 19.7 103 779 10.1 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 4454 +/- 1% 30.2 NA pH 7 (SU) 7.00 +/- .1 (SU) 29.8 6.98 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. (%) 29.9 95-105 % N/A 98.2 NA ORP (mV) 228.0 221.6 +/- 10 mV NA Calibration Standards Information Certified Value Standard (@ 25°C) **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 21470032 4/30/2023 PM pH 4 (SU) 4.00 AIR pH 7 (SU) 7.00 РМ 21380102 4/30/2023 AIR PM pH 10 (SU) 10.00 AIR 20080056 4/30/2023 Specific Conductance 4,490 (µS/cm) 4490 4/30/2023 21470032 AIR ORP (mV) 228.0 AIR 21140143 4/30/2023 Turbidity - 20 NTU 5/31/2023 20.0 Hach A1168 Turbidity - 100 NTU 100 Hach A1027 1/31/2023 Turbidity - 800 NTU 800 Hach A1103 4/30/2023 Turbidity - 10 NTU 10.0 A1071 3/31/2023 Hach Instruments **Calibrated Within** Manufacturer Model Serial Number Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 850724 Yes Turbidity Meter 19010C073360 Yes Hach 2100Q NIST Thermometer Thomas Instruments **NIST Thermometer** 221620133 Expiration Date: 6/28/2024

NA

Signature:

Signature:

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20 WOMER

**Explanations:** 

Prepared By:

Review By:

John Myer

John Myer

Date:

Date:

9/2/2022

**Project Name:** Arkwright Groundwater Sampling Plant Name: Plant Arkwright Date: 9/2/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 Page of 1 Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: **Emily Scheiben** Weather: Clear, 23 C Time (24hr) Start: 7:20 Time (24hr) Finish: 7:40 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 24.4 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1006.2 23.5 Turbidity (NTUs): 100 NTU Standard 10 NTU Verification 20 NTU Standard 800 NTU Standard Acceptance Criteria 20.4 98.3 787 10.2 +/- 3 % Cal Sol Temp (°C) Calibration Value Post Calibration Acceptance Criteria 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 +/- .1 (SU) pH 4 (SU) 23.5 4 00 4 02 NA +/- .1 (SU) 23.5 pH 10 (SU) 10.00 10.00 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 Time (24hr) Finish: Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 26.1 1018.9 +/- 4°C Aqua TROLL 400. 26.3 Aqua TROLL 400 10 NTU Verification Turbidity (NTUs): 100 NTU Standard 800 NTU Standard Acceptance Criteria 20 NTU Standard 20.6 99.5 803 10.3 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 4464.1 +/- 1% 27.3 NA pH 7 (SU) 7.00 +/- .1 (SU) 26.6 7.02 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. (%) 27.6 101.0 95-105 % N/A NA ORP (mV) 228.0 +/- 10 mV 27.6 NA Calibration Standards Information Certified Value Standard (@ 25°C) **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 10.00 4/1/2023 AM pH 10 (SU) AIR 20080056 PM pH 4 (SU) 4.00 AIR 21470032 4/1/2023 ΡМ pH 7 (SU) 7.00 AIR 21380102 4/1/2023 pH 10 (SU) 10.00 20080056 4/1/2023 PM AIR Specific Conductance 4,490 (µS/cm) 4490 AIR 21470032 4/1/2023 ORP (mV) 228.0 AIR 22200085 8/1/2023 Turbidity - 20 NTU 5/1/2023 (JM 9/22/22) 20.0 Hach A1168 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 **Calibrated Within** Serial Number Manufacturer Model Acceptance Criteria Water Quality Meter InSitu AquaTroll 400 850033 yes Turbidity Meter Hach 2100Q 21030D000600 yes NIST Thermometer **NIST Thermometer** Thomas Instruments 221620127 Expiration Date: 6/24/2024

Date:

Date:

9/2/2022

9/22/2022

Emily Scheiben

John Myer

NA (JM 9/22/22)

Signature:

Signature:

20hromyon

**Explanations:** 

Prepared By:

Review By:

	Project Name: Plant Name: Plant Address:	Arkwright Groundwater Sa Plant Arkwright 5001 Arkwright Road, Mac	· · ·	Date: 9/2/2022	
	Project Number:	175569434	OII, GA 31210	 Page 1	of 1
	Goal/Task:	Groundwater Sampling		rage	<u> </u>
Morning (AM) Calibration			Calibrated By:	Bryan Pennell	
Weather:			Mostly cloudy, 21 C	Dryan i cililen	
Time (24hr) Start:	7:23		Time (24hr) Finish:	7:49	
Temperature (°C		Acceptance Criteria	· · ·	metric Pressure (mbar):	
NIST Thermometer:	16.5		Local Weather Station:	1017.7	
Aqua TROLL 400:	17.5	+/- 4°C	Aqua TROLL 400:	1007.1	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
rarbiaity (itros).	20.3	102	790	10.2	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (μS/cm)	4,490	4.492.21	+/- 1 %	17.4	NA NA
pH 7 (SU)	7.00	6.97	+/1 (SU)	16.1	NA NA
pH 4 (SU)	4.00	4.00	+/1 (SU)	17.5	NA NA
pH 10 (SU)	10.00	10.03	+/1 (SU)	16.6	NA NA
D.O. (%)			95-105 %		
	N/A	103.4		17.8	NA 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		, tocoptained emena		metric 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	Verification	Acceptance Criteria	Cal Sol Temp (°C)	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 Info	ormation		
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
AM pH 7 (SU)	7.00	AIR	21380102	4/1/202	
AM pH 10 (SU)	10.00	AIR	20080056	4/1/202	
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
PM pH 7 (SU)	7.00	AIR	21380102	4/1/202	
PM pH 10 (SU)	10.00	AIR	20080056	4/1/202	
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/202	
ORP (mV)	228.0	AIR	21140143	4/1/202	
Turbidity - 20 NTU	20.0	Hach	A1168	5/1/202	
Turbidity - 100 NTU	100	Hach	A1027	1/1/202	
Turbidity - 800 NTU Turbidity - 10 NTU	800 10.0	Hach Hach	A1103 A1071	4/1/202 3/1/202	
Turbidity - 10 NTO	10.0		A1071	3/1/202	<u> </u>
	Manufacturer	Instruments Model	Serial Number	Calibrated W Acceptance C	
Water Quality Meter	InSitu	AquaTroll 400	728623	Υ	
Turbidity Meter	Hach	2100Q	20030C083517	Υ	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620123	Expiration Date: 6/28/2024	
Evalanations			NΔ		

9/1/2022

9/22/2022

Date:

Date:

Prepared By:

Review By:

Bryan Pennell

John Myer

Signature: 12

Signature: 2010 Myon

	Project Name: Plant Name: Plant Address: Project Number: Goal/Task:	Arkwright Groundwater Sa Plant Arkwright 5001 Arkwright Road, Mac 175569434 Groundwater Sampling		Date: 9/6/2022 Page 1	_ of <u>1</u>
Morning (AM) Calibration			Calibrated By:	Emily Scheibe	n
Weather:			Sunny		
Time (24hr) Start:	11:30	Acceptance Criteria	Time (24hr) Finish:	12:05	
Temperature (°C)	):	Acceptance Chiena	Baro	metric Pressure (mbar):	
NIST Thermometer:	25.6	+/- 4°C	Local Weather Station:	1018.1	
Aqua TROLL 400:	25.4	.,- 4 0	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 (°C)	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 Scheibe	n
Weather:			partly cloudy		
Time (24hr) Start:	19:00	Ato Cuitouis	Time (24hr) Finish:	19:30	
Temperature (°C)	):	Acceptance Criteria	Baro	metric Pressure (mbar):	
NIST Thermometer:	29.0	+/- 4°C	Local Weather Station:	1015.5	;
Aqua TROLL 400:	29.3	+7-4 0	Aqua TROLL 400:	1004.8	3
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	Verification	Acceptance Criteria	Cal Sol Temp (°C)	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 Info	ormation		
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
AM pH 7 (SU)	7.00	AIR	21380102	4/1/202	
AM pH 10 (SU)	10.00	AIR	20080056	4/1/202	
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
PM pH 7 (SU)	7.00	AIR	21380102	4/1/202	
PM pH 10 (SU)	10.00	AIR	20080056	4/1/202	
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/202	
ORP (mV) Turbidity - 20 NTU	228.0 20.0	AIR Hach	22200085 A1168	8/1/202 5/1/2023 (JM	
Turbidity - 20 NTO	100	Hach	A1108 A1027	1/1/2023 (JM	
Turbidity - 100 NTU	800	Hach	A1103	4/1/2023 (JM	
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/2023 (JM	
raisially 10 miles	10.0	•	711071	,	,
	Manufacturer	Instruments Model	Serial Number	Calibrated V	
Water Quality Meter	InSitu	AquaTroll 400	850033	Acceptance C yes	interia.
Turbidity Meter	Hach	2100Q	19010C073360	yes	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 6/24/2024	
Explanations:			NA (JM 9/22/2022)		•

9/6/2022

9/22/2022

Signature:

Signature:

Date:

Date:

Emily Scheiben

John Myer

Prepared By:

Review By:

**Project Name:** Arkwright Groundwater Sampling Plant Name: Plant Arkwright Date: 9/7/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: John Myer Weather: Overcast 73 F Time (24hr) Start: 7:40 Time (24hr) Finish: 8:05 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 22.1 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1004.2 21.1 Turbidity (NTUs): 100 NTU Standard 20 NTU Standard 800 NTU Standard 10 NTU Verification Acceptance Criteria 19.8 97.3 821 9.74 +/- 3 % Calibration Value Acceptance Criteria Cal Sol Temp (°C) Post Calibration 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 +/- .1 (SU) pH 4 (SU) 21.5 4 00 4 00 NA +/- .1 (SU) 21.4 pH 10 (SU) 10.00 10.05 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 Time (24hr) Finish: 22:35 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 20.3 1014.4 +/- 4°C Aqua TROLL 400. 18.9 Aqua TROLL 400 10 NTU Verification Turbidity (NTUs): 800 NTU Standard Acceptance Criteria 20 NTU Standard 100 NTU Standard 19.9 103 800 10.3 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 4508 +/- 1% 20.1 NA pH 7 (SU) 7.00 +/- .1 (SU) 20.7 7.10 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 20.2 D.O. (%) 95-105 % N/A 96.0 NA ORP (mV) 228.0 231.2 +/- 10 mV 20.5 NA Calibration Standards Information Certified Value Standard (@ 25°C) **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 21470032 4/30/2023 PM pH 4 (SU) 4.00 AIR pH 7 (SU) 7.00 РМ 21380102 AIR 4/30/2023 PM pH 10 (SU) 10.00 AIR 20080056 4/30/2023 Specific Conductance 4,490 (μS/cm) 4490 4/30/2023 21470032 AIR ORP (mV) 228.0 AIR 21140143 4/30/2023 Turbidity - 20 NTU 8/31/2023 20.0 Hach A2126 Turbidity - 100 NTU 100 Hach A2026 4/30/2023 4/30/2023 Turbidity - 800 NTU 800 Hach A2025 A2026 4/30/2023 Turbidity - 10 NTU 10.0 Hach Instruments **Calibrated Within** Manufacturer Model Serial Number Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 728623 Yes Turbidity Meter 15030C039579 Yes Hach 2100Q NIST Thermometer Thomas Instruments **NIST Thermometer** 221620123 Expiration Date: 6/28/2024 **Explanations:** NA

Prepared By:

Review By:

John Myer

John Myer

Date:

Date:

9/7/2022

9/22/2022

20hromyon

20 WOMER

Signature:

Signature:

**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 of 1 Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: **Emily Scheiben** Weather: overcast Time (24hr) Start: 7:30 Time (24hr) Finish: 8:30 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 24.5 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 24.2 1002.7 Turbidity (NTUs): 100 NTU Standard 10 NTU Verification 20 NTU Standard 800 NTU Standard Acceptance Criteria 19.5 98.6 786 9.89 +/- 3 % Post Calibration Cal Sol Temp (°C) Calibration Value Acceptance Criteria 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 +/- .1 (SU) pH 4 (SU) 24.2 4 00 4 03 NA +/- .1 (SU) 24.3 pH 10 (SU) 10.00 9.96 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** Partly cloudy Weather: Time (24hr) Start: 18:10 Time (24hr) Finish: 18:40 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 29.1 1010.2 +/- 4°C Aqua TROLL 400. 29.3 Aqua TROLL 400 10 NTU Verification Turbidity (NTUs): 800 NTU Standard Acceptance Criteria 20 NTU Standard 100 NTU Standard 20.0 101 782 9.99 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 4475.6 +/- 1% 30.8 NA pH 7 (SU) 7.00 +/- .1 (SU) 29.3 7.03 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. (%) 29.3 95-105 % N/A 95.5 NA ORP (mV) 228.0 219.0 +/- 10 mV NA Calibration Standards Information Certified Value Standard (@ 25°C) **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 10.00 4/1/2023 AM pH 10 (SU) AIR 20080056 PM pH 4 (SU) 4.00 AIR 21470032 4/1/2023 ΡМ pH 7 (SU) 7.00 AIR 21380102 4/1/2023 pH 10 (SU) 10.00 20080056 4/1/2023 PM AIR Specific Conductance 4,490 (µS/cm) 4490 AIR 21470032 4/1/2023 ORP (mV) 228.0 AIR 22200085 8/1/2023 Turbidity - 20 NTU 5/1/2023 (JM 9/22/22) 20.0 Hach A1168 Turbidity - 100 NTU 100 Hach A1027 1/1/2023 (JM 9/22/22) Turbidity - 800 NTU 800 4/1/2023 (JM 9/22/22) Hach A1103 Turbidity - 10 NTU 10.0 Hach A1071 3/1/2023 (JM 9/22/22) Instruments **Calibrated Within** Manufacturer Model **Serial Number** Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 850033 yes Turbidity Meter 2100Q 19010C073360 Hach yes NIST Thermometer Thomas Instruments **NIST Thermometer** 221620127 Expiration Date: 6/24/2024

9/7/2022

9/22/2022

Date:

Date:

NA (JM 9/22/22)

Signature:

Signature:

20 hroming

**Explanations:** 

Prepared By:

Review By:

**Emily Scheiben** 

John Myer

**Project Name:** Arkwright Groundwater Sampling Plant Arkwright **Plant Name:** Date: 9/7/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: Jackson Bankston Weather: Overcast 75 F Time (24hr) Start: 11:30 Time (24hr) Finish: 12:00 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 25.5 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1007.8 26.2 Turbidity (NTUs): 100 NTU Standard 20 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 (°C) 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) +/- .1 (SU) 25.6 4 00 4 00 NA +/- .1 (SU) 25.7 pH 10 (SU) 10.00 10.00 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 Sunny 85 F Weather: Time (24hr) Start: 18:45 Time (24hr) Finish: 19:00 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 25.4 1017.6 +/- 4°C Aqua TROLL 400. 25.6 Aqua TROLL 400 Turbidity (NTUs): 800 NTU Standard 10 NTU Verification Acceptance Criteria 20 NTU Standard 100 NTU Standard 20.6 100 812 10.2 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (uS/cm) 4490 4470 +/- 1% 25.2 NA pH 7 (SU) 7.00 +/- .1 (SU) 24.9 7.00 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. (%) 95-105 % 24.9 N/A 102.1 NA ORP (mV) 228.0 226.9 +/- 10 mV NA Calibration Standards Information Certified Value Standard (@ 25°C) Brand Lot Number **Expiration Date** ΑM 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 pH 4 (SU) 21470032 4/30/2023 PM 4.00 AIR pH 7 (SU) 21380102 РМ 7.00 AIR 4/30/2023 PM pH 10 (SU) 10.00 AIR 20080056 4/30/2023 Specific Conductance 4,490 (µS/cm) 4490 21470032 4/30/2023 AIR ORP (mV) 228.0 AIR 21140143 4/30/2023 Turbidity - 20 NTÚ 20.0 5/31/2023 A1168 Hach Turbidity - 100 NTU 100 Hach A1027 1/31/2023 Turbidity - 800 NTU 800 Hach A1103 4/30/2023 Turbidity - 10 NTU 10.0 A1071 3/31/2023 Hach Instruments **Calibrated Within** Manufacturer Model Serial Number Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 850724 Yes Turbidity Meter 2100Q 19010C073360 Yes Hach NIST Thermometer Thomas Instruments **NIST Thermometer** 221620133 Expiration Date: 6/28/2024 **Explanations:** NA

Prepared By:

Review By:

Jackson Bankston

Edgar Smith

Date:

Date:

9/7/2022

9/15/2022

Signature:

Signature:

dgar Smith

**Project Name:** Arkwright Groundwater Sampling **Plant Name:** Plant Arkwright Date: 9/8/2022 5001 Arkwright Road, Macon, GA 31210 Plant Address: **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: John Mver Weather: Sunny 69 F Time (24hr) Start: 8:25 Time (24hr) Finish: 8:45 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 20.4 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 999.6 20.6 Turbidity (NTUs): 100 NTU Standard 10 NTU Verification 20 NTU Standard 800 NTU Standard Acceptance Criteria 20.1 100 808 10.0 +/- 3 % Cal Sol Temp (°C) Calibration Value Post Calibration Acceptance Criteria 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 +/- .1 (SU) pH 4 (SU) 21.2 4 00 4 00 NA +/- .1 (SU) 21.1 pH 10 (SU) 10.00 10.06 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 Time (24hr) Finish: Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 34.5 1009.8 +/- 4°C Aqua TROLL 400. 36.7 Aqua TROLL 400 10 NTU Verification Turbidity (NTUs): 800 NTU Standard Acceptance Criteria 20 NTU Standard 100 NTU Standard 20.1 99.5 782 10.0 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria 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. (%) 32.1 95-105 % N/A 98.7 NA ORP (mV) 228.0 232.4 +/- 10 mV NA Calibration Standards Information Certified Value Standard (@ 25°C) **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 4/30/2023 10.00 AIR AM pH 10 (SU) 20080056 21470032 PM pH 4 (SU) 4.00 AIR 4/30/2023 PM pH 7 (SU) 7.00 AIR 21380102 4/30/2023 10.00 AIR 20080056 4/30/2023 PM pH 10 (SU) 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 A1103 4/30/2023 Hach Turbidity - 10 NTU 10.0 Hach A1071 3/31/2023 Instruments **Calibrated Within** Manufacturer Model Serial Number Acceptance Criteria Water Quality Meter InSitu AquaTroll 400 728623 Yes 20030C083517 Turbidity Meter Hach 2100Q Yes NIST Thermometer Thomas Instruments NIST Thermometer 221620123 Expiration Date: 6/28/2024 **Explanations:** NA

9/8/2022

9/22/2022

Date:

Date:

Prepared By:

Review By:

John Myer

John Myer

20hromyon

20hromyon

Signature:

Signature:

**Project Name:** Arkwright Groundwater Sampling **Plant Name:** Plant Arkwright Date: 10/20/2022 Plant Address: 5001 Arkwright Road, Macon, GA 31210 **Project Number:** 175569434 of 1 Page Goal/Task: Groundwater Sampling Morning (AM) Calibration Calibrated By: Jackson Bankston Weather: Clear 36 F Time (24hr) Start: 8:15 Time (24hr) Finish: 9:15 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): NIST Thermometer: 2.6 Local Weather Station: +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 1009.9 5.3 Turbidity (NTUs): 20 NTU Standard 100 NTU Standard 800 NTU Standard 10 NTU Verification Acceptance Criteria 20.6 99.4 815 +/- 3 % Calibration Value Acceptance Criteria Cal Sol Temp (°C) Post Calibration Notes: Specific Conductance 4,490 (µS/cm) 4490 4492 +/- 1 % 10.0 NA pH 7 (SU) 7.00 7.02 +/- .1 (SU) 97 NA pH 4 (SU) +/- .1 (SU) 9.2 4 00 4 06 NA +/- .1 (SU) pH 10 (SU) 10.00 10.10 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 Time (24hr) Finish: 14:00 Acceptance Criteria Barometric Pressure (mbar): Temperature (°C): Local Weather Station: NIST Thermometer: 21.7 0.6 +/- 4°C Aqua TROLL 400. 21.5 Aqua TROLL 400 Turbidity (NTUs): 10 NTU Verification 800 NTU Standard Acceptance Criteria 20 NTU Standard 100 NTU Standard 20.0 100 784 10.0 +/- 3 % Calibration Value Verification Cal Sol Temp (°C) Notes: Acceptance Criteria Specific Conductance 4490 (µS/cm) 4490 +/- 1% 15.7 NA pH 7 (SU) 7.00 +/- .1 (SU) 15.5 NA 7.01 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. (%) 95-105 % 21.3 N/A 100.3 NA ORP (mV) 247.8 Calibration Standards Information **Certified Value** Standard (@ 25°C) **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 21470032 4/30/2023 PM pH 4 (SU) 4.00 AIR pH 7 (SU) 7.00 РМ 21380102 AIR 4/30/2023 PM pH 10 (SU) 10.00 AIR 20080056 4/30/2023 Specific Conductance 4,490 (μS/cm) 4490 4/30/2023 21470032 AIR ORP (mV) 228.0 AIR 21140143 4/30/2023 Turbidity - 20 NTU 20.0 A1168 6/30/2023 Hach Turbidity - 100 NTU 100 Hach A1027 1/31/2023 Turbidity - 800 NTU 800 Hach A1103 4/30/2023 Turbidity - 10 NTU 10.0 A1071 3/31/2023 Hach Instruments **Calibrated Within** Manufacturer Model Serial Number Acceptance Criteria Water Quality Meter AquaTroll 400 InSitu 851413 No Turbidity Meter 13110C029655 Hach 2100Q NIST Thermometer Thomas Instruments **NIST Thermometer** 221620127 Expiration Date: 6/28/2024 **Explanations:** Specific Conductivity drifted out of calibration by EOD.

Prepared By:

Review By:

Jackson Bankston

Brian Steele

Date:

Date:

10/20/2022

12/12/2022

Jackson Bembster

Signature:

Signature:

 Project Name:
 Arkwright Groundwater Sampling
 Date:
 1/31/2023

 Plant Name:
 Plant Arkwright
 Date:
 1/31/2023

 Plant Address:
 5001 Arkwright Road, Macon, GA 31210
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 175569434
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	Goal/Task:	Groundwater Sampling			
Morning (AM) Calibration			Calibrated By:	Jackson Bankst	on
Weather:			Cloudy, 55 degrees		
Time (24hr) Start:	7:00	Assautance Cuitavia	Time (24hr) Finish:	7:28	
Temperature (°C	C):	- Acceptance Criteria	Baro	metric Pressure (mbar):	
NIST Thermometer:	16.3	+/- 4°C	Local Weather Station:	1021.5	
Aqua TROLL 400:	17.1	<del>+</del> /- 4 C	Aqua TROLL 400:	1007.6	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	20.4	101	789	10.1	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (μS/cm)	4490	4462.5	+/- 1 %	18.6	NA
pH 7 (SU)	7.00	7.02	+/1 (SU)	18.2	NA
pH 4 (SU)	4.00	4.00	+/1 (SU)	18.7	NA
pH 10 (SU)	10.00	10.05	+/1 (SU)	18.5	NA
D.O. (%)	N/A	102.8	95-105 %	16.6	NA
ORP (mV)	228.0	222.5	+/- 10 mV	19.5	NA NA
Afternoon (PM) Calibration Verification	220.0	ELL.0	Verification By:	Jackson Bankston	
Weather:			Cloudy, 60	Odokson Bankst	011
Time (24hr) Start:	17:25		Time (24hr) Finish:	17:35	
Temperature (°C		Acceptance Criteria		metric Pressure (mbar):	
NIST Thermometer:	16.3		Local Weather Station:	1020.4	
Agua TROLL 400:	16.9	+/- 4°C	Aqua TROLL 400:	1007.9	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
• ,	20.3	97.5	806	9.92	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (µS/cm)	4490	4456.3	+/- 1 %	19.4	NA
pH 7 (SU)	7.00	6.94	+/1 (SU)	18.8	NA
pH 4 (SU)	4.00	4.04	+/1 (SU)	18.6	NA
(US) 10 Hq	10.00	10.01	+/1 (SU)	18.3	NA
D.O. (%)	N/A	97.3	95-105 %	16.8	NA NA
ORP (mV)	228.0	231.1	+/- 10 mV	16.6	NA NA
Ora (iiiv)	220.0	Calibration Standards Info		10.0	14/1
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
AM pH 7 (SU)	7.00	AIR	22140169	8/1/202	
AM pH 10 (SU)	10.00	AIR	22110130	8/1/202	
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
PM pH 7 (SU)	7.00	AIR	22140169	8/1/202	
PM pH 10 (SU)	10.00	AIR	22110130	8/1/202	
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/202	
ORP (mV)	228.0	AIR	21140143	4/1/202	
Turbidity - 20 NTU	20.0	Hach	A1168	May-23	
Turbidity - 100 NTU	100	Hach	A2239	Dec-23	
Turbidity - 800 NTU	800	Hach	A1103	Apr-23	
Turbidity - 10 NTU	10.0	Hach	A1071	Mar-23	
		Instruments		Calibrated W	lithin
	Manufacturer	Model	Serial Number	Acceptance C	
Water Quality Meter	InSitu	AquaTroll 400	883530	Yes	
Turbidity Meter	Hach	2100Q	15030C038370	Yes	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620123	Expiration Date:	June 28 2024
Explanations:			None		
Prepared By:Jacl	kson Bankston Date:	1/31/2023	Signature:		
Poviou Pv:	Ivlan Quintal Data:	4/17/2022	Signatura: 7	Dulan Quint	

 Project Name:
 Arkwright Groundwater Sampling
 Date:
 1/31/2023

 Plant Name:
 Plant Arkwright
 Date:
 1/31/2023

 Plant Address:
 5001 Arkwright Road, Macon, GA 31210
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 Project Number:
 Groundwater Sampling
 Groundwater Sampling
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	Goal/Task:	Groundwater Sampling			
Morning (AM) Calibration			Calibrated By:	John Myer	
Weather:			Cloudy 53 F		
Time (24hr) Start:	6:10	Assertance Cuitoria	Time (24hr) Finish:	6:41	
Temperature (°C	c):	Acceptance Criteria	Baro	ometric Pressure (mbar):	
NIST Thermometer:	19.1	+/- 4°C	Local Weather Station:	1009.1	
Aqua TROLL 400:	20.1	+/- 4 C	Aqua TROLL 400:	1006.4	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	19.9	100	798	9.91	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (μS/cm)	4490	4494	+/- 1 %	19.7	NA
pH 7 (SU)	7.00	7.02	+/1 (SU)	19.6	NA
pH 4 (SU)	4.00	4.00	+/1 (SU)	19.8	NA
pH 10 (SU)	10.00	10.05	+/1 (SU)	19.6	NA
D.O. (%)	N/A	100.0	95-105 %	20.0	NA
ORP (mV)	235.9	235.5	+/- 10 mV	19.8	NA NA
fternoon (PM) Calibration Verification	200.0	200.0	Verification By:	John Myer	14/1
, ,				John Myer	
Weather:	21:10		Clear 62 F	21:40	
Time (24hr) Start:		Acceptance Criteria	Time (24hr) Finish:		
Temperature (°C NIST Thermometer:	ارہ 21.5		Local Weather Station:	ometric Pressure (mbar): 1008.5	
Aqua TROLL 400:	21.4	+/- 4°C	Aqua TROLL 400:	1008.5	
Turbidity (NTUs):	21.4 20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
ruibluity (N105).	20 N TO Standard	98.6	795	10.3	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (µS/cm)	4490	4448	+/- 1 %	21.1	NA
pH 7 (SU)			+/1 (SU)	20.9	
<u> </u>	7.00	7.04			NA
pH 4 (SU)	4.00	4.00	+/1 (SU)	21.1	NA
pH 10 (SU)	10.00	10.03	+/1 (SU)	20.8	NA
D.O. (%)	N/A	98.0	95-105 %	20.9	NA
ORP (mV)	228.0	232.8	+/- 10 mV	21.0	NA
		Calibration Standards Info	ormation		
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	
AM pH 4 (SU)	4.00	AIR	21470032	4/30/20:	
AM pH 7 (SU)	7.00	AIR	21380102	4/30/20	23
AM pH 10 (SU)	10.00	AIR	20080056	4/30/20:	
PM pH 4 (SU)	4.00	AIR	21470032	4/30/20:	
PM pH 7 (SU)	7.00	AIR	21380102	4/30/20	
PM pH 10 (SU)	10.00	AIR	20080056	4/30/20	
Specific Conductance 4,490 (μS/cm)	4490	AIR	21470032	4/30/20	
ORP (mV)	228.0	AIR	21140143	4/30/20:	
Turbidity - 20 NTU	20.0	Hach	A2231	12/31/20	
Turbidity - 100 NTU		Hach	A2239	12/31/20	
Turbidity - 800 NTU		Hach	A2231	12/31/20	
Turbidity - 10 NTU	10.0	Hach	A2264	1/31/20	24
		Instruments		Calibrated V	Vithin
	Manufacturer	Model	Serial Number	Acceptance C	riteria:
Vater Quality Meter	InSitu	AquaTroll 400	728566	Yes	
urbidity Meter	Hach	2100Q	22090D000235	Yes	Т
IIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 4/28/2024	
Explanations:			NA		
Prepared By:	John Myer Date:	1/31/2023	Signature:	John Mya	
· · · · · · · · · · · · · · · · · · ·	•			Dulan Ouit	- /
Review By:D	ylan Quintal Date:	4/17/2023	Signature:	Dylan Quint	<u>il</u>

 Project Name:
 Arkwright Groundwater Sampling
 Date:
 1/31/2023

 Plant Address:
 5001 Arkwright Road, Macon, GA 31210
 Date:
 1/31/2023

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Project Number: 175569434 Groundwater Sampling

	Goal/Task:	Groundwater Sampling			
Morning (AM) Calibration			Calibrated By:	Emily Scheiber	า
Weather:			Fog. 50°F		
Time (24hr) Start:	6:30	Assessations Cuitauis	Time (24hr) Finish:	7:40	
Temperature (°C	:):	Acceptance Criteria	Baro	metric Pressure (mbar):	
NIST Thermometer:	22.3	+/- 4°C	Local Weather Station:	1021.5	
Aqua TROLL 400:	20.0	T-4 C	Aqua TROLL 400:	1008.2	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	20.1	101	813	10.0	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (µS/cm)	4490	4483.9	+/- 1 %	20.8	NA
pH 7 (SU)	7.00	7.04	+/1 (SU)	20.6	NA
pH 4 (SU)	4.00	4.01	+/1 (SU)	21.6	NA
pH 10 (SU)	10.00	10.02	+/1 (SU)	20.9	NA
D.O. (%)	N/A	101.0	95-105 %	21.0	NA
ORP (mV)	228.0	227.7	+/- 10 mV	20.6	NA
Afternoon (PM) Calibration Verification			Verification By:	Emily Scheiber	า
Weather:			Clear		
Time (24hr) Start:	21:00		Time (24hr) Finish:	21:50	
Temperature (°C		Acceptance Criteria	` '	metric Pressure (mbar):	
NIST Thermometer:	23.5	. / 480	Local Weather Station:	1020.3	
	22.0	+/- 4°C	Agua TROLL 400:	1007.3	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
• ` `	20.5	99.6	816	10.1	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (μS/cm)	4,490	4489.3	+/- 1 %	22.0	NA
pH 7 (SU)	7.00	7.03	+/1 (SU)	22.2	NA
pH 4 (SU)	4.00	4.04	+/1 (SU)	22.0	NA
pH 10 (SU)	10.00	10.02	+/1 (SU)	22.2	NA NA
D.O. (%)	N/A	101.2	95-105 %	22.4	NA NA
ORP (mV)	228.0	224.7	+/- 10 mV	22.4	NA NA
ORI (IIIV)	220.0	Calibration Standards Info		22.7	INA
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
AM pH 7 (SU)	7.00	AIR	22140169	8/1/202	
AM pH 10 (SU)	10.00	AIR	22110130	8/1/202	
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
PM pH 7 (SU)	7.00	AIR	22140169	8/1/202	
PM pH 10 (SU)	10.00	AIR	22110130	8/1/202	
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/202	
ORP (mV)	228.0	AIR	22200085	8/1/202	-
Turbidity - 20 NTU	20.0	Hach	A2264	Jan-24	
Turbidity - 100 NTU	100	Hach	A2231	Dec-23	
Turbidity - 800 NTU	800	Hach	A2239	Dec-23	
Turbidity - 10 NTU	10.0	Hach	A2231	Dec-23	
		Instruments		Calibrated W	/ithin
	Manufacturer	Model	Serial Number	Acceptance C	
Water Quality Meter	InSitu	AquaTroll 400	728550	Υ	
Turbidity Meter	Hach	2100Q	22090D000086	Y	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620133	Expiration Date: 6/28/2024	
Explanations:			None		
					-

1/31/2023

4/17/2023

Signature:

Signature:

Date:

Date:

Prepared By:

Review By:

Emily Scheiben

Dylan Quintal

 Project Name:
 Arkwright Groundwater Sampling
 Date:
 2/1/2023

 Plant Name:
 Plant Arkwright
 Date:
 2/1/2023

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	Project Number:	1/5509434		Page1	1
	Goal/Task:	Groundwater Sampling			
Norning (AM) Calibration			Calibrated By:	Jackson Bankst	ton
Weather:			Cloudy, 55 degrees		
Time (24hr) Start:	7:00	A ntones Critoria	Time (24hr) Finish:	7:28	
Temperature (°C		- Acceptance Criteria	, ,	ometric Pressure (mbar):	
NIST Thermometer:	16.8	. / 400	Local Weather Station:	1020.6	3
Aqua TROLL 400:	18.3	+/- 4°C	Aqua TROLL 400:	1008.6	3
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
• • •	20.2	103	777	10.2	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (μS/cm)	4490	4471.8	+/- 1 %	17.4	NA
pH 7 (SU)	7.00	7.03	+/1 (SU)	17.4	NA
pH 4 (SU)		3.99	+/1 (SU)	17.6	NA
pH 10 (SU)	10.00	10.09	+/1 (SU)	17.5	NA
D.O. (%)		101.3	95-105 %	16.8	NA NA
ORP (mV)		226.2	+/- 10 mV	17.5	NA NA
<u>`</u>	220.0	220.2			
fternoon (PM) Calibration Verification			Verification By:	Jackson Bankst	ion
Weather:			Cloudy, 60 degrees		
Time (24hr) Start:	17:45	Acceptance Criteria	Time (24hr) Finish:	18:11	
Temperature (°C		·		metric Pressure (mbar):	
NIST Thermometer:	19.9	+/- 4°C	Local Weather Station:	1022.3	
Aqua TROLL 400:	23.0		Aqua TROLL 400:	1008.8	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	19.8	99.5	811	9.79	+/- 3 %
0	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (µS/cm)	4490	4482.3	+/- 1 %	18.8	NA
pH 7 (SU)		6.99	+/1 (SU)	18.4	NA
pH 4 (SU)		4.00	+/1 (SU)	18.5	NA
pH 10 (SU)	10.00	10.03	+/1 (SU)	19.2	NA
D.O. (%)	N/A	96.4	95-105 %	17.3	NA
ORP (mV)	228.0	228.4	+/- 10 mV	19.0	NA
		Calibration Standards Info	ormation		
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	23
AM pH 7 (SU)	7.00	AIR	22140169	8/1/202	23
AM pH 10 (SU)	10.00	AIR	22110130	8/1/202	23
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	23
PM pH 7 (SU)	7.00	AIR	22140169	8/1/202	23
PM pH 10 (SU)	10.00	AIR	22110130	8/1/202	23
Specific Conductance 4,490 (µS/cm)	4490	AIR	21470032	4/1/202	23
ORP (mV)		AIR	21140143	4/1/202	
Turbidity - 20 NTÚ	20.0	Hach	A1168	May-2	3
Turbidity - 100 NTU		Hach	A2239	Dec-2	
Turbidity - 800 NTU	800	Hach	A1103	Apr-23	3
Turbidity - 10 NTU	10.0	Hach	A1071	Mar-23	3
		Instruments		Calibrate d V	Mish i.e.
	Manufacturer	Model	Serial Number	Calibrated V Acceptance C	
Vater Quality Meter	InSitu	AquaTroll 400	883530	Yes	
urbidity Meter	Hach	2100Q	15030C038370	Yes	
IST Thermometer	Thomas Instruments	NIST Thermometer	221620123		June 28 2024
Explanations:			None		
Prepared By:Jacl	kson Bankston Date:	2/1/2023	Signature:		
Review By: D	ylan Quintal Date:	4/17/2023	Signature: Z	Dulan Quint	al.
TOVIEW DyD	Date.	7/11/2020	Gigilature	- your your	<u></u>

 Project Name:
 Arkwright Groundwater Sampling
 Date:
 2/1/2023

 Plant Name:
 Plant Arkwright
 Date:
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	Goal/Task:	Groundwater Sampling		rage	UI
	Goal/Task.	Groundwater Sampling			
Morning (AM) Calibration			Calibrated By:	John Myer	
Weather:			Overcast 58 F	-	
Time (24hr) Start:	6:05		Time (24hr) Finish:	6:30	
Temperature (°C		Acceptance Criteria		ometric Pressure (mbar):	
NIST Thermometer:	23.0		Local Weather Station:	1008.1	
Agua TROLL 400:	22.6	+/- 4°C	Aqua TROLL 400:	1005.1	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
rurbialty (NTOS):	19.8	99.1	806	9.86	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Supplifie Conductores 4 400 (vS/cm)			· · · · · · · · · · · · · · · · · · ·	22.3	
Specific Conductance 4,490 (µS/cm)	4490	4521	+/- 1 %		NA
pH 7 (SU)		7.02	+/1 (SU)	22.2	NA
pH 4 (SU)	4.00	4.00	+/1 (SU)	22.3	NA
pH 10 (SU)	10.00	10.05	+/1 (SU)	22.2	NA
D.O. (%)	N/A	100.1	95-105 %	22.3	NA
ORP (mV)	232.6	232.5	+/- 10 mV	22.3	NA NA
· ,	202.0	202.0			14/1
Afternoon (PM) Calibration Verification			Verification By:	John Myer	
Weather:			Cloudy 59 F		
Time (24hr) Start:	20:55	Acceptance Criteria	Time (24hr) Finish:	21:20	
Temperature (°C	C):	Acceptance Citteria	Baro	ometric Pressure (mbar):	
NIST Thermometer:	23.1	+/- 4°C	Local Weather Station:	1010.2	
Aqua TROLL 400:	22.3	<del>+</del> /- 4 C	Aqua TROLL 400:	1007.4	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
•	20.1	101	798	10.3	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (µS/cm)	4490	4466	+/- 1 %	22.1	NA
pH 7 (SU)	7.00	7.05	+/1 (SU)	22.8	NA NA
• • •				22.1	
pH 4 (SU)	4.00	4.00	+/1 (SU)		NA
pH 10 (SU)	10.00	10.05	+/1 (SU)	21.5	NA
D.O. (%)	N/A	97.2	95-105 %	21.6	NA
ORP (mV)	228.0	231.5	+/- 10 mV	21.4	NA
		Calibration Standards Info	ormation		
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Dato
AM pH 4 (SU)		AIR	21470032	4/30/202	
AM pH 7 (SU)					
		AIR	21380102	4/30/202	
AM pH 10 (SU)		AIR	20080056	4/30/202	
PM pH 4 (SU)	4.00	AIR	21470032	4/30/202	
PM pH 7 (SU)	7.00	AIR	21380102	4/30/202	
PM pH 10 (SU)	10.00	AIR	20080056	4/30/202	
Specific Conductance 4,490 (μS/cm)		AIR	21470032	4/30/202	
ORP (mV)	228.0	AIR	21140143	4/30/202	
Turbidity - 20 NTU	20.0	Hach	A2231	12/31/20	
Turbidity - 100 NTU		Hach	A2239	12/31/20	
Turbidity - 800 NTU	800	Hach	A2231	12/31/20	
Turbidity - 10 NTU	10.0	Hach	A2264	1/31/202	24
		Instruments		0-17	P41.1
	Manufacturer	Model	Serial Number	Calibrated W Acceptance C	
Water Quality Meter	InSitu	AguaTroll 400	728566	Yes	illoriu.
Turbidity Meter	Hach	2100Q	22090D000235	Yes	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 4/28/2024	
WIST THEIMOMETER	THOMAS INSTITUTIONS	NIST THEIIIIOIIIEIEI		Expiration Date. 4/20/2024	
Explanations:			NA		
Prepared By:	John Myer Date:	2/1/2023	Signature: 2010	O Myon	
Review By: D	ylan Quintal Date:	4/17/2023	Signature:	Dulan Quin	tal

 Project Name:
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	Goal/Task:	Groundwater Sampling			<u> </u>
Morning (AM) Calibration			Calibrated By:	Bryan Pennell	
Weather:			Cloudy, 17 °C	-	
Time (24hr) Start:	12:29	A Continuis	Time (24hr) Finish:	12:58	
Temperature (°C	;):	Acceptance Criteria		metric Pressure (mbar):	
NIST Thermometer:	15.6	. / 400	Local Weather Station:	1022.7	,
Aqua TROLL 400:	15.8	+/- 4°C	Aqua TROLL 400:	1010.9	)
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	20.0	102	790	9.83	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (μS/cm)	4490	4487.0	+/- 1 %	16.10	NA
pH 7 (SU)	7.00	7.03	+/1 (SU)	16.30	NA
pH 4 (SU)	4.00	3.99	+/1 (SU)	15.80	NA
pH 10 (SU)	10.00	10.09	+/1 (SU)	16.30	NA
D.O. (%)	N/A	101.81	95-105 %	16.24	NA
ORP (mV)	240.8	240.2	+/- 10 mV	16.10	NA NA
` '	210.0	210.2			
fternoon (PM) Calibration Verification Weather:			Verification By:  Mostly cloudy, 15 °C	Bryan Pennell	
Time (24hr) Start:	19:28		Time (24hr) Finish:	20:27	
Temperature (°C		Acceptance Criteria		metric Pressure (mbar):	
NIST Thermometer:	18.8		Local Weather Station:	1022.7	,
Agua TROLL 400:	18.4	+/- 4°C	Aqua TROLL 400:	1012.4	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
3 ( 3 )	19.8	101	796	10.1	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (μS/cm)	4490	4512.0	+/- 1 %	18.35	NA
pH 7 (SU)	7.00	7.05	+/1 (SU)	17.90	NA
pH 4 (SU)	4.00	4.02	+/1 (SU)	18.99	NA NA
pH 10 (SU)	10.00	10.07	+/1 (SU)	18.12	NA NA
D.O. (%)	N/A	99.51	95-105 %	18.34	NA NA
ORP (mV)	235.7	235.7	+/- 10 mV	17.74	NA NA
Old (iiiv)	200.1	Calibration Standards Inf		11.17	IVA
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
AM pH 7 (SU)	7.00	AIR	21380102	4/1/202	23
AM pH 10 (SU)	10.00	AIR	20080056	4/1/202	23
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	23
PM pH 7 (SU)	7.00	AIR	21380102	4/1/202	23
PM pH 10 (SU)	10.00	AIR	20080056	4/1/202	23
Specific Conductance 4,490 (μS/cm)	4490	AIR	21470032	4/1/202	23
ORP (mV)	228.0	AIR	21140144	4/1/202	
Turbidity - 20 NTU	20.0	Hach	A2231	12/1/202	
Turbidity - 100 NTU	100	Hach	A2239	12/1/202	
Turbidity - 800 NTU	800	Hach	A2231	12/1/202	
Turbidity - 10 NTU	10.0	Hach	A2264	1/1/202	24
	Manufastunan	Instruments	Carial Number	Calibrated W	
Vater Quality Meter	Manufacturer InSitu	Model AquaTroll 400	Serial Number 728623	Acceptance C Yes	riteria:
urbidity Meter	Hach	2100Q	22080D000173	Yes	
UST Thermometer	Thomas Instruments	NIST Thermometer	221620193	Expiration Date: 6/28/2024	
Explanations:	monde moduments	THE THOMBURE	None		
Prepared By:Br	yan Pennell Date	:2/1/2023	Signature:	yllas	
Review By: D	ylan Quintal Date	: 4/17/2023	Signature:	Dylan Quin	tal

 Project Name:
 Arkwright Groundwater Sampling

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Date: 2/1/2023

Goal/Task: Groundwater Sampling

Morning (AM) Calibration			Calibrated By:	Emily Scheibe	n
Weather	·		Clear, 50°F	,	
Time (24hr) Star			Time (24hr) Finish:	7:15	
Temperature (		Acceptance Criteria		ometric Pressure (mbar):	
NIST Thermometer			Local Weather Station:	1020.6	3
Aqua TROLL 400		+/- 4°C	Aqua TROLL 400:	1006.6	3
Turbidity (NTUs		100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	20.2	100	817	9.99	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (µS/cn	1) 4490	4484.9	+/- 1 %	22.1	NA
pH 7 (SL		7.01	+/1 (SU)	23.0	NA
pH 4 (SL	•	4.01	+/1 (SU)	22.9	NA
pH 10 (SL	,	9.98	+/1 (SU)	22.9	NA NA
D.O. (%		99.4	95-105 %	22.4	NA NA
ORP (mV	•	227.7	+/- 10 mV	22.4	NA NA
•	<u> </u>	221.1			
fternoon (PM) Calibration Verification			Verification By:	Emily Scheibe	Π
Weather Time (24hr) Star			Clear, 55°F Time (24hr) Finish:	21:25	
Temperature (		Acceptance Criteria		ometric Pressure (mbar):	
NIST Thermometer			Local Weather Station:	1022.3	<u> </u>
WOT THEIMOMETER	24.1	+/- 4°C	Aqua TROLL 400:	1009.0	
Turbidity (NTUs		100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
Turblaity (itroo	20.0	100	793	9.97	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (µS/cn		4445.3	+/- 1 %	23.2	NA NA
pH 7 (SL		7.01	+/1 (SU)	21.9	NA NA
pH 4 (SU	1		+/1 (SU)	23.1	
pH 10 (SU		4.00	1 1		NA NA
	,	10.03	+/1 (SU)	21.9	NA
D.O. (%		99.9	95-105 %	21.9	NA
ORP (mV	<b>/</b> ) 228.0	231.0	+/- 10 mV	21.9	NA
Ctandard (@ 25°C)	Contified Value	Calibration Standards Info		Evnivetien	Data
Standard (@ 25°C)  AM pH 4 (SU	Certified Value	Brand	Lot Number	Expiration	
		AIR	21470032	4/1/202 8/1/202	
		AIR AIR	22140169 22110130	8/1/202 8/1/202	
AM pH 10 (SU PM pH 4 (SU					
PM pH 4 (SU PM pH 7 (SU		AIR AIR	21470032 22140169	4/1/202 8/1/202	
PM pH 10 (SU		AIR	22110130	8/1/202	
Specific Conductance 4,490 (µS/cn	,				
ORP (mV		AIR AIR	21470032 22200085	4/1/202 8/1/202	
Turbidity - 20 NT		Hach	A2264	Jan-24	
Turbidity - 100 NT		Hach	A2231	Dec-2	
Turbidity - 800 NT		Hach	A2231	Dec-2	
Turbidity - 10 NT		Hach	A2233	Dec-2	
Tanada, To Ita	10.0	Instruments	,		
	Manufacturer	Model	Serial Number	Calibrated V Acceptance C	
Vater Quality Meter	InSitu	AquaTroll 400	728550	Y	
urbidity Meter	Hach	2100Q	22090D000086	Y	
IIST Thermometer	Thomas Instruments	NIST Thermometer	221620133	Expiration Date: 6/28/2024	
Explanations:			None		
Prepared By:	Emily Scheiben Date:	2/1/2023	Signature: El	nily Scheiben	
				Dulan Quinte	71

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Veather:         Cloudy, 49 degrees           Time (24hr) Start:         7:00         Acceptance Criteria         Time (24hr) Finish:         7:28           Temperature (°C):         Barometric Pressure (mbar):           NIST Thermometer:         15.8         +/- 4°C         Local Weather Station:         1020.7           Aqua TROLL 400:         18.5         4/- 4°C         Aqua TROLL 400:         1009.1		Project Number:	175569434		Page 1	of <u>1</u>
West   Description   County		Goal/Task:	Groundwater Sampling			
West   Description   County	orning (AM) Calibration			Calibrated By:	Jackson Bankst	on
Time (24hr) First   7:00	Weather:					
Temporature (**C):			A Outlands		7:28	
Agua Proc.U. about 1920   100			Acceptance Criteria		ometric Pressure (mbar):	
Agus TROLL 400   16   5			. / 4%	Local Weather Station:	1020.7	•
Calibration Value   Post Calibration   Acceptance Criteria   Acc	Aqua TROLL 400:	18.5	+/- 4 C	Aqua TROLL 400:	1009.1	
Specific Conductance 4,400 (uScm)	Turbidity (NTUs)	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteri
Specific Conductance 4,490 (µSicm)   4490   4483 2   4+71   5   15.0   NA     PH 1 (SU)		20.4	98.5	788	10.1	+/- 3 %
PH 7 (SU)		Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
PH 4 (SU)	Specific Conductance 4,490 (µS/cm)	4490	4483.2	+/- 1 %	15.6	NA
### ### ### ### #### #################	pH 7 (SU)	7.00	7.01	+/1 (SU)	16.0	NA
PH 10 (SU)				+/1 (SU)	16.5	
D.O. (%)   N/A   96.7   95-90-8%   15.0   NA						
Calibration						
Verification   Verification   Verification   Cloudy, 60   Jackson Bankston						
Westher:   Cloudy, 60   Time (24hr) Start: 18:35   Acceptance Criteria   Time (24hr) Finish:   18:55   Sammetric Pressure (mbar):   Local Weather Station:   1018.7   Local We	<u>`</u>	220.0	223.1			
Time (24hr) Start:   18:35   Acceptance Criteria   Time (24hr) Finish:   18:55   Temperature (**C):   8   Standard (**Political Part of the file of	` '				Jackson Bankst	on
Temperature (°C):   Acceptance Uniteres   Barometric Pressure (mbar):						
NIST Thermometer			Acceptance Criteria			
Aqua TRCLL 400: 16.9   Turbidity (NTUs): 20 NTU Standard   10 NTU Standard   800 NTU Standard   10 N			·			
Turbidity (NTUs): 20 NTU Standard   100 NTU Stand			+/- 4°C			
20.6   99.6   810   9.97   +-3 %			100 1/7/1 0/			
Calibration Value	Turbialty (NTUS):					
Specific Conductance 4490 (s/cm)						
PH 7 (SU)   7.00   7.00   7.00   7.10   19.2   NA	Consider Conductores 4400 (s.Class					
PH 4 (SU)		1.00				
PH 10 (SU)	,					
D.O. (%)   N/A   98.1   95-105 %   18.9   NA						
Calibration Standards Information   Standard (@ 25°C)   Certified Value   Brand   Lot Number   Expiration Date						NA
Calibration Standards Information   Standard (@ 25°C)   Certified Value   Brand   Lot Number   Expiration Date	D.O. (%)	N/A	98.1	95-105 %	18.9	NA
Standard (@ 25°C)	ORP (mV)	228.0	227.9	+/- 10 mV	18.5	NA
AM pH 1 (SU) 4.00 AIR 21470032 4/1/2023  AM pH 7 (SU) 7.00 AIR 22140169 8/1/2023  AM pH 10 (SU) 10.00 AIR 22110130 8/1/2023  PM pH 4 (SU) 4.00 AIR 21470032 4/1/2023  PM pH 7 (SU) 7.00 AIR 21470032 4/1/2023  PM pH 7 (SU) 7.00 AIR 22140169 8/1/2023  PM pH 10 (SU) 10.00 AIR 22140169 8/1/2023  PM pH 10 (SU) 10.00 AIR 22140169 8/1/2023  Specific Conductance 4.490 (Js/cm) 4490 AIR 21470032 4/1/2023  GRP (mV) 228.0 AIR 21470032 4/1/2023  Turbidity - 20 NTU 20.0 Hach A1168 May-23  Turbidity - 20 NTU 20.0 Hach A2239 Dec-23  Turbidity - 40 NTU 100 Hach A2239 Dec-23  Turbidity - 800 NTU 800 Hach A1103 Apr-23  Turbidity - 10 NTU 10.0 Hach A1071 Mar-23  Turbidity - 10 NTU 10.0 Hach A1071 Mar-23  Turbidity - 10 NTU 10.0 Hach A1071 Each A2239  Dec-23 Turbidity - 10 NTU 10.0 Hach A1071 Each A2230  Fater Quality Meter InSitu AquaTroll 400 883530 Yes  Wandiducturer Model Serial Number Acceptance Criteria:  **Total Number Acceptance Criteria: Serial Number Acceptance Criteria: None  **Total Number Ac			Calibration Standards Info	ormation		
AM					•	
AM						
PM						
PM	AM pH 10 (SU)	10.00				
PM pH 10 (SU)   10.00						
Specific Conductance 4,490 (µs/icm)   4490   AIR   21470032   4/1/2023						
ORP (mV)         228.0         AIR         21140143         4/1/2023           Turbidity - 20 NTU         20.0         Hach         A1168         May-23           Turbidity - 100 NTU         100         Hach         A2239         Dec-23           Turbidity - 800 NTU         800         Hach         A1103         Apr-23           Turbidity - 10 NTU         10.0         Hach         A1071         Mar-23           Instruments Model         Serial Number         Calibrated Within Acceptance Criteria:           Vater Quality Meter         Instruments         National Number         Acceptance Criteria:           Ves         Hach         2100Q         15030C038370         Yes           ST Thermometer         Thomas Instruments         NIST Thermometer         221620123         Expiration Date:         June 28 2024           Explanations:		1				
Turbidity - 20 NTÚ   20.0						
Turbidity - 100 NTU						
Turbidity - 800 NTU         800         Hach         A1103         Apr-23           Turbidity - 10 NTU         10.0         Hach         A1071         Mar-23           Instruments         Model         Serial Number         Calibrated Within           Acceptance Criteria:         Acceptance Criteria:           Instruments         Model         883530         Yes           Instruments         Prescribidity Meter         Hach         2100Q         15030C038370         Yes           Instrumenter         Thomas Instruments         NIST Thermometer         221620123         Expiration Date:         June 28 2024           Explanations:         None         None         Signature:         Instruments						
Turbidity - 10 NTU						
Instruments   Manufacturer   Model   Serial Number   Acceptance Criteria:						
Manufacturer         Model         Serial Number         Acceptance Criteria:           Jater Quality Meter         InSitu         AquaTroll 400         883530         Yes           Instruction of the properties of t	Turbidity - 10 NTO	10.0	Hach	A1071	Mar-2	3
Value of Author (action of State Quality Meter)         InSitu         AquaTroll 400         883530         Yes           Surbidity Meter         Hach         2100Q         15030C038370         Yes           IST Thermometer         Thomas Instruments         NIST Thermometer         221620123         Expiration Date:         June 28 2024           Explanations:           None    Prepared By: Jackson Bankston Date: 1/31/2023 Signature:						
## Prepared By:Jackson Bankston	Votor Ovolity Motor					riteria:
ST Thermometer Thomas Instruments NIST Thermometer 221620123 Expiration Date: June 28 2024  Explanations: None  Prepared By: Jackson Bankston Date: 1/31/2023 Signature:						
Explanations: None  Prepared By: Jackson Bankston Date:						lune 28 2024
		THOMAS HISBURNORS	MOT Memorie		Expiration Date.	VALID 20 2027
Paview Rv. Dylan Quintal Date: 4/47/2023 Signature: Dylan Quintal						
	Prepared By: Jac	kson Bankston Date	: 1/31/2023	Signature:		

 Project Name:
 Arkwright Groundwater Sampling
 Date:
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 Plant Name:
 Plant Arkwright
 Date:
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Goal/Task: Groundwater Sampling

Morning (AM) Calibration			Calibrated By:	John Myer	
Weather:			Overcast 53 F	·	
Time (24hr) Start:	6:30	Acceptance Criteria	Time (24hr) Finish:	6:55	
Temperature (°C	·):	riccopiance emena		metric Pressure (mbar):	
NIST Thermometer:	23.5	+/- 4°C	Local Weather Station:	1008.5	
Aqua TROLL 400:	22.8	1,7-4 0	Aqua TROLL 400:	1006.0	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	19.9	101	799	10.2	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (μS/cm)	4490	4492	+/- 1 %	22.4	NA
pH 7 (SU)	7.00	7.02	+/1 (SU)	22.3	NA
pH 4 (SU)	4.00	4.00	+/1 (SU)	22.4	NA
pH 10 (SU)	10.00	10.05	+/1 (SU)	22.4	NA
D.O. (%)	N/A	100.1	95-105 %	22.4	NA
ORP (mV)	232.5	232.2	+/- 10 mV	22.4	NA NA
Afternoon (PM) Calibration Verification			Verification By:	John Myer	
Weather:			Showers 51 F	John Myer	
Time (24hr) Start:	21:00		Time (24hr) Finish:	21:15	
Temperature (°C		Acceptance Criteria	, ,	ometric Pressure (mbar):	
NIST Thermometer:	22.7		Local Weather Station:	1006.8	1
Aqua TROLL 400:	19.4	+/- 4°C	Aqua TROLL 400:	1004.3	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
ruibidity (N105).	20.4 20.4	100 N 10 Standard	795	10.3	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (μS/cm)	4490	4476	+/- 1 %	19.3	NA NA
pH 7 (SU)	7.00	7.03	+/1 (SU)	18.8	NA NA
• • • •			+/1 (SU)	19.3	
pH 4 (SU)	4.00	4.00	1 1		NA
pH 10 (SU)	10.00	10.04	+/1 (SU)	18.7	NA
D.O. (%)	N/A	97.9	95-105 %	18.8	NA
ORP (mV)	237.9	240.0	+/- 10 mV	18.3	NA
		Calibration Standards Info			
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	
AM pH 4 (SU)	4.00	AIR	21470032	4/30/20:	
AM pH 7 (SU)	7.00	AIR	21380102	4/30/20:	
AM pH 10 (SU)	10.00	AIR	20080056	4/30/20:	
PM pH 4 (SU)	4.00	AIR	21470032	4/30/20	
PM pH 7 (SU)	7.00	AIR	21380102	4/30/20	
PM pH 10 (SU)	10.00	AIR	20080056	4/30/20	
Specific Conductance 4,490 (μS/cm)	4490	AIR	21470032	4/30/20	
ORP (mV)	228.0	AIR	21140143	4/30/20	
Turbidity - 20 NTU	20.0	Hach	A2231	12/31/20	
Turbidity - 100 NTU	100	Hach	A2239	12/31/20	
Turbidity - 800 NTU	800	Hach	A2231	12/31/20	
Turbidity - 10 NTU	10.0	Hach	A2264	1/31/20	<b>24</b>
		Instruments		Calibrated V	
IM/atau Ovalitu Matau	Manufacturer	Model	Serial Number	Acceptance C	riteria:
Water Quality Meter	InSitu	AquaTroll 400	728566	Yes	
Turbidity Meter	Hach	2100Q	22090D000235	Yes A/00/0004	I
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620127	Expiration Date: 4/28/2024	<u> </u>
Explanations:			NA		
Prepared By:	John Myer Date:	2/2/2023	Signature: 20hn		
Review By:Dy	ylan Quintal Date:	4/17/2023	Signature:	Ylan Quinta	<u>l                                     </u>

 Project Name:
 Arkwright Groundwater Sampling
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 Plant Name:
 Plant Arkwright
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	Goal/Task:	Groundwater Sampling			
Iorning (AM) Calibration			Calibrated By:	Bryan Pennell	
Weather:			Cloudy, 11 °C	•	
Time (24hr) Start:	6:57	A Oritorio	Time (24hr) Finish:	7:25	
Temperature (°C	;):	Acceptance Criteria		metric Pressure (mbar):	
NIST Thermometer:	18.2	. / 4%C	Local Weather Station:	1021.3	
Aqua TROLL 400:	18.5	+/- 4°C	Aqua TROLL 400:	1011.2	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	20.3	99.3	788	10.1	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (µS/cm)	4490	4476.9	+/- 1 %	18.17	NA
pH 7 (SU)	7.00	7.02	+/1 (SU)	18.30	NA
pH 4 (SU)	4.00	3.99	+/1 (SU)	18.11	NA
pH 10 (SU)	10.00	10.06	+/1 (SU)	18.33	NA
D.O. (%)	N/A	99.33	95-105 %	17.69	NA NA
ORP (mV)	239.1	238.7	+/- 10 mV	17.41	NA NA
, /1	200.1	230.1			
ternoon (PM) Calibration Verification			Verification By:	Bryan Pennell	
Weather:	19:35		Light rain, 11 °C Time (24hr) Finish:	19:53	
Time (24hr) Start: Temperature (°C		Acceptance Criteria		metric Pressure (mbar):	
NIST Thermometer:	19.1		Local Weather Station:	1018.6	
Aqua TROLL 400:	18.7	+/- 4°C	Aqua TROLL 400:	1018.3	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteri
ruibidity (N105).	20 N 10 Standard	99.8	779	9.74	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (μS/cm)	4490	4475.6	+/- 1 %	18.73	NA
pH 7 (SU)	7.00	7.00	+/1 (SU)	18.73	
					NA
pH 4 (SU)	4.00	3.99	+/1 (SU)	18.72	NA
pH 10 (SU)	10.00	10.00	+/1 (SU)	18.97	NA
D.O. (%)	N/A	101.03	95-105 %	16.38	NA
ORP (mV)	238.9	238.8	+/- 10 mV	18.30	NA
		<b>Calibration Standards Inf</b>	ormation		
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	3
AM pH 7 (SU)	7.00	AIR	21380102	4/1/202	3
AM pH 10 (SU)	10.00	AIR	20080056	4/1/202	
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
PM pH 7 (SU)	7.00	AIR	21380102	4/1/202	
PM pH 10 (SU)	10.00	AIR	20080056	4/1/202	
Specific Conductance 4,490 (μS/cm)	4490	AIR	21470032	4/1/202	
ORP (mV)	228.0	AIR	21140144	4/1/202	
Turbidity - 20 NTU	20.0	Hach	A2231	12/1/202	
Turbidity - 100 NTU	100	Hach	A2239	12/1/202	
Turbidity - 800 NTU	800	Hach	A2231	12/1/202	
Turbidity - 10 NTU	10.0	Hach	A2264	1/1/202	4
	Manufacturer	Instruments Model	Serial Number	Calibrated W Acceptance C	
/ater Quality Meter	InSitu	AquaTroll 400	728623	Yes	
urbidity Meter	Hach	2100Q	22080D000173	Yes	
IST Thermometer	Thomas Instruments	NIST Thermometer	221620193	Expiration Date: 6/28/2024	
Explanations:			None		
Prepared By:Br	yan Pennell Date:	2/2/2023	Signature: 12	of late	
Review By: Dy	ylan Quintal Date:	4/17/2023	Signature:	ylan Quinta	el

Project Name: Plant Name: Plant Address: Arkwright Groundwater Sampling
Plant Arkwright
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Goal/Task: Groundwater Sampling

Morning (AM) Calibration			Calibrated By:	Emily Scheiber	1
Weather:			Clear, 49ºF		
Time (24hr) Start:	6:30	Acceptance Criteria	Time (24hr) Finish:	7:20	
Temperature (°C	):	Acceptance Chiena	Baro	metric Pressure (mbar):	
NIST Thermometer:	22.0	./ 400	Local Weather Station:	1020.7	
Agua TROLL 400:	22.1	+/- 4°C	Aqua TROLL 400:	1007.3	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
•	19.9	99.9	800	9.92	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (μS/cm)	4490	4495.1	+/- 1 %	22.0	NA
pH 7 (SU)	7.00	7.00	+/1 (SU)	22.1	NA
pH 4 (SU)	4.00	3.97	+/1 (SU)	22.0	NA
pH 10 (SU)			+/1 (SU)	22.3	
	10.00	10.03	95-105 %		NA NA
D.O. (%)	N/A	101.4		22.1	NA NA
ORP (mV)	228.0	227.7	+/- 10 mV	22.0	NA
Afternoon (PM) Calibration Verification			Verification By:	Emily Scheiber	1
Weather:			Rain, 52ºF		
Time (24hr) Start:	19:55	Acceptance Criteria	Time (24hr) Finish:	20:20	
Temperature (°C	,	,			ric Pressure (mbar):
NIST Thermometer:	21.1	+/- 4°C	Local Weather Station:	1018.7	
	19.6		Aqua TROLL 400:	1005.0	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	20.2	102	796	10.1	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (μS/cm)	4490	4509.1	+/- 1 %	20.1	NA
pH 7 (SU)	7.00	7.04	+/1 (SU)	20.8	NA
pH 4 (SU)	4.00	4.00	+/1 (SU)	20.1	NA
pH 10 (SU)	10.00	10.02	+/1 (SU)	21.3	NA
D.O. (%)	N/A	101.1	95-105 %	21.1	NA NA
ORP (mV)	228.0	229.4	+/- 10 mV	21.7	NA NA
OKF (IIIV)				21.1	INA
04 1 1/0 0500		Calibration Standards Info			
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
AM pH 7 (SU)	7.00	AIR	22140169	8/1/202	
AM pH 10 (SU)	10.00	AIR	22110130	8/1/202	
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
PM pH 7 (SU)	7.00	AIR	22140169	8/1/202	
PM pH 10 (SU)	10.00	AIR	22110130	8/1/202	3
Specific Conductance 4,490 (μS/cm)	4490	AIR	21470032	4/1/202	
ORP (mV)	228.0	AIR	22200085	8/1/202	
Turbidity - 20 NTU	20.0	Hach	A2264	Jan-24	
Turbidity - 100 NTU	100	Hach	A2231	Dec-23	
Turbidity - 800 NTU	800	Hach	A2239	Dec-23	
Turbidity - 10 NTU	10.0	Hach	A2231	Dec-23	
		Instruments		Calibrated W	ithin
	Manufacturer	Model	Serial Number	Acceptance Co	riteria:
Water Quality Meter	InSitu	AquaTroll 400	728550	Υ	
Turbidity Meter	Hach	2100Q	22090D000086	Y	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620133	Expiration Date: 6/28/2024	<u> </u>
Explanations:			None		
Prepared By:Em	ily Scheiben Date:	2/2/2023		ily Scheiben	
Review By:D	/lan Quintal Date:	4/17/2023	Signature:	ulan Quinta	

 Project Name:
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	Goal/Task:	Groundwater Sampling			
orning (AM) Calibration			Calibrated By:	Jackson Bankst	on
Weather:			light rain, 46 degrees		
Time (24hr) Start:	7:00	Ato Cuitouia	Time (24hr) Finish:	7:28	
Temperature (°C		Acceptance Criteria		metric Pressure (mbar):	
NIST Thermometer:	18.1	. / 490	Local Weather Station:	1020.5	i
Aqua TROLL 400:	20.2	+/- 4°C	Agua TROLL 400:	1010.5	)
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
3 ( )	19.9	97.3	794	10.1	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (µS/cm)		4497.6	+/- 1 %	10.4	NA
pH 7 (SU)		7.06	+/1 (SU)	10.5	NA NA
pH 4 (SU)		4.00	+/1 (SU)	10.1	NA NA
				10.6	
pH 10 (SU)	10.00	10.10	+/1 (SU)		NA
D.O. (%)		98.6	95-105 %	9.5	NA
ORP (mV)	228.0	235.9	+/- 10 mV	9.7	NA
fternoon (PM) Calibration Verification			Verification By:	Jackson Bankst	on
Weather:			Cloudy, 60		
Time (24hr) Start:	17:25	Acceptance Criteria	Time (24hr) Finish:	17:35	
Temperature (°C	<del>)</del> ):	Acceptance Chiena	Baro	metric Pressure (mbar):	
NIST Thermometer:	16.3	+/- 4°C	Local Weather Station:	1023.3	1
Aqua TROLL 400:	16.9	+/- 4 0	Aqua TROLL 400:	1010.6	;
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	20.3	97.5	806	9.92	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (µS/cm)	4490	4508.3	+/- 1 %	14.6	NA
pH 7 (SU)		6.99	+/1 (SU)	15.2	NA NA
pH 4 (SU)		4.01	+/1 (SU)	14.9	NA NA
pH 10 (SU)			+/1 (SU)	14.2	
• • • •		10.07			NA
D.O. (%)		103.3	95-105 %	14.9	NA
ORP (mV)	228.0	230.3	+/- 10 mV	14.7	NA
		Calibration Standards Info			
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	
AM pH 4 (SU)		AIR	21470032	4/1/202	
AM pH 7 (SU)		AIR	22140169	8/1/202	
AM pH 10 (SU)		AIR	22110130	8/1/202	
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	
PM pH 7 (SU)	7.00	AIR	22140169	8/1/202	
PM pH 10 (SU)	10.00	AIR	22110130	8/1/202	.3
Specific Conductance 4,490 (μS/cm)	4490	AIR	21470032	4/1/202	
ORP (mV)		AIR	21140143	4/1/202	3
Turbidity - 20 NTÚ		Hach	A1168	May-23	3
	400			Dec-23	3
Turbidity - 100 NTU	100	Hach	A2239	DC0-20	
	100 800	Hach Hach	A2239 A1103	Apr-23	3
Turbidity - 100 NTU					
Turbidity - 100 NTU Turbidity - 800 NTU	800	Hach	A1103	Apr-23 Mar-23	3
Turbidity - 100 NTU Turbidity - 800 NTU Turbidity - 10 NTU	800 10.0 Manufacturer	Hach Hach Instruments Model	A1103 A1071 Serial Number	Apr-23	3 Vithin
Turbidity - 100 NTU Turbidity - 800 NTU Turbidity - 10 NTU Turbidity - 10 NTU	800 10.0 <b>Manufacturer</b> InSitu	Hach Hach Instruments Model AquaTroll 400	A1103 A1071 Serial Number 883530	Apr-23 Mar-23 Calibrated W Acceptance C Yes	3 Vithin
Turbidity - 100 NTU Turbidity - 800 NTU Turbidity - 10 NTU Turbidity - 10 NTU  /ater Quality Meter urbidity Meter	800 10.0 Manufacturer	Hach Hach Instruments Model AquaTroll 400 2100Q	A1103 A1071 Serial Number 883530 15030C038370	Apr-23 Mar-23 Calibrated W Acceptance C	3 Vithin
Turbidity - 100 NTU Turbidity - 800 NTU Turbidity - 10 NTU Turbidity - 10 NTU  Vater Quality Meter Turbidity Meter	800 10.0 <b>Manufacturer</b> InSitu	Hach Hach Instruments Model AquaTroll 400	A1103 A1071 Serial Number 883530	Apr-23 Mar-23 Calibrated W Acceptance C Yes Yes	3 Vithin
Turbidity - 100 NTU Turbidity - 800 NTU Turbidity - 10 NTU Turbidity - 10 NTU  Vater Quality Meter Turbidity Meter	800 10.0 Manufacturer InSitu Hach	Hach Hach Instruments Model AquaTroll 400 2100Q	A1103 A1071 Serial Number 883530 15030C038370	Apr-23 Mar-23 Calibrated W Acceptance C Yes Yes	} Vithin riteria:
Turbidity - 100 NTU Turbidity - 800 NTU Turbidity - 10 NTU  Turbidity - 10 NTU  Vater Quality Meter  Furbidity Meter  IIST Thermometer  Explanations:	800 10.0 Manufacturer InSitu Hach	Hach Hach Instruments Model AquaTroll 400 2100Q NIST Thermometer	A1103 A1071 Serial Number 883530 15030C038370 221620123	Apr-23 Mar-23 Calibrated W Acceptance C Yes Yes	} Vithin riteria:

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Goal/Task: Groundwater Sampling

Morning (AM) Calibration Calibrated By: Bryan Pennell Light rain, 6 °C Weather: Time (24hr) Start: 6:58 Time (24hr) Finish: 7:26 Acceptance Criteria Temperature (°C): Barometric Pressure (mbar): NIST Thermometer. Local Weather Station: 18.5 +/- 4°C Aqua TROLL 400: Agua TROLL 400. 18 1 10213 Turbidity (NTUs): 20 NTU Standard 100 NTU Standard 800 NTU Standard 10 NTU Verification Acceptance Criteria +/- 3 % 20.1 99.2 787 9.94 Acceptance Criteria Calibration Value Post Calibration Cal Sol Temp (°C) Notes: Specific Conductance 4,490 (µS/cm) 4490 +/- 1 % 18.03 4482 6 NΑ pH 7 (SU) 7.00 7.01 +/- .1 (SU) 18.20 NA pH 4 (SU) 4.00 3.99 +/- .1 (SU) 17.91 NA pH 10 (SU) 18.42 +/- .1 (SU) 10.00 10.05 NA D.O. (%) 95-105 % 15.71 N/A 100.18 NA ORP (mV) 238.6 238.3 +/- 10 mV 17.99 NA Afternoon (PM) Calibration Verification Verification By: Dylan Quintal Weather: Sunny, 13C Time (24hr) Start: 14:20 Time (24hr) Finish: 14:40 Acceptance Criteria Temperature (°C): Barometric Pressure (mbar): Local Weather Station: NIST Thermometer: 15.7 +/- 4°C Aqua TROLL 400: Aqua TROLL 400: 15.0 10118 Turbidity (NTUs): 20 NTU Standard 100 NTU Standard 800 NTU Standard 10 NTU Verification Acceptance Criteria 20.2 100 792 10.2 +/- 3 % Verification **Calibration Value** Acceptance Criteria Cal Sol Temp (°C) Notes: Specific Conductance 4490 (µS/cm) +/- 1 % 16.13 4490 4487 6 NA pH 7 (SU) 7.00 7.06 +/- .1 (SU) 13.76 NA pH 4 (SU) 4.00 4.01 +/- .1 (SU) 16.29 NA pH 10 (SU) +/- .1 (SU) 14.08 10.04 10.00 NA D.O. (%) N/A 102 27 95-105 % 13.82 NA ORP (mV) 246.1 246.0 +/- 10 mV 13.52 NA Calibration Standards Information Standard (@ 25°C) Certified Value Lot Number **Expiration Date** Brand pH 4 (SU) AM 4.00 AIR 21470032 4/1/2023 AM pH 7 (SU) 7.00 AIR 21380102 4/1/2023 pH 10 (SU) AM 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) 4/1/2023 10.00 AIR 20080056 Specific Conductance 4,490 (µS/cm) 4490 AIR 21470032 4/1/2023 ORP (mV) 228.0 AIR 21140144 4/1/2023 Turbidity - 20 NTU 12/1/2023 20.0 Hach A2231 Turbidity - 100 NTU 100 A2239 12/1/2023 Hach Turbidity - 800 NTU 800 Hach A2231 12/1/2023 Turbidity - 10 NTU A2264 1/1/2024 10.0 Hach Instruments Calibrated Within Manufacturer Model Serial Number Acceptance Criteria: Water Quality Meter AguaTroll 400 InSitu 728623 Yes **Turbidity Meter** Hach 2100Q 22080D000173 Yes Expiration Date: NIST Thermometer Thomas Instruments NIST Thermometer 221620193 6/28/2024 **Explanations:** None Prepared By Bryan Pennell Date: 2/2/2023 Signature: Review By: Dylan Quintal Date: 4/17/2023 Signature:

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Arkwright Groundwater Sampling
Plant Arkwright
5001 Arkwright Road, Macon, GA 31210 Date: 2/3/2023

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Morning (AM) Calibration Calibrated By: Emily Scheiben										
Weather:			lighht rain, 45°F							
Time (24hr) Start:	6:30	Acceptance Criteria	Time (24hr) Finish:	7:45						
Temperature (°C	5):	Acceptance Chiena	Baro	metric Pressure (mbar):						
NIST Thermometer:	21.4	+/- 4°C	Local Weather Station:	1020.5	5					
Aqua TROLL 400:	21.1	+/- 4 C	Aqua TROLL 400:	1007.5	5					
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria					
	19.7	100	790	9.78	+/- 3 %					
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:					
Specific Conductance 4,490 (μS/cm)	4490	4480.8	+/- 1 %	21.3	NA					
pH 7 (SU)	7.00	6.98	+/1 (SU)	21.4	NA					
pH 4 (SU)	4.00	3.99	+/1 (SU)	21.3	NA					
pH 10 (SU)	10.00	9.99	+/1 (SU)	21.1	NA					
D.O. (%)	N/A	101.9	95-105 %	21.5	NA NA					
ORP (mV)	228.0	229.1	+/- 10 mV	21.4	NA NA					
	220.0	229.1								
Afternoon (PM) Calibration Verification			Verification By:	Emily Scheibe	n					
Weather:	44.5	Sunny, 43°F								
Time (24hr) Start:	14:10	Acceptance Criteria	Time (24hr) Finish:							
Temperature (°C				metric Pressure (mbar):						
NIST Thermometer:	15.3	+/- 4°C	Local Weather Station:							
- 11 Hz	18.2		Aqua TROLL 400:							
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification Acceptance 10.2 +/- 3 9						
	19.7	100	791							
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:					
Specific Conductance 4490 (μS/cm)	4490	4483.9	+/- 1 %	17.3	NA					
pH 7 (SU)	7.00	6.98	+/1 (SU)	17.1	NA					
pH 4 (SU)	4.00	4.04	+/1 (SU)	17.3	NA					
pH 10 (SU)	10.00	9.95	+/1 (SU)	16.6	NA					
D.O. (%)	N/A	100.5	95-105 %	16.3	NA					
ORP (mV)	228.0	230.4	+/- 10 mV	16.2	NA					
		Calibration Standards Info	ormation							
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date					
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202						
AM pH 7 (SU)	7.00	AIR	22140169	8/1/202	23					
AM pH 10 (SU)	10.00	AIR	22110130	8/1/202	23					
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	23					
PM pH 7 (SU)	7.00	AIR	22140169	8/1/202	23					
PM pH 10 (SU)	10.00	AIR	22110130	8/1/202						
Specific Conductance 4,490 (μS/cm)	4490	AIR	21470032	4/1/202	23					
ORP (mV)	228.0	AIR	22200085	8/1/202						
Turbidity - 20 NTÚ	20.0	Hach	A2264	Jan-2						
Turbidity - 100 NTU	100	Hach	A2231	Dec-2	3					
Turbidity - 800 NTU	800	Hach	A2239	Dec-2	3					
Turbidity - 10 NTU	10.0	Hach	A2231	Dec-2	3					
		Instruments		Calibrated V						
Matan Ovality Matan	Manufacturer	Model	Serial Number	Acceptance C	riteria:					
Water Quality Meter Turbidity Meter	InSitu	AquaTroll 400 2100Q	728550 22090D000086	Y Y						
NIST Thermometer	Hach Thomas Instruments	NIST Thermometer	22090D000086 221620133	Expiration Date: 6/28/2024	1					
Explanations:	Thomas instruments	MOT Memorie	N/A	Expiration Date: 0/20/2024						
Prepared By:En	nily Scheiben Date:	2/3/2023	Signature: <u>EN</u>	uily Scheiben						
Review By:D	ylan Quintal Date:	4/17/2023	Signature:	Dylan Quint	al					

 Project Name:
 Arkwright Groundwater Sampling
 Date:
 2/7/2023

 Plant Name:
 Plant Arkwright
 Date:
 2/7/2023

 Plant Address:
 5001 Arkwright Road, Macon, GA 31210
 Page
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 of
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 Project Number:
 Groundwater Sampling
 Groundwater Sampling
 Page
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 of
 1

	Goal/Task:	Groundwater Sampling			
Morning (AM) Calibration			Calibrated By:	Dylan Quintal	
Weather:			Partly cloudy		
Time (24hr) Start:	8:30	Acceptance Criteria	Time (24hr) Finish:	9:33	
Temperature (°C	c):	Acceptance Chiena	Baro	ometric Pressure (mbar):	
NIST Thermometer:	5.8	+/- 4°C	Local Weather Station:	1026.9	
Aqua TROLL 400:	5.5	77-40	Aqua TROLL 400:	1014.1	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	19.9	99.6	815	10.0	+/- 3 %
	Calibration Value	Post Calibration	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4,490 (μS/cm)	4490	3904.8	+/- 1 %	5.9	NA
pH 7 (SU)	7.00	7.05	+/1 (SU)	6.0	NA
pH 4 (SU)	4.00	3.98	+/1 (SU)	5.9	NA
pH 10 (SU)	10.00	10.10	+/1 (SU)	6.2	NA
D.O. (%)	N/A	97.8	95-105 %	6.0	NA
ORP (mV)	228.0	227.9	+/- 10 mV	4.9	NA
Afternoon (PM) Calibration Verification			Verification By:	DQ	
Weather:			Sunny	- 3	
Time (24hr) Start:	15:00	Annual College	Time (24hr) Finish:	15:29	
Temperature (°C		Acceptance Criteria	` '	ometric Pressure (mbar):	
NIST Thermometer:	25.5	1/ 400	Local Weather Station:	1024.7	
Aqua TROLL 400:	26.0	+/- 4°C	Aqua TROLL 400:	1011.6	
Turbidity (NTUs):	20 NTU Standard	100 NTU Standard	800 NTU Standard	10 NTU Verification	Acceptance Criteria
	20.0	99.4	794	10.1	+/- 3 %
	Calibration Value	Verification	Acceptance Criteria	Cal Sol Temp (°C)	Notes:
Specific Conductance 4490 (μS/cm)	4490	4448	+/- 1 %	21.0	NA
pH 7 (SU)	7.00	7.09	+/1 (SU)	20.3	NA
pH 4 (SU)		4.08	+/1 (SU)	21.0	NA
pH 10 (SU)		10.02	+/1 (SU)	20.0	NA
D.O. (%)		95.4	95-105 %	20.1	NA NA
ORP (mV)	• • • • • • • • • • • • • • • • • • • •	228.1	+/- 10 mV	20.9	NA NA
		Calibration Standards Info			
Standard (@ 25°C)	Certified Value	Brand	Lot Number	Expiration	Date
AM pH 4 (SU)	4.00	AIR	21470032	4/1/202	3
AM pH 7 (SU)	7.00	AIR	21380102	4/1/202	3
AM pH 10 (SU)	10.00	AIR	20080056	4/1/202	3
PM pH 4 (SU)	4.00	AIR	21470032	4/1/202	3
PM pH 7 (SU)	7.00	AIR	21380102	4/1/202	
PM pH 10 (SU)	10.00	AIR	20080056	4/1/202	3
Specific Conductance 4,490 (μS/cm)	4490	AIR	21470032	4/1/202	3
ORP (mV)	228.0	AIR	21140143	4/1/202	3
Turbidity - 20 NTU	20.0	Hach	A1168	6/1/202	
Turbidity - 100 NTU	100	Hach	A2239	1/1/202	3
Turbidity - 800 NTU		Hach	A1103	4/1/202	
Turbidity - 10 NTU	10.0	Hach	A1071	3/1/202	3
		Instruments		Calibrated W	/ithin
Water Quality Meter	Manufacturer	Model AguaTroll 400	Serial Number	Acceptance C	riteria:
Water Quality Meter Turbidity Meter	InSitu Hach	Aqua I roll 400 2100Q	883536 14080C034447	Yes Yes	
NIST Thermometer	Thomas Instruments	NIST Thermometer	221620123	Expiration Date: 6/28/2024	
Explanations:			None		
Prepared By:D	ylan Quintal Date:	2/7/2023	Signature: <u>D</u> u	lan Quintal	
Review By:D	ylan Quintal Date:	4/17/2023	Signature:	Dylan Quin	tal

**C.3 Groundwater & Surface Water Laboratory Analytical Reports** 











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

gel.com

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 AP1

Work Orders: 592388 and 592528

Dear Joju Abraham:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on September 08, 2022 and September 09, 2022. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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.

Vie & Trent

Sincerely,

Erin Trent Project Manager

Purchase Order: GPC82177-0002

Enclosures



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# Certificate of Analysis Report for

GPCC001 Georgia Power Company Client SDG: 592528 GEL Work Order: 592528

### 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.

Price & Frent Reviewed by

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

# Certificate of Analysis Report for

GPCC001 Georgia Power Company Client SDG: 592388 GEL Work Order: 592388

### 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.

Price & Trent Reviewed by

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

# **Certificate of Analysis**

Project:

Client ID:

Report Date: September 22, 2022

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-11 Sample ID: 592528001

Matrix: WG

Collect Date: 08-SEP-22 10:15
Receive Date: 09-SEP-22
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Field Data											
Client collected Field p	H "As Receiv	ved"									
Field pH		6.77			SU			EOS1	09/08/22	1015 231450	8 1
Ion Chromatography											
EPA 300.0 Anions Liqu	uid "As Recei	ved"									
Chloride		1.45	0.0670	0.200	mg/L		1	HXC1	09/16/22	1201 231768	3 2
Fluoride		0.173	0.0330	0.100	mg/L		1				
Sulfate		52.3	0.665	2.00	mg/L		5	HXC1	09/17/22	0122 231768	3 3
Mercury Analysis-CVA	λA										
7470 Cold Vapor Merci	ury, Liquid "A	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/13/22	1312 231512	1 4
Metals Analysis-ICP-M	IS										
SW846 3005A/6020B "	'As Received	"									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/19/22	1603 231476	9 5
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0221	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1				
Boron		0.163	0.00520	0.0150	mg/L	1.00	1				
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1				
Calcium		27.3	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				
Molybdenum		0.00136	0.000200	0.00100	mg/L	1.00	1				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Solids Analysis											
SM2540C Dissolved So	olids "As Rec	eived"									
Total Dissolved Solids		198	2.38	10.0	mg/L			CH6	09/12/22	1120 231510	6 6
The following Prep Me	thods were pe	erformed:									
Method	Description	n		Analyst	Date	7	Γim	e Pr	ep Batch		
SW846 3005A	ICP-MS 3005	5A PREP		CD3	09/12/22	1	630	23	14768		
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		RM4	09/12/22	1	315	23	15120		

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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 ComplianceAP1

Client Sample ID: AP1PZ-11 Project: GPCC00100 Sample ID: 592528001 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch M	Method
The following Ana	alytical Methods were performed:							
Method	Description			F	Analys	st 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	SM 2540C							

### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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# **Certificate of Analysis**

Report Date: September 22, 2022

GPCC00100

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: DUP-02 Sample ID: 592528002

Matrix: WG

Collect Date: 08-SEP-22 12:00
Receive Date: 09-SEP-22
Collector: Client

2528002 Client ID: GPCC001

Project:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography											
EPA 300.0 Anions Liqu	uid "As Recei	ived"									
Chloride		1.41	0.0670	0.200	mg/L		1	HXC1	09/16/22	1232 2317683	1
Fluoride		0.176	0.0330	0.100	mg/L		1				
Sulfate		52.9	0.665	2.00	mg/L		5	HXC1	09/17/22	0255 2317683	2
Mercury Analysis-CVA	λA										
7470 Cold Vapor Merc	ury, Liquid "A	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/13/22	1314 2315121	3
Metals Analysis-ICP-M	IS										
SW846 3005A/6020B '	'As Received										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/19/22	1621 2314769	4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0216	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1				
Boron		0.158	0.00520	0.0150	mg/L	1.00	1				
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1				
Calcium		26.7	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		0.00116	0.000200	0.00100	mg/L	1.00	1				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Solids Analysis											
SM2540C Dissolved So	olids "As Rec	eived"									
Total Dissolved Solids		199	2.38	10.0	mg/L			CH6	09/12/22	1120 2315106	5
The following Prep Me	thods were pe	erformed:									
Method	Description	n		Analyst	Date	-	Γime	Pr	ep Batch		
SW846 3005A	ICP-MS 3005	5A PREP		CD3	09/12/22	1	1630	23	14768		
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		RM4	09/12/22	1	1315	23	15120		

Page 6 of 74 SDG: 592388

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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 ComplianceAP1

Client Sample ID: DUP-02 Project: GPCC00100 Sample ID: 592528002 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	al Methods v	vere performed:							
Method	Description					Analys	st Comments		
1	EPA 300.0					-			
2	EPA 300.0								
3	SW846 7470A	Λ							
4	SW846 3005A	A/6020B							
5	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**

Project:

Client ID:

Report Date: September 22, 2022

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-2 Sample ID: 592528003

Matrix: WG

Collect Date: 08-SEP-22 10:25
Receive Date: 09-SEP-22
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Field Data											
Client collected Fie	eld pH "As Receiv	ved"									
Field pH	•	6.11			SU			EOS1	09/08/22	1025 2314508	1
Ion Chromatograph	hy										
EPA 300.0 Anions	•	ived"									
Chloride	214010 1101000	3.35	0.0670	0.200	mg/L		1	HXC1	09/16/22	1302 2317683	2
Fluoride		0.177	0.0330	0.100	mg/L		1				
Sulfate		616	6.65	20.0	mg/L		50	HXC1	09/17/22	0326 2317683	3
Mercury Analysis-	CVAA										
7470 Cold Vapor N		As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/13/22	1316 2315121	4
Metals Analysis-IC	CP-MS				8						
SW846 3005A/602		"									
Antimony	U U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/19/22	1625 2314769	5
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00		110	02/12/22	1020 2011.70	
Barium		0.0207	0.000670	0.00400	mg/L	1.00					
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		0.0616	0.000300	0.00100	mg/L	1.00	1				
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1				
Lithium		0.0127	0.00300	0.0100	mg/L	1.00	1				
Molybdenum	U	ND	0.000200	0.00100	mg/L		1				
Selenium	U	ND	0.00150	0.00500	mg/L		1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Boron		0.413	0.0520	0.150	mg/L	1.00	10	PRB	09/19/22	1630 2314769	6
Calcium		143	0.800	2.00	mg/L	1.00	10				
Solids Analysis											
SM2540C Dissolve	ed Solids "As Rec	eived"									
Total Dissolved Solids		961	2.38	10.0	mg/L			CH6	09/13/22	1112 2315610	7
The following Prep	Methods were pe	erformed:									
Method	Description	n		Analyst	Date	Т	Гіте	e Pr	ep Batch		
SW846 3005A	ICP-MS 3005			CD3	09/12/22	1	630	23	14768		
SW846 7470A Prep	EPA 7470A 1	Mercury Prep Liquid		RM4	09/12/22	1	1315	23	15120		

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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 ComplianceAP1

Client Sample ID: AP1PZ-2 Project: GPCC00100 Sample ID: 592528003 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description	1				Analys	st Comments		
1	SM 4500-H B	/SW846 9040C, SM 2550B				-			
2	EPA 300.0								
3	EPA 300.0								
4	SW846 7470A	A							
5	SW846 3005A	A/6020B							
6	SW846 3005A	A/6020B							
7	SM 2540C								

### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

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 ComplianceAP1

Client Sample ID: AP1PZ-5 Sample ID: 592528004

Matrix: WG

Collect Date: 08-SEP-22 12:25
Receive Date: 09-SEP-22
Collector: Client

 1PZ-5
 Project:
 GPCC00100

 .528004
 Client ID:
 GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Field Data											
Client collected Fie	eld pH "As Receiv	ved"									
Field pH	1	6.12			SU			EOS1	09/08/22	1225 2314508	1
Ion Chromatograph	ny										
EPA 300.0 Anions	-	ved"									
Chloride	214010 11011001	7.55	0.0670	0.200	mg/L		1	HXC1	09/16/22	1333 2317683	2
Fluoride		0.263	0.0330	0.100	mg/L		1				
Sulfate		1920	26.6	80.0	mg/L		200	HXC1	09/17/22	0356 2317683	3
Mercury Analysis-	CVAA										
7470 Cold Vapor N	Mercury, Liquid "A	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	09/13/22	1318 2315121	4
Metals Analysis-IC	CP-MS										
SW846 3005A/602		"									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/19/22	1641 2314769	5
Arsenic	J	0.00359	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0405	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		0.0332	0.000300	0.00100	mg/L	1.00	1				
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1				
Lithium		0.273	0.00300	0.0100	mg/L	1.00	1				
Molybdenum		0.0410	0.000200	0.00100	mg/L	1.00	1				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00					
Boron		7.44	0.520	1.50	mg/L			PRB	09/19/22	1714 2314769	6
Calcium		552	8.00	20.0	mg/L	1.00	100				
Solids Analysis											
SM2540C Dissolve	ed Solids "As Rec	eived"									
Total Dissolved Solids		3070	2.38	10.0	mg/L			CH6	09/13/22	1112 2315610	7
The following Prep	Methods were pe	erformed:									
Method	Description	n		Analyst	Date	-	Гim	e Pr	ep Batch		
SW846 3005A	ICP-MS 3005	SA PREP		CD3	09/12/22		1630	23	14768		
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		RM4	09/12/22		1315	23	15120		

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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 ComplianceAP1

Client Sample ID: AP1PZ-5 Project: GPCC00100 Sample ID: 592528004 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	al Methods w	vere performed:							
Method	Description	1				Analys	st Comments		
1	SM 4500-H B/	/SW846 9040C, SM 2550B				-			
2	EPA 300.0								
3	EPA 300.0								
4	SW846 7470A	Λ							
5	SW846 3005A	A/6020B							
6	SW846 3005A	A/6020B							
7	SM 2540C								

### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

# **Certificate of Analysis**

Report Date: September 22, 2022

GPCC00100

GPCC001

Project:

Client ID:

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: EB-01 Sample ID: 592388001

Matrix: WQ

Collect Date: 07-SEP-22 09:05
Receive Date: 08-SEP-22
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography											
EPA 300.0 Anions Lic	quid "As Rece	ived"									
Chloride	J	0.186	0.0670	0.200	mg/L		1	JLD1	09/09/22	0300 231414	2 1
Fluoride	U	ND	0.0330	0.100	mg/L		1				
Sulfate	U	ND	0.133	0.400	mg/L		1				
Mercury Analysis-CV	AA										
7470 Cold Vapor Mer	cury, Liquid ".	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1104 231431	1 2
Metals Analysis-ICP-N	MS				Č						
SW846 3005A/6020B	"As Received	1"									
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1	PRB	09/19/22	1134 231417	3
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	J	0.000218	0.000200	0.00100	mg/L	1.00	1				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/19/22	1233 231417	3 4
Solids Analysis											
SM2540C Dissolved S	Solids "As Rec	ceived"									
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	09/09/22	1638 231470	3 5
The following Prep M	ethods were p	erformed:									
Method	Descriptio			Analyst	Date	,	Time	e Pr	ep Batch		
GIVIO 4 6 2005 4	TCD 140 200			GD2	00/00/00		1.600				

 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 ComplianceAP1

Client Sample ID: EB-01 Project: GPCC00100 Sample ID: 592388001 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analyti	cal Methods v	were performed:							
Method	Description	1				Analys	st Comments		
1	EPA 300.0								
2	SW846 7470A	A							
3	SW846 3005A	A/6020B							
4	SW846 3005A	A/6020B							
5	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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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# **Certificate of Analysis**

Project:

Client ID:

1.00

1.00 1

1.00 1

1.00 1

1.00 1

1.00 1

1.00

1.00

1

1

1

1620

1216

PRB

2314177

2314310

09/19/22 1235 2314178

5

mg/L

mg/L

mg/L

mg/L

mg/L

mg/L

mg/L

mg/L

09/09/22

09/09/22

Report Date: September 22, 2022

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

0.00417

0.00406

0.00757

0.00322

ND

ND

ND

ND

J

U

J

U

J

U

U

ICP-MS 3005A PREP

EPA 7470A Mercury Prep Liquid

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1GWA-1 Sample ID: 592388002

Matrix: WG

Collect Date: 07-SEP-22 10:20
Receive Date: 08-SEP-22
Collector: Client

Parameter **Oualifier** Result DL RL Units PF DF Analyst Date Time Batch Method Ion Chromatography EPA 300.0 Anions Liquid "As Received" Chloride 0.0670 0.200 JLD1 09/09/22 0331 2314142 1.86 mg/L Fluoride 0.354 0.0330 0.100mg/L Sulfate 59.4 1.33 4.00 mg/L 10 JLD1 09/09/22 1147 2314142 2 Mercury Analysis-CVAA 7470 Cold Vapor Mercury, Liquid "As Received" 0.0000670 0.000200 Mercury ND mg/L 1.00 AXS5 09/12/22 1106 2314311 3 Metals Analysis-ICP-MS SW846 3005A/6020B "As Received" ND 0.00200 0.00500 1.00 PRB 09/19/22 1138 2314178 Arsenic mg/L 1 0.0523 0.00400 0.000670 mg/L 1.00 Barium 1 Beryllium 0.00131 0.000200 0.000500 mg/L 1.00 1 0.00520 0.0150 Boron 0.109 mg/L 1.00 1 Cadmium 0.000317 0.000300 0.00100 mg/L 1.00 Calcium 18.8 0.08000.200 mg/L 1.00 1

Solids Analysis SM2540C Dissolved Solids "As Received" Total Dissolved Solids 156 2.38 10.0 CH6 09/09/22 1638 2314703 mg/L The following Prep Methods were performed: Prep Batch Method Description Date Time Analyst

CD3

RM4

0.00300

0.000300

0.000500

0.00300

0.000200

0.00150

0.000600

0.00100

0.0100

0.00100

0.00200

0.0100

0.00100

0.00500

0.00200

0.00300

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Chromium

Cobalt

Lithium

Selenium

Thallium

Antimony

SW846 3005A

SW846 7470A Prep

Molybdenum

Lead

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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 ComplianceAP1

Client Sample ID: AP1GWA-1 Project: GPCC00100 Sample ID: 592388002 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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## **Certificate of Analysis**

Report Date: September 22, 2022

GPCC00100

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Arkwright CCR Groundwater ComplianceAP1 Project:

Client Sample ID: AP1GWA-2 Sample ID: 592388003

Matrix: WG

Collect Date: 07-SEP-22 11:55 08-SEP-22 Receive Date: Client Collector:

EPA 7470A Mercury Prep Liquid

Project: Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography											
EPA 300.0 Anions Lic	quid "As Recei	ived"									
Chloride	1	2.22	0.0670	0.200	mg/L		1	JLD1	09/09/22	0402 2314142	1
Fluoride		0.109	0.0330	0.100	mg/L		1				
Sulfate		1.41	0.133	0.400	mg/L		1				
Mercury Analysis-CV	AA										
7470 Cold Vapor Mer	cury, Liquid "	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1107 2314311	2
Metals Analysis-ICP-l	MS										
SW846 3005A/6020B	"As Received	"									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1643 2314178	3
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0330	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1				
Boron		0.0210	0.00520	0.0150	mg/L	1.00	1				
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1				
Calcium		4.98	0.0800	0.200	mg/L	1.00	1				
Chromium	J	0.00501	0.00300	0.0100	mg/L	1.00	1				
Cobalt	J	0.000341	0.000300	0.00100	mg/L	1.00	1				
Lead	U	ND	0.000500	0.00200	mg/L	1.00					
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					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Solids Analysis											
SM2540C Dissolved S	Solids "As Rec	eived"									
Total Dissolved Solids		66.0	2.38	10.0	mg/L			CH6	09/09/22	1638 2314703	4
The following Prep M	ethods were po	erformed:									
Method	Description	n		Analyst	Date	,	Tim	e Pr	ep Batch		<del></del>
SW846 3005A	ICP-MS 3005	5A PREP		CD3	09/09/22		1620	23	14177		

RM4

09/09/22

1216

2314310

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SW846 7470A Prep

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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 ComplianceAP1

Client Sample ID: AP1GWA-2 Project: GPCC00100 Sample ID: 592388003 Client ID: GPCC001

Parameter	Oualifier Result	DL	Time Batch	Method			
The following A	nalytical Methods were performed:						
Method	Description		A	nalys	st 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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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### **Certificate of Analysis**

Project:

Client ID:

Report Date: September 22, 2022

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: FB-01 Sample ID: 592388004

Matrix: WQ

Collect Date: 07-SEP-22 12:10
Receive Date: 08-SEP-22
Collector: Client

RL Parameter **Oualifier** Result DL Units PF DF Analyst Date Time Batch Method Ion Chromatography EPA 300.0 Anions Liquid "As Received" Chloride 0.255 0.0670 0.200 JLD1 09/09/22 0433 2314142 mg/L Fluoride ND 0.0330 0.100mg/L Sulfate U ND 0.133 0.400 mg/L 1 Mercury Analysis-CVAA 7470 Cold Vapor Mercury, Liquid "As Received" 0.0000670 0.000200 mg/L Mercury 1.00 AXS5 09/12/22 1116 2314311 2 Metals Analysis-ICP-MS SW846 3005A/6020B "As Received" Antimony ND 0.00100 0.00300 mg/L 1.00 PRB 09/18/22 1647 2314178 3 1 0.00200 0.00500 H ND mg/L 1.00 Arsenic 1 Barium U ND 0.000670 0.00400 mg/L 1.00 1 ND 0.000200 0.000500 Beryllium U mg/L 1.00 1 Boron U ND 0.005200.0150 mg/L 1.00 Cadmium U ND 0.000300 0.00100 mg/L 1.00 1 U ND 0.08000.200 1.00 Calcium mg/L 1 Chromium H ND 0.00300 0.0100 mg/L 1.00 1 Cobalt U ND 0.000300 0.00100 mg/L 1.00 1 ND 0.000500 0.00200 Lead U mg/L 1.00 Lithium U ND 0.00300 0.0100 1.00 1 mg/L Molybdenum U ND 0.000200 0.00100 mg/L 1.00 1 ND U 0.00150 0.00500 1.00 Selenium mg/L 1 Thallium ND 0.000600 0.00200 1.00 1 mg/L Solids Analysis SM2540C Dissolved Solids "As Received" Total Dissolved Solids ND 2.38 10.0 CH6 09/09/22 1638 2314703 mg/L The following Prep Methods were performed:

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

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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 ComplianceAP1

Client Sample ID: FB-01 Project: GPCC00100 Sample ID: 592388004 Client ID: GPCC001

Parameter	Qualifier Result	DL	DL RL Units PF DF Analyst Date Time Batch M										
The following A	nalytical 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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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### **Certificate of Analysis**

Project:

Client ID:

Report Date: September 22, 2022

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-1 Sample ID: 592388005

Matrix: WG

Collect Date: 07-SEP-22 13:50
Receive Date: 08-SEP-22
Collector: Client

Parameter **Oualifier** Result DL RL Units PF DF Analyst Date Time Batch Method Ion Chromatography EPA 300.0 Anions Liquid "As Received" Chloride 2.58 0.0670 0.200 JLD1 09/09/22 0504 2314142 mg/L Fluoride 0.158 0.0330 0.100mg/L Sulfate 112 1.33 4.00 mg/L 10 JLD1 09/09/22 1218 2314142 2 Mercury Analysis-CVAA 7470 Cold Vapor Mercury, Liquid "As Received" 0.0000670 0.000200 Mercury mg/L 1.00 AXS5 09/12/22 1121 2314311 3 Metals Analysis-ICP-MS SW846 3005A/6020B "As Received" Antimony ND 0.00100 0.00300 mg/L 1.00 PRB 09/18/22 1307 2314178 1 U 0.00200 0.00500 ND mg/L 1.00 Arsenic 1 Barium 0.0452 0.000670 0.00400 mg/L 1.00 1 U ND 0.000200 0.000500 Beryllium mg/L 1.00 1 Cadmium U ND 0.000300 0.00100 mg/L 1.00 Calcium 31.8 0.08000.200 mg/L 1.00 1 U ND 0.003000.0100 1.00 Chromium mg/L 1 0.000850 Cobalt T 0.000300 0.00100 mg/L 1.00 1 Lead U ND 0.000500 0.00200 mg/L 1.00 1 0.00421 Lithium 0.00300 0.0100 mg/L 1.00 1 Molybdenum 0.000572 0.000200 0.00100 1.00 1 mg/L Selenium J 0.00163 0.00150 0.00500 mg/L 1.00 1 ND Thallium U 0.0006000.00200 1.00 mg/L 1 0.336 0.0260 0.0750 1.00 5 PRB 09/18/22 1620 2314178 5 Boron mg/L Solids Analysis SM2540C Dissolved Solids "As Received" Total Dissolved Solids 248 2.38 10.0 CH6 09/09/22 1638 2314703 mg/L The following Prep Methods were performed:

Method Prep Batch Description Date Time Analyst 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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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 ComplianceAP1

Client Sample ID: AP1PZ-1 Project: GPCC00100 Sample ID: 592388005 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units F	F DF Analyst Date	Time Batch Method
The following Ar	nalytical Methods were performed:					
Method	Description			Ana	lyst 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

### **Certificate of Analysis**

Project:

Client ID:

Report Date: September 22, 2022

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Arkwright CCR Groundwater ComplianceAP1 Project:

Client Sample ID: AP1PZ-7 Sample ID: 592388006

Matrix: WG

Collect Date: 07-SEP-22 14:00 Receive Date: 08-SEP-22

Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batcl	n Method
Ion Chromatography											
EPA 300.0 Anions Lic	quid "As Rece	ived"									
Chloride	1	8.77	0.0670	0.200	mg/L		1	JLD1	09/09/22	1237 231438	37 1
Fluoride		0.255	0.0330	0.100	mg/L		1				
Sulfate		1390	13.3	40.0	mg/L		100	JLD1	09/09/22	2304 231438	37 2
Mercury Analysis-CV	AA										
7470 Cold Vapor Mer	curv. Liquid "	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1123 231431	.1 3
Metals Analysis-ICP-I	MS				Č						
SW846 3005A/6020B		"									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1311 231417	'8 4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00					
Barium		0.0511	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00					
Cadmium	Ü	ND	0.000300	0.00100	mg/L	1.00					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1				
Cobalt	J	0.000739	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		0.00233	0.000200	0.00100	mg/L	1.00	1				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Boron		2.46	0.260	0.750	mg/L	1.00	50	PRB	09/18/22	1624 231417	'8 5
Calcium		338	4.00	10.0	mg/L	1.00	50				
Solids Analysis											
SM2540C Dissolved S	Solids "As Rec	eived"									
Total Dissolved Solids		2190	2.38	10.0	mg/L			CH6	09/09/22	1638 231470	3 6
The following Prep M	lethods were p	erformed:			-						
Method	Descriptio			Analyst	Date	,	Time	e Pr	ep Batch		
SW846 3005A	ICP-MS 300:			CD3	09/09/22		1620		14177		
SW846 7470A Prep		Mercury Prep Liquid		RM4	09/09/22		1216		14310		

SW846 7470A Prep EPA 7470A Mercury Prep Liquid RM4

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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 ComplianceAP1

Client Sample ID: AP1PZ-7 Project: GPCC00100
Sample ID: 592388006 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following A	nalytical Methods were performed:							
Method	Description			A	nalys	st Comments		
1	EPA 300.0				<del>-</del>			
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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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### **Certificate of Analysis**

Project:

Client ID:

Report Date: September 22, 2022

GPCC00100

Prep Batch

2314177

2314310

Time

1620

1216

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-10 Sample ID: 592388007

Matrix: WG

Collect Date: 07-SEP-22 14:30
Receive Date: 08-SEP-22
Collector: Client

Description

ICP-MS 3005A PREP

EPA 7470A Mercury Prep Liquid

Parameter **Oualifier** Result DL RL Units PF DF Analyst Date Time Batch Method Ion Chromatography EPA 300.0 Anions Liquid "As Received" Chloride 9.91 0.0670 0.200 JLD1 09/09/22 0535 2314142 mg/L Fluoride 0.524 0.0330 0.100mg/L Sulfate 232 3.33 10.0 mg/L 25 JLD1 09/09/22 1248 2314142 2 Mercury Analysis-CVAA 7470 Cold Vapor Mercury, Liquid "As Received" 0.0000670 0.000200 Mercury ND mg/L 1.00 AXS5 09/12/22 1124 2314311 3 Metals Analysis-ICP-MS SW846 3005A/6020B "As Received" 09/18/22 1314 2314178 Antimony ND 0.00100 0.00300 1.00 PRB mg/L 1 U 0.00200 0.00500 ND mg/L 1.00 Arsenic 1 Barium 0.0334 0.000670 0.00400 mg/L 1.00 1 0.000200 0.000500 Beryllium U ND mg/L 1.00 1 Cadmium U ND 0.000300 0.00100 mg/L 1.00 Chromium U ND 0.00300 0.0100 mg/L 1.00 1 0.001890.000300 0.00100 1.00 Cobalt mg/L 1 0.00200 Lead U ND 0.000500 mg/L 1.00 1 Lithium 0.0172 0.00300 0.0100 mg/L 1.00 1 0.00265 0.000200 0.00100 Molybdenum mg/L 1.00 1 Selenium U ND 0.00150 0.00500 1.00 1 mg/L Thallium U ND 0.0006000.00200 mg/L 1.00 1 3.22 0.260 0.750 1.00 50 PRB 09/18/22 1627 2314178 5 Boron mg/L 835 4.00 10.0 1.00 50 Calcium mg/L Solids Analysis SM2540C Dissolved Solids "As Received" Total Dissolved Solids 2.38 10.0 CH6 09/09/22 1638 2314703 mg/L The following Prep Methods were performed:

Analyst

CD3

RM4

Date

09/09/22

09/09/22

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Method

SW846 3005A

SW846 7470A Prep

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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 ComplianceAP1

Client Sample ID: AP1PZ-10 Project: GPCC00100 Sample ID: 592388007 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units P	F DF Analyst Date	Time Batch Method
The following Analy	rtical Methods were performed:					
Method	Description			Ana	lyst 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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## **Certificate of Analysis**

Report Date: September 22, 2022

GPCC00100

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: FB-02 Sample ID: 592388008

Matrix: WQ

Collect Date: 07-SEP-22 14:45
Receive Date: 08-SEP-22
Collector: Client

EPA 7470A Mercury Prep Liquid

388008 Client ID: GPCC001

Project:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography											
EPA 300.0 Anions Lic	quid "As Recei	ved"									
Chloride	•	0.319	0.0670	0.200	mg/L		1	JLD1	09/09/22	0605 2314142	1
Fluoride	U	ND	0.0330	0.100	mg/L		1				
Sulfate	U	ND	0.133	0.400	mg/L		1				
Mercury Analysis-CV	AA										
7470 Cold Vapor Mer	cury, Liquid "A	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1126 2314311	2
Metals Analysis-ICP-N	MS										
SW846 3005A/6020B	"As Received	"									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1650 2314178	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					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Solids Analysis											
SM2540C Dissolved S	Solids "As Rec	eived"									
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	09/09/22	1638 2314703	4
The following Prep M	ethods were po	erformed:									
Method	Description	n		Analyst	Date	,	Tim	e Pr	ep Batch		
SW846 3005A	ICP-MS 3005	SA PREP		CD3	09/09/22		1620	23	14177		

RM4

09/09/22

1216

2314310

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SW846 7470A Prep

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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 ComplianceAP1

Client Sample ID: FB-02 Project: GPCC00100 Sample ID: 592388008 Client ID: GPCC001

Parameter	Qualifier Result	DL	DL RL Units PF DF Analyst Date Time Batch										
The following Ana	alytical Methods were perf	formed:											
Method	Description	scription 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**

Project:

Client ID:

Report Date: September 22, 2022

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-4 Sample ID: 592388009

Matrix: WG

Collect Date: 07-SEP-22 15:45
Receive Date: 08-SEP-22
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography											
EPA 300.0 Anions Liqu	id "As Recei	ved"									
Chloride		5.10	0.0670	0.200	mg/L		1	JLD1	09/09/22	1307 2314387	1
Fluoride		0.249	0.0330	0.100	mg/L		1				
Sulfate		1420	26.6	80.0	mg/L		200	JLD1	09/09/22	2334 2314387	2
Mercury Analysis-CVA	A										
7470 Cold Vapor Mercu	ıry, Liquid ".	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1128 2314311	3
Metals Analysis-ICP-M	S										
SW846 3005A/6020B ".	As Received	"									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1321 2314178	4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0426	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	0.000335	0.000300	0.00100	mg/L	1.00	1				
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1				
Lithium	J	0.00652	0.00300	0.0100	mg/L	1.00	1				
Molybdenum		0.00233	0.000200	0.00100	mg/L	1.00	1				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Boron		3.72	0.260	0.750	mg/L	1.00	50	PRB	09/18/22	1631 2314178	5
Calcium		370	4.00	10.0	mg/L	1.00	50				
Solids Analysis											
SM2540C Dissolved So	lids "As Rec	eived"									
Total Dissolved Solids		2210	2.38	10.0	mg/L			CH6	09/09/22	1638 2314703	6
The following Prep Met	thods were p	erformed:									
Method	Description	n		Analyst	Date	,	Гim	e Pr	ep 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 ComplianceAP1

Client Sample ID: AP1PZ-4 Project: GPCC00100 Sample ID: 592388009 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units F	F DF Analyst Date	Time Batch Method
The following Ar	nalytical Methods were performed:					
Method	Description			Ana	lyst 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

## **Certificate of Analysis**

Report Date: September 22, 2022

GPCC00100

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: DUP-01 Sample ID: 592388010

Matrix: WG

Collect Date: 07-SEP-22 12:00
Receive Date: 08-SEP-22
Collector: Client

Client ID: GPCC001

Project:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography											
EPA 300.0 Anions Liqu	uid "As Recei	ived"									
Chloride		5.13	0.0670	0.200	mg/L		1	JLD1	09/09/22	1337 2314387	1
Fluoride		0.243	0.0330	0.100	mg/L		1				
Sulfate		1430	26.6	80.0	mg/L		200	JLD1	09/10/22	0004 2314387	2
Mercury Analysis-CVA	λA										
7470 Cold Vapor Merci	ury, Liquid ".	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1130 2314311	3
Metals Analysis-ICP-M	IS										
SW846 3005A/6020B "	'As Received	."									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1325 2314178	4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0430	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	0.000327	0.000300	0.00100	mg/L	1.00	1				
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1				
Lithium	J	0.00664	0.00300	0.0100	mg/L	1.00	1				
Molybdenum		0.00230	0.000200	0.00100	mg/L	1.00	1				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Boron		3.68	0.520	1.50	mg/L			PRB	09/18/22	1654 2314178	5
Calcium		381	8.00	20.0	mg/L	1.00	100				
Solids Analysis											
SM2540C Dissolved So	olids "As Rec	eived"									
Total Dissolved Solids		2230	2.38	10.0	mg/L			CH6	09/09/22	1638 2314703	6
The following Prep Me	thods were p	erformed:									
Method	Description	n		Analyst	Date	-	Гimе	Pr	ep Batch		
SW846 3005A	ICP-MS 3005	5A PREP		CD3	09/09/22	1	1620	23	14177		
SW846 7470A Prep	EPA 7470A I	Mercury Prep Liquid		RM4	09/09/22	1	1216	23	14310		

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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 ComplianceAP1

Client Sample ID: DUP-01 Project: GPCC00100 Sample ID: 592388010 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units PF	DF Analyst Date	Time Batch Method
The following Analy	tical Methods were performed:					
Method	Description			Anal	yst 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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## **Certificate of Analysis**

Report Date: September 22, 2022

GPCC00100

2314310

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-9 Sample ID: 592388011

Matrix: WG

Collect Date: 07-SEP-22 16:15 Receive Date: 08-SEP-22 Client Collector:

EPA 7470A Mercury Prep Liquid

Project: Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography	,										
EPA 300.0 Anions L	iquid "As Recei	ived"									
Chloride	1	6.84	0.0670	0.200	mg/L		1	JLD1	09/09/22	1406 2314387	1
Fluoride		0.671	0.0330	0.100	mg/L		1				
Sulfate		351	5.32	16.0	mg/L		40	JLD1	09/10/22	0034 2314387	2
Mercury Analysis-C	VAA										
7470 Cold Vapor Me	ercury, Liquid ".	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1131 2314311	3
Metals Analysis-ICP	P-MS										
SW846 3005A/6020	B "As Received	l''									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1345 2314178	4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0254	0.000670	0.00400	mg/L	1.00	1				
Beryllium		0.000527	0.000200	0.000500	mg/L	1.00	1				
Cadmium	J	0.000975	0.000300	0.00100	mg/L	1.00	1				
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1				
Cobalt		0.101	0.000300	0.00100	mg/L	1.00	1				
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1				
Lithium		0.135	0.00300	0.0100	mg/L	1.00	1				
Molybdenum	J	0.000281	0.000200	0.00100	mg/L	1.00	1				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00					
Boron		0.695	0.0520	0.150	mg/L	1.00		PRB	09/18/22	1705 2314178	5
Calcium		69.6	0.800	2.00	mg/L	1.00	10				
Solids Analysis											
SM2540C Dissolved	Solids "As Rec	eived"									
Total Dissolved Solids		577	2.38	10.0	mg/L			CH6	09/09/22	1638 2314703	6
The following Prep I	Methods were p	erformed:									
Method	Descriptio	n		Analyst	Date	•	Time	e Pr	ep Batch		
SW846 3005A	ICP-MS 3005	5A PREP		CD3	09/09/22		1620	23	14177		

RM4

09/09/22

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SW846 7470A Prep

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 ComplianceAP1

Client Sample ID: AP1PZ-9 Project: GPCC00100 Sample ID: 592388011 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units F	F DF Analyst Date	Time Batch Method
The following Ar	nalytical Methods were performed:					
Method	Description			Ana	lyst 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

### **Certificate of Analysis**

Report Date: September 22, 2022

GPCC00100

GPCC001

Project:

Client ID:

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-8 Sample ID: 592388012

Matrix: WG

Collect Date: 07-SEP-22 16:27
Receive Date: 08-SEP-22
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography	7										
EPA 300.0 Anions L	Liquid "As Recei	ived"									
Chloride	1	2.88	0.0670	0.200	mg/L		1	JLD1	09/09/22	1436 2314387	1
Fluoride		0.166	0.0330	0.100	mg/L		1				
Sulfate		731	13.3	40.0	mg/L		100	JLD1	09/10/22	0104 2314387	2
Mercury Analysis-C	VAA										
7470 Cold Vapor Me	ercury, Liquid ".	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1133 2314311	3
Metals Analysis-ICF	P-MS				C						
SW846 3005A/6020	B "As Received	l''									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1348 2314178	4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0506	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	0.000936	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				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Boron		2.81	0.260	0.750	mg/L	1.00	50	PRB	09/18/22	1709 2314178	5
Calcium		300	4.00	10.0	mg/L	1.00	50				
Molybdenum		0.489	0.0100	0.0500	mg/L	1.00	50				
Solids Analysis											
SM2540C Dissolved	d Solids "As Rec	eived"									
Total Dissolved Solids		1390	2.38	10.0	mg/L			CH6	09/09/22	1638 2314703	6
The following Prep	Methods were p	erformed:									
Method	Description	n		Analyst	Date	,	Time	e Pr	ep Batch		
SW846 3005A	ICP-MS 3004			CD3	09/09/22		1620		1/1177		

 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

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-8 Project: GPCC00100 Sample ID: 592388012 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units PI	F DF Analyst Date	Time Batch Method
The following Analyt	ical Methods were performed:					
Method	Description			Anal	yst 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:

Lc/LC: Critical Level DF: Dilution Factor PF: Prep Factor DL: Detection Limit 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

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: EB-02 Sample ID: 592388013

Matrix: WQ

Collect Date: 07-SEP-22 17:05 Receive Date: 08-SEP-22

Collector: Client Qualifier DI DI Linite Docult. DE Analyst Data Time Petch Method

Project:

Client ID:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatograp	ohy										
EPA 300.0 Anions	s Liquid "As Recei	ived"									
Chloride	J	0.191	0.0670	0.200	mg/L		1	JLD1	09/09/22	1606 2314387	1
Fluoride	U	ND	0.0330	0.100	mg/L		1				
Sulfate	J	0.167	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	AXS5	09/12/22	1135 2314311	2
Metals Analysis-Io	CP-MS										
SW846 3005A/60		l''									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1712 2314178	3
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1				
Barium	J	0.00134	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		0.204	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				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Solids Analysis											
SM2540C Dissolv	ved Solids "As Rec	eived"									
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	09/09/22	1638 2314703	4
The following Pre	p Methods were po	erformed:									
Mathad	D			A 14	Doto	,	т:	D.	on Dotah		

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 ComplianceAP1

Client Sample ID: EB-02 Project: GPCC00100 Sample ID: 592388013 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Ana	alytical Methods were perf	formed:						
Method	Description				Analy	st 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

GPCC00100

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-3 Sample ID: 592388014

Matrix: WG

Collect Date: 07-SEP-22 18:30
Receive Date: 08-SEP-22
Collector: Client

388014 Client ID: GPCC001

Project:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography											
EPA 300.0 Anions Lic	quid "As Recei	ved"									
Chloride	•	4.92	0.0670	0.200	mg/L		1	JLD1	09/09/22	1636 2314387	1
Fluoride	J	0.0468	0.0330	0.100	mg/L		1				
Sulfate		1390	13.3	40.0	mg/L		100	JLD1	09/10/22	0134 2314387	2
Mercury Analysis-CV	AA										
7470 Cold Vapor Mer	cury, Liquid ".	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	AXS5	09/12/22	1137 2314311	3
Metals Analysis-ICP-N	MS										
SW846 3005A/6020B	"As Received	"									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	09/18/22	1356 2314178	4
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0237	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1				
Cadmium		0.00144	0.000300	0.00100	mg/L	1.00	1				
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1				
Cobalt		0.0626	0.000300	0.00100	mg/L	1.00	1				
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1				
Lithium		0.0638	0.00300	0.0100	mg/L	1.00	1				
Molybdenum	J	0.000673	0.000200	0.00100	mg/L	1.00	1				
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Boron		1.51	0.104	0.300	mg/L	1.00	20	PRB	09/18/22	1716 2314178	5
Calcium		381	1.60	4.00	mg/L	1.00	20				
Solids Analysis											
SM2540C Dissolved S	Solids "As Rec	eived"									
Total Dissolved Solids		2010	2.38	10.0	mg/L			CH6	09/09/22	1638 2314703	6
The following Prep M	ethods were po	erformed:									
Method	Description	n		Analyst	Date	-	Гimе	e Pr	ep Batch		
SW846 3005A	ICP-MS 3005	SA PREP		CD3	09/09/22	1	1620	23	14177		
SW846 7470A Prep	EPA 7470A I	Mercury Prep Liquid		RM4	09/09/22	1	1216	23	14310		

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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 ComplianceAP1

Client Sample ID: AP1PZ-3 Project: GPCC00100 Sample ID: 592388014 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units F	F DF Analyst Date	Time Batch Method
The following Ar	nalytical Methods were performed:					
Method	Description			Ana	lyst 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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### **Certificate of Analysis**

Project:

Client ID:

Report Date: September 22, 2022

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-6 Sample ID: 592388015

Matrix: WG

Collect Date: 07-SEP-22 18:45
Receive Date: 08-SEP-22
Collector: Client

Parameter **Oualifier** Result DL RL Units PF DF Analyst Date Time Batch Method Ion Chromatography EPA 300.0 Anions Liquid "As Received" Chloride 8.49 0.0670 0.200 1706 2314387 mg/L JLD1 09/09/22 Fluoride ND 0.0330 0.100mg/L 2520 Sulfate 26.6 80.0 mg/L 200 JLD1 09/10/22 0204 2314387 2 Mercury Analysis-CVAA 7470 Cold Vapor Mercury, Liquid "As Received" 0.0000670 0.000200 Mercury ND mg/L 1.00 AXS5 09/12/22 1142 2314311 3 Metals Analysis-ICP-MS SW846 3005A/6020B "As Received" Antimony ND 0.00100 0.00300 mg/L 1.00 PRB 09/18/22 1359 2314178 1 U 0.00200 0.00500 ND mg/L 1.00 Arsenic 1 0.0235 Barium 0.000670 0.00400 mg/L 1.00 1 0.000859 0.000200 0.000500 Beryllium mg/L 1.00 1 Cadmium U ND 0.000300 0.00100 mg/L 1.00 Chromium U ND 0.00300 0.0100 mg/L 1.00 1 0.417 0.000300 0.00100 1.00 Cobalt mg/L 1 U 0.00200 Lead ND 0.000500 mg/L 1.00 1 Lithium J 0.00800 0.00300 0.0100 mg/L 1.00 1 0.000369 0.000200 0.00100 Molybdenum J mg/L 1.00 1 Selenium J 0.00273 0.00150 0.00500 1.00 1 mg/L Thallium U ND 0.0006000.00200 mg/L 1.00 1 7.29 0.260 0.750 1.00 50 PRB 09/18/22 1719 2314178 5 Boron mg/L 461 4.00 10.0 mg/L1.00 50 Calcium Solids Analysis SM2540C Dissolved Solids "As Received" Total Dissolved Solids 2.38 10.0 CH6 09/09/22 1638 2314703 mg/L The following Prep Methods were performed:

Method Prep Batch Description Date Time Analyst 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 ComplianceAP1

Client Sample ID: AP1PZ-6 Project: GPCC00100 Sample ID: 592388015 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units F	F DF Analyst Date	Time Batch Method
The following Ar	nalytical Methods were performed:					
Method	Description			Ana	lyst 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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# **QC Summary**

Georgia Power Company, Southern Company

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia Joju Abraham

Workorder: 592528

**Contact:** 

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Ion Chromatography Batch 2317683 ———									
QC1205193507 592528001 DUP Chloride		1.45		1.40	mg/L	3.38		(0%-20%) HXC1	09/16/22 21:47
Fluoride		0.173		0.180	mg/L	3.63 ^		(+/-0.100)	
Sulfate		52.3		52.2	mg/L	0.107		(0%-20%)	09/17/22 01:53
QC1205193506 LCS Chloride	5.00			4.64	mg/L		92.8	(90%-110%)	09/16/22 21:16
Fluoride	2.50			2.57	mg/L		103	(90%-110%)	
Sulfate	10.0			9.88	mg/L		98.8	(90%-110%)	
QC1205193505 MB Chloride			U	ND	mg/L				09/16/22 20:45
Fluoride			U	ND	mg/L				
Sulfate			U	ND	mg/L				
QC1205193509 592528001 PS Chloride	5.00	1.45		6.12	mg/L		93.4	(90%-110%)	09/16/22 22:18
Fluoride	2.50	0.173		2.64	mg/L		98.6	(90%-110%)	
Sulfate	10.0	10.5		20.7	mg/L		103	(90%-110%)	09/17/22 02:24

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Page 1 of 8

Report Date: September 22, 2022

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

## **QC Summary**

Workorder: 592528 Page 2 of 8 NOM QC RPD% **Parmname** Sample Qual Units REC% Range Anlst Date Time Metals Analysis - ICPMS Batch 2314769 QC1205187548 LCS 0.0500 0.0467 93.3 PRB 09/19/22 15:59 Antimony mg/L (80%-120%) Arsenic 0.0500 0.0470 mg/L 94 (80% - 120%)0.0500 0.0505 101 Barium mg/L(80%-120%) 0.0528 Beryllium 0.0500 mg/L 106 (80%-120%) Boron 0.100 0.106 106 (80%-120%) mg/L0.0492 Cadmium 0.0500 mg/L 98.4 (80%-120%) 2.00 2.04 102 Calcium mg/L (80%-120%) Chromium 0.0500 0.046593 mg/L (80%-120%) Cobalt 0.0500 0.0468 93.5 mg/L (80%-120%) 0.0500 0.0511 102 Lead mg/L (80%-120%) Lithium 0.0500 0.0491 98.2 mg/L (80%-120%) 0.0507 0.0500 101 Molybdenum mg/L(80%-120%) Selenium 0.0500 0.0471 mg/L 94.2 (80%-120%) Thallium 0.0500 0.0498 99.5 (80%-120%) mg/L

U

ND

mg/L

09/19/22 15:56

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MB

QC1205187547

Antimony

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### **QC Summary**

Workorder: 592528 Page 3 of 8 NOM QC RPD% REC% **Parmname** Sample Qual Units Range Anlst Date Time Metals Analysis - ICPMS 2314769 Batch U Arsenic ND mg/L PRB 09/19/22 15:56 U ND Barium mg/L U Beryllium ND mg/L U ND Boron mg/L U ND Cadmium mg/L U ND Calcium mg/L U Chromium ND mg/L U ND Cobalt mg/L U ND Lead mg/L Lithium U ND mg/L U ND Molybdenum mg/L Selenium U ND mg/L Thallium U ND mg/L QC1205187549 592528001 MS 0.0500 U ND 0.0491 98 09/19/22 16:07 Antimony (75%-125%) mg/LArsenic 0.0500 U ND 0.0481 mg/L 94.5 (75%-125%)

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## **QC Summary**

Workorder: 592528 Page 4 of 8 QC **Parmname** NOM Sample Qual Units RPD% REC% Range Anlst Date Time Metals Analysis - ICPMS Batch 2314769 Barium 0.0500 0.0221 0.0711 mg/L 98.1 (75% - 125%)PRB 09/19/22 16:07 0.0536 Beryllium 0.0500 U ND mg/L 107 (75%-125%) Boron 0.100 0.163 0.264 mg/L 102 (75%-125%) U ND 0.0506 Cadmium 0.0500 mg/L 101 (75%-125%) Calcium 2.00 27.3 28.3 mg/L N/A (75%-125%) Chromium 0.0500 U ND 0.0481 94.5 (75%-125%) mg/L 0.0500 U ND 0.0473 Cobalt mg/L 94.3 (75%-125%) Lead U ND 0.0515 0.0500 103 mg/L (75%-125%) Lithium 0.0500 U ND 0.0521 101 mg/L (75%-125%) 0.0500 0.00136 0.0550 107 Molybdenum (75% - 125%)mg/L U ND 0.0470 Selenium 0.0500 93 mg/L (75%-125%) Thallium 0.0500 U ND 0.0496 99.1 (75%-125%) mg/L QC1205187550 592528001 MSD 0.0500 U ND 0.0496 mg/L 1.1 99.1 (0%-20%)09/19/22 16:10 Antimony 0.0500 U ND 0.0483 0.388 94.9 (0%-20%)Arsenic mg/L

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0.0500

0.0221

0.0713

mg/L

0.256

98.5

(0%-20%)

Barium

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## **QC Summary**

Workorder: 592528 Page 5 of 8 Sample Qual QC **Parmname** NOM Units RPD% REC% Range Anlst Date Time Metals Analysis - ICPMS Batch 2314769 Beryllium 0.0500 ND 0.0552 mg/L 2.95 110 (0%-20%)PRB 09/19/22 16:10 0.100 0.163 0.273 mg/L 3.26 110 (0%-20%)Boron Cadmium 0.0500 ND 0.0513 mg/L 1.2 102 (0%-20%)27.3 Calcium 2.00 28.5 mg/L 0.771 N/A (0%-20%)Chromium 0.0500 U ND 0.0479 mg/L 0.352 94.1 (0%-20%)Cobalt 0.0500 U ND 0.0481 mg/L 95.8 1.54 (0%-20%)0.0500 U ND Lead 0.0514 mg/L 0.206 103 (0%-20%)U ND 0.0539 Lithium 0.0500 mg/L 105 3.42 (0%-20%)0.0500 0.00136 0.0554 108 Molybdenum mg/L 0.694 (0%-20%)Selenium 0.0500 ND 0.0471 93.2 mg/L 0.198 (0%-20%)U ND 0.0499 Thallium 0.0500 mg/L 99.7 0.623 (0%-20%)QC1205187551 592528001 SDILT U ND U ND 09/19/22 16:18 Antimony ug/L N/A (0%-20%)Arsenic U ND U ND ug/L N/A (0%-20%)22.1 Barium 4.61 (0%-20%) ug/L 4.43 Beryllium U ND U ND ug/L N/A (0%-20%)

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## **QC Summary**

Workorder: 592528 Page 6 of 8 NOM Sample Qual QC **Parmname** Units RPD% REC% Range Anlst Date Time Metals Analysis - ICPMS 2314769 Batch Boron 163 35.4 ug/L 8.61 (0%-20%)PRB 09/19/22 16:18 U ND ND Cadmium U ug/L (0%-20%)N/A Calcium 27300 5220 ug/L 4.4 (0%-20%)U ND U ND Chromium ug/L N/A (0%-20%)U ND U Cobalt ND ug/L N/A (0%-20%)U U Lead ND ND N/A ug/L (0%-20%)U ND U ND Lithium ug/L N/A (0%-20%)1.36 0.237 Molybdenum J ug/L 12.9 (0%-20%)U U Selenium ND ND (0%-20%)ug/L N/A Thallium U ND ND ug/L N/A (0%-20%)Metals Analysis-Mercury 2315121 Batch QC1205188329 592595001 DUP 0.000353 0.000359 JP2 09/13/22 13:21 Mercury mg/L 1.69 ^ (+/-0.000200)QC1205188328 LCS 0.00200 0.00205 103 (80%-120%) 09/13/22 13:11 Mercury mg/L QC1205188327 MB U Mercury ND 09/13/22 13:09 mg/L

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## **QC Summary**

Workorder: 592528 Page 7 of 8 **Parmname NOM** Sample Qual QC Units RPD% REC% Range Anlst Date Time Metals Analysis-Mercury 2315121 Batch QC1205188330 592595001 MS 0.00200 0.000353 0.00235 100 mg/L (75% - 125%)JP2 09/13/22 13:23 Mercury QC1205188331 592595001 SDILT 0.353 U ND N/A (0%-10%)09/13/22 13:28 Mercury ug/L **Solids Analysis** 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 U ND 09/12/22 11:20 **Total Dissolved Solids** mg/L Batch 2315610 QC1205189371 592607004 DUP Total Dissolved Solids 23.0 22.0 mg/L 4.44 ^ (+/-10.0)CH6 09/13/22 11:12 QC1205189365 LCS Total Dissolved Solids 300 301 100 (95%-105%) 09/13/22 11:12 mg/L QC1205189364 Total Dissolved Solids ND 09/13/22 11:12 mg/L

#### **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

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### **QC Summary**

Page 8 of 8

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

- 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

592528

J Value is estimated

Workorder:

- 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.

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# **QC Summary**

Report Date: September 22, 2022

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Contact:

241 Ralph McGill Blvd NE, Bin 10160 Atlanta, Georgia Joju Abraham

Georgia Power Company, Southern Company

Workorder:

592388

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Ion Chromatography Batch 2314142 ———								
QC1205186285 592010001 DUP Chloride		11.4	11.4	mg/L	0.263		(0%-20%) JLD1	09/09/22 10:45
Fluoride		1.63	1.64	mg/L	0.588		(0%-20%)	09/08/22 22:54
Sulfate		112	112	mg/L	0.409		(0%-20%)	09/09/22 10:45
QC1205186282 LCS Chloride	5.00		4.94	mg/L		98.9	(90%-110%)	09/08/22 19:09
Fluoride	2.50		2.41	mg/L		96.2	(90%-110%)	
Sulfate	10.0		10.3	mg/L		103	(90%-110%)	
QC1205186281 MB Chloride		U	ND	mg/L				09/08/22 18:38
Fluoride		U	ND	mg/L				
Sulfate		U	ND	mg/L				
QC1205186286 592010001 PS Chloride	5.00	1.14	6.27	mg/L		103	(90%-110%)	09/09/22 11:16
Fluoride	2.50	1.63	6.10	mg/L		179*	(90%-110%)	09/08/22 23:25
Sulfate	10.0	11.2	22.2	mg/L		110	(90%-110%)	09/09/22 11:16

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## **QC Summary**

Workorder: 592388 Page 2 of 9 NOM QC **Parmname** Sample Qual Units RPD% REC% Range Anlst Date Time Ion Chromatography Batch 2314387 QC1205186796 592398004 DUP Chloride 5.78 5.64 (0%-20%) JLD1 09/09/22 19:35 mg/L 2.45 U Fluoride ND U ND mg/L N/A Sulfate 1050 1040 (0%-20%) 09/10/22 05:33 mg/L0.589 QC1205186793 LCS 5.00 95.5 09/09/22 10:37 Chloride 4.77 (90%-110%) mg/LFluoride 2.50 2.30 mg/L 91.9 (90%-110%) Sulfate 10.0 9.90 99 (90%-110%) mg/L QC1205186792 MB Chloride U ND mg/L 09/09/22 10:08 U ND Fluoride 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 2.50 U ND 2.29 Fluoride mg/L 91.4 (90%-110%) Sulfate 10.0 10.5 21.2 mg/L 107 (90%-110%) 09/10/22 06:03 Metals Analysis - ICPMS Batch 2314178 QC1205186327 LCS Antimony 0.0500 0.0504 101 (80%-120%) PRB 09/18/22 12:22 mg/L

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# **QC Summary**

Workorder: 592388 Page 3 of 9 Sample Qual QC RPD% **Parmname** NOM Units REC% Range Anlst Date Time Metals Analysis - ICPMS 2314178 Batch Arsenic 0.0500 0.0483 mg/L 96.6 (80%-120%) PRB 09/18/22 12:22 0.0505 Barium 0.0500 mg/L 101 (80%-120%) Beryllium 0.0500 0.0565 mg/L 113 (80%-120%) 0.107 107 Boron 0.100 mg/L (80%-120%) 0.0505 Cadmium 0.0500 mg/L 101 (80%-120%) Calcium 2.00 2.15 mg/L 107 (80%-120%) 0.0500 0.0487 97.4 Chromium mg/L (80%-120%) 0.0500 0.0490 Cobalt 98 mg/L (80%-120%) Lead 0.0500 0.0511 102 (80%-120%) mg/L Lithium 0.0500 0.0525 105 mg/L (80%-120%) 0.0500 Molybdenum 0.0500 mg/L 99.9 (80%-120%) Selenium 0.0500 0.0483 96.5 (80%-120%) mg/L 0.0500 0.0497 Thallium mg/L 99.4 (80%-120%) QC1205186326 MB U ND 09/18/22 12:18 Antimony mg/LArsenic U ND mg/L

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# **QC Summary**

Workorder: 592388 Page 4 of 9 NOM QC RPD% REC% **Parmname** Sample Qual Units Range Anlst Date Time Metals Analysis - ICPMS 2314178 Batch U Barium ND mg/L PRB 09/18/22 12:18 U ND Beryllium mg/L U Boron ND mg/L U ND Cadmium mg/L U ND Calcium mg/L U ND Chromium mg/L U Cobalt ND mg/L U ND Lead mg/L U ND Lithium mg/L U ND Molybdenum mg/L U ND Selenium mg/L U Thallium ND mg/L QC1205186328 592388002 MS Antimony 0.0500 U ND 0.0500 mg/L 100 (75%-125%) 09/19/22 12:37 0.0500 U ND 0.0488 95.8 09/19/22 11:41 (75%-125%) Arsenic mg/LBarium 0.0500 0.0523 0.0516 mg/L (75% - 125%)

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# **QC Summary**

Workorder: 592388 Page 5 of 9 Sample Qual QC **Parmname** NOM Units RPD% REC% Range Anlst Date Time Metals Analysis - ICPMS 2314178 Batch Beryllium 0.0500 0.00131 0.0578 mg/L 113 (75% - 125%)PRB 09/19/22 11:41 0.100 0.109 0.117 mg/L (75%-125%) Boron 8.15\* Cadmium 0.0500 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 0.004170.0500 mg/L 91.7 (75%-125%) Cobalt 0.0500 0.00406 0.0499 91.6 (75%-125%) mg/L U Lead 0.0500 ND 0.0538 mg/L 107 (75%-125%) 0.00757 0.0559 Lithium 0.0500 J 96.7 mg/L (75%-125%) 0.0500 U ND 0.0531 106 Molybdenum mg/L (75%-125%) Selenium 0.0500 0.00322 0.0483 90.2 (75% - 125%)mg/L U ND 0.0525 Thallium 0.0500 105 mg/L (75%-125%) QC1205186329 592388002 MSD U ND 101 Antimony 0.0500 0.0504 0.639 (0%-20%)09/19/22 12:39 mg/L Arsenic 0.0500 U ND 0.0491 mg/L 0.484 96.2 (0%-20%)09/19/22 11:45 0\* 0.0500 0.0517 Barium 0.0523 0.153 (0%-20%)mg/L Beryllium 0.0500 0.00131 0.0585 mg/L 1.3 114 (0%-20%)

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# **QC Summary**

Workorder: 592388 Page 6 of 9 Sample Qual **Parmname** NOM QC Units RPD% REC% Range Anlst Date Time Metals Analysis - ICPMS Batch 2314178 Boron 0.100 0.109 0.118 mg/L 1.32 9.7 \* (0%-20%)PRB 09/19/22 11:45 0.0535 Cadmium 0.0500 J 0.000317 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 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%)0.0500 U ND 0.0538 0.0112 107 Lead mg/L (0%-20%)Lithium 0.0500 J 0.00757 0.0564 mg/L 0.94 97.7 (0%-20%)U ND 0.0547 0.0500 2.89 109 Molybdenum mg/L (0%-20%)0.0500 J 0.003220.0492 92 Selenium mg/L 1.86 (0%-20%)Thallium 0.0500 U ND 0.0529 106 mg/L 0.822 (0%-20%)QC1205194585 592388002 PS Barium 50.0 52.3 100 95.3 09/19/22 11:49 ug/L (75%-125%) 100 109 222 ug/L 114 (75%-125%) Boron QC1205186330 592388002 SDILT U ND U ND N/A 09/19/22 12:43 Antimony ug/L (0%-20%)Arsenic U ND U ND ug/L N/A (0%-20%)09/19/22 11:52 52.3 10.1 Barium ug/L 3.06 (0%-20%)

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# **QC Summary**

Workorder: 592388 Page 7 of 9 NOM Sample Qual QC **Parmname** Units RPD% REC% Range Anlst Date Time Metals Analysis - ICPMS 2314178 Batch Beryllium 1.31 0.248 ug/L 5.42 (0%-20%)PRB 09/19/22 11:52 Boron 109 24.9 ug/L (0%-20%)14.5 J Cadmium 0.317 U ND ug/L N/A (0%-20%)3570 Calcium 18800 ug/L 5.19 (0%-20%)J U Chromium 4.17 ND ug/L N/A (0%-20%)Cobalt 4.06 J 0.819 .887 ug/L (0%-20%)U ND U ND Lead ug/L N/A (0%-20%)J 7.57 U ND Lithium ug/L N/A (0%-20%)U U ND ND Molybdenum ug/L N/A (0%-20%)Selenium J 3.22 U ND ug/L N/A (0%-20%)U ND U ND Thallium ug/L N/A (0%-20%)Metals Analysis-Mercury Batch 2314311 QC1205186635 592388003 DUP U Mercury ND U ND mg/L N/A AXS5 09/12/22 11:09 QC1205186634 LCS 0.00214 Mercury 0.00200 mg/L 107 (80% - 120%)09/12/22 11:02 QC1205186633 MB U ND 09/12/22 11:01 Mercury mg/L

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# **QC Summary**

Workdruct: 392300									Page 8 of 9
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis-Mercury Batch 2314311									
QC1205186636 592388003 MS Mercury	0.00200 U	ND	0.00212	mg/L		106	(75%-125%)	AXS5	09/12/22 11:11
QC1205186637 592388003 SDILT Mercury	Ŭ	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%)	СН6	09/09/22 16:38
QC1205187423 LCS Total Dissolved Solids	300		301	mg/L		100	(95%-105%)		09/09/22 16:38
QC1205187422 MB Total Dissolved Solids		U	ND	mg/L					09/09/22 16:38

#### **Notes:**

Workorder:

592388

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.

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# **QC Summary**

592388 Page 9 of 9 **Parmname NOM** Sample Qual  $\mathbf{OC}$ Units RPD% REC% Range Anlst Date Time

- 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

Workorder:

- 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.
- 5-day BOD--The 2:1 depletion requirement was not met for this sample d
- 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 e reporting purposes
- Preparation or preservation holding time was exceeded h

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.

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### Technical Case Narrative Georgia Power Company SDG #: 592528

## **Metals**

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

**Analytical Batch:** 2314769

**Preparation Method:** SW846 3005A

**Preparation Procedure:** GL-MA-E-006 REV# 14

**Preparation Batch:** 2314768

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

<b>GEL Sample ID#</b>	Client Sample Identification
592528001	AP1PZ-11
592528002	DUP-02
592528003	AP1PZ-2
592528004	AP1PZ-5
1205187547	Method Blank (MB)ICP-MS
1205187548	Laboratory Control Sample (LCS)
1205187551	592528001(AP1PZ-11L) Serial Dilution (SD)
1205187549	592528001(AP1PZ-11S) Matrix Spike (MS)
1205187550	592528001(AP1PZ-11SD) 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 592528003 (AP1PZ-2) and 592528004 (AP1PZ-5) were diluted to ensure that the analyte concentrations were within the linear calibration range of the instrument.

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A 1	592528			
Analyte	003	004		
Boron	10X	100X		
Calcium	10X	100X		

**Product:** Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

**Analytical Method:** SW846 7470A

**Analytical Procedure:** GL-MA-E-010 REV# 38

**Analytical Batch:** 2315121

**Preparation Method:** SW846 7470A Prep

**Preparation Procedure:** GL-MA-E-010 REV# 38

**Preparation Batch:** 2315120

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

GEL Sample ID#	Client Sample Identification
592528001	AP1PZ-11
592528002	DUP-02
592528003	AP1PZ-2
592528004	AP1PZ-5
1205188327	Method Blank (MB)CVAA
1205188328	Laboratory Control Sample (LCS)
1205188331	592595001(NonSDGL) Serial Dilution (SD)
1205188329	592595001(NonSDGD) Sample Duplicate (DUP)
1205188330	592595001(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:** 2317683

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

<b>GEL Sample ID#</b>	<b>Client Sample Identification</b>
592528001	AP1PZ-11
592528002	DUP-02
592528003	AP1PZ-2
592528004	AP1PZ-5

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 1205193505
 Method Blank (MB)

 1205193506
 Laboratory Control Sample (LCS)

 1205193507
 592528001(AP1PZ-11) Sample Duplicate (DUP)

 1205193509
 592528001(AP1PZ-11) 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 1205193507 (AP1PZ-11DUP), 1205193509 (AP1PZ-11PS), 592528001 (AP1PZ-11), 592528002 (DUP-02), 592528003 (AP1PZ-2) and 592528004 (AP1PZ-5) 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.

Amalasta	592528					
Analyte	001	002	003	004		
Sulfate	5X	5X	50X	200X		

**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

592528001 AP1PZ-11 592528002 DUP-02

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:** Solids, Total Dissolved **Analytical Method:** SM 2540C

**Analytical Procedure:** GL-GC-E-001 REV# 19

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## **Analytical Batch:** 2315610

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

592528003 AP1PZ-2 592528004 AP1PZ-5

1205189364 Method Blank (MB)

1205189365 Laboratory Control Sample (LCS)

1205189371 592607004(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.

#### **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.

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## Technical Case Narrative Georgia Power Company SDG #: 592388

# **Metals**

<u>Product:</u> Determination of Metals by ICP-MS <u>Analytical Method:</u> SW846 3005A/6020B <u>Analytical Procedure:</u> 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
592388001	EB-01
592388002	AP1GWA-1
592388003	AP1GWA-2
592388004	FB-01
592388005	AP1PZ-1
592388006	AP1PZ-7
592388007	AP1PZ-10
592388008	FB-02
592388009	AP1PZ-4
592388010	DUP-01
592388011	AP1PZ-9
592388012	AP1PZ-8
592388013	EB-02
592388014	AP1PZ-3
592388015	AP1PZ-6
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**

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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%)
1205186329 (AP1GWA-1MSD)	Barium	-1.22* (75%-125%)
	Boron	9.7* (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 592388005 (AP1PZ-1), 592388006 (AP1PZ-7), 592388007 (AP1PZ-10), 592388009 (AP1PZ-4), 592388010 (DUP-01), 592388011 (AP1PZ-9), 592388012 (AP1PZ-8), 592388014 (AP1PZ-3) and 592388015 (AP1PZ-6) were diluted to ensure that the analyte concentrations were within the linear calibration range of the instrument.

A	592388								
Analyte	005	006	007	009	010	011	012	014	015
Boron	5X	50X	50X	50X	100X	10X	50X	20X	50X
Calcium	1X	50X	50X	50X	100X	10X	50X	20X	50X
Molybdenum	1X	1X	1X	1X	1X	1X	50X	1X	1X

**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

592388001 EB-01 592388002 AP1GWA-1

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592388003	AP1GWA-2
592388004	FB-01
592388005	AP1PZ-1
592388006	AP1PZ-7
592388007	AP1PZ-10
592388008	FB-02
592388009	AP1PZ-4
592388010	DUP-01
592388011	AP1PZ-9
592388012	AP1PZ-8
592388013	EB-02
592388014	AP1PZ-3
592388015	AP1PZ-6
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:** 2314142

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

<b>GEL Sample ID#</b>	Client Sample Identification
592388001	EB-01
592388002	AP1GWA-1
592388003	AP1GWA-2
592388004	FB-01
592388005	AP1PZ-1
592388007	AP1PZ-10
592388008	FB-02
1205186281	Method Blank (MB)
1205186282	Laboratory Control Sample (LCS)
1205186285	592010001(NonSDG) Sample Duplicate (DUP)
1205186286	592010001(NonSDG) Post Spike (PS)

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

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#### **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**

#### Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Fluoride	1205186286 (Non SDG 592010001PS)	179* (90%-110%)

#### **Technical Information**

## **Sample Dilutions**

The following samples 1205186285 (Non SDG 592010001DUP), 1205186286 (Non SDG 592010001PS), 592388002 (AP1GWA-1), 592388005 (AP1PZ-1) and 592388007 (AP1PZ-10) 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.

Amalasta	5	9238	8
Analyte	002	005	007
Sulfate	10X	10X	25X

**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
592388006	AP1PZ-7
592388009	AP1PZ-4
592388010	DUP-01
592388011	AP1PZ-9
592388012	AP1PZ-8
592388013	EB-02
592388014	AP1PZ-3
592388015	AP1PZ-6
1205186792	Method Blank (MB)
1205186793	Laboratory Control Sample (LCS)
1205186796	592398004(ARAMW-7) Sample Duplicate (DUP)
1205186797	592398004(ARAMW-7) Post Spike (PS)

Page 66 of 74 SDG: 592388

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), 592388006 (AP1PZ-7), 592388009 (AP1PZ-4), 592388010 (DUP-01), 592388011 (AP1PZ-9), 592388012 (AP1PZ-8), 592388014 (AP1PZ-3) and 592388015 (AP1PZ-6) 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.

A 14 -			5	92388	3		
Analyte	006	009	010	011	012	014	015
Sulfate	100X	200X	200X	40X	100X	100X	200X

**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
592388001	EB-01
592388002	AP1GWA-1
592388003	AP1GWA-2
592388004	FB-01
592388005	AP1PZ-1
592388006	AP1PZ-7
592388007	AP1PZ-10
592388008	FB-02
592388009	AP1PZ-4
592388010	DUP-01
592388011	AP1PZ-9
592388012	AP1PZ-8
592388013	EB-02
592388014	AP1PZ-3
592388015	AP1PZ-6
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.

Page 67 of 74 SDG: 592388

## **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.

Page 68 of 74 SDG: 592388

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GEL Quot		) ,		) del.cc	] = = = = = = = = = = = = = = = = = = =	mistry I R.	adiochemit	Chemistry   Radiochemistry   Radiobioassay   Specialty Analytics	oassay 1	specialty	Analytic	S			5	harlest	Charleston, SC 29407	29407	
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Number Number	er:	GEL Work	GEL Work Order Number:			GEL F	roject M	GEL Project Manager: Erin Trem	Frin Tre	,ut					Fa	1x: (84	Fax: (843) 766-1178	-1178	
€ent Nar	Chent Name: Georgia Power			Phone # (937)	37) 344-6533	533			San	1ple A	Sample Analysis Requested (5)	S Requ	ested		I in the	num	oer of c	container	(Fill in the number of containers for each test)
Peject/Sit	99ject/Site Name: Plant Arkwright AP-1			Fax#				Should this	his	960	IN	IN	IN		IN	IN	IN		< Preservative Type (6)
Adress: 2	Address: 241 Ralph McGill Blvd SE, Atlanta, GA 30308	4 30308						sample be considered:	be ed:	11/15			B)			, , , , , , , , , ,	'By	(B0)	*
Silected Sekson F	Collected By: John Myer, Emily Scheiben,	Send Results brian.steele@	Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com	thernco.com	EDD@sta	ntec.com		) (If	sp.n	Chicago C	(B0)		(0 <i>L</i> † <i>L</i> )		(Kluc		I' K' I⁄	709) u	Comments Note: extra sample is
388	Sample ID  * From enumnosine a indicate start and standard time	(o/limo	*Date Collected	*Time Collected (Military)	QC Code (3)		Sample Matrix (4)	Andionetive solopic info.)	7) Known or sossible Haza	nadmun latol qA zlatəM	(602) SM MS) SQT	KAD 226-2	Mercury	Anions (Cl, (300.0 Rev	Metals App. (Co o	I.qqA) gA	Alkalinity (3	Na, Fe, Mı	required for sample specific QC
	AP1PZ-11		09/08/22	1015			MG	i		-	×	×	×	×		-			pH: 6.77
	DUP-02	9	09/08/22	NA	ED	z	WQ			5	X	X	×	×			3.4		NA
	AP1PZ-2		09/08/22	1025	z	z	9M			5	X	×	×	×		_			pH: 6.11
	AP1PZ-5		09/08/22	1225	z	Z	9M			5	X	×	×	×					pH: 6.12
a a company										3	100 miles								
																TAY.			5-
1																			
	0	Chain of Custo	Chain of Custody Signatures						TAT	TAT Requested:	sted:	Normal:		X Rush:	sh:	Spe	Specify:		(Subject to Surcharge)
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2 2			2 Arach	16 91	19/2	2	0:1	( A	Additional Remarks:	l Rema	rks:								
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> For some 1.) Chain off	> For issumplie shipping and delivery details, see Sample Receipt & Review Jorm (SKK.) <ol> <li>Chain of Custody Number = Client Determined</li> </ol>	Sample Keceip	ı & Keview Jorn	n (SKK.)				on white	TOTAL STATE OF THE									Total T	100
2) OC Code	2.) QC [Codless: M=Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite as a finite filtered as a filtered as	Field Duplicate, EB	: = Equipment Blank,	MS = Matrix :	spike Samp	le, MSD =	Matrix Spil	ce Duplicate S	Sample, G	= Grab, (	C = Comp	osite							
4.) Marines C.	2. Manuar Conduct mutures, increase with a research of the sample was need in the conduction of the co	SW=Surface Water	, ww=Waste Water	. W=Water, M	J=Misc Liq	uid, SO=S	loil, SD=Sed	liment, SL=Slı	udge, SS=	Solid Wa	iste, 0=0	ii, F=Fil	ter, P=W	′ipe, U≕L	Irine, F=F	ecal, N=	=Nasal		
5.) Sample A	5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/74704 - 1).	l (i.e. 8260B, 6010I	3/7470A) and numbe	r of containers	provided for	r each (i.e.	8260B - 3,	6010B/7470A	(1 - 1).	,									
(fi.)) Presenven	6) Presenvative: Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfurio Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, if no preservative is added = leave field blank	Acid, SH = Sodium	Hydroxide, SA = Su	Ifuric Acid, AA	= Ascorbic	Acid, HX	= Hexane,	ST = Sodium	Thiosulfat	e, If no p	reservati	ve is add	ed = leav	e field bl	ank		DI.	•	de ann additional dataile
RCRA Metalis As = Arsemic Ba = Barimm	B B	FL = Flammable CO = Corrosive RE = Reactive	Characteristic Hazards FL = Flammable/Ignitable CO = Corrosive RE = Reactive	LISTED WASTE  LW= Listed W  (F,K,P and U-  Waste code(s)	Listed waste LW= Listed Waste (F.K.P and U-listed wastes.) Waste code(s):	ste sted was	ites.)	DIO Æ Æ Ø	Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hacards, etc.) Description:	er / Unl vlow p. 'th haze	known H, asbe wds, et	stos, b	erylliu	m, irrita	mts, oth	rer	con con of s	use provu ow regara ncerns. (i. site collec	reuse provue uny auautona ueuas below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)
Cd = Cadimiusm Cr = Chrosmiusm Pb = Lead	Ag= Silver mminum MR= Misc. RCRA metals	TSCA Regulated PCB = Polychlorinated biphenyls	Regulated Polychlorinated biphenyls					*A								11			
								1				F 4							

GEL	Laboratories LLC
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	GEL Laboratories LLC			S	SAMPLE RECEIPT & REVIEW FORM
Cli	ent: GPCC				AR/COC/Work Order: 592528 592534
Rec	eived By: Shanequa Patterson			Date !	Received: 919122
	Carrier and Tracking Number				Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
Sus	pected Hazard Information	Yes	No.	*If Net	t Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)S	hipped as a DOT Hazardous?		1	Hazard	Class Shipped: UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
	Did the client designate the samples are to be ived as radioactive?		1	COC n	otation or radioactive stickers on containers equal client designation.
	old the RSO classify the samples as pactive?		1	Maxim	num Net Counts Observed* (Observed Counts - Area Background Counts):CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) I	Did the client designate samples are hazardous?		1		otation or hazard labels on containers equal client designation.  E is yes, select Hazards below.
E) I	oid the RSO identify possible hazards?		X		PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
	Sample Receipt Criteria	Yes	NA	S S	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	1			ircle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	H			reservation Method: Wet Ice Lee Packs Dry ice None Other:
3	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*		K		*all temperatures—are recorded in Celsius  TEMP:
4	Daily check performed and passed on IR temperature gun?	X		Se	emperature Device Serial #: IR2-22 econdary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	X			ircle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	X		If	mple ID's and Containers Affected:  Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			A	Yes, are Encores or Soil Kits present for solids? YesNoNA(If yes, take to VOA Freezer)  To liquid VOA vials contain acid preservation? YesNoNA(If unknown, select No)  The liquid VOA vials free of headspace? YesNoNA  The liquid VOA vials free of headspace? YesNoNA  The liquid VOA vials free of headspace? YesNoNA  The liquid VOA vials free of headspace? YesNoNA
8	Samples received within holding time?	X			o's and tests affected:
9	Sample ID's on COC match ID's on bottles?	(		ID	o's and containers affected:
10	Date & time on COC match date & time on bottles?	K			ircle 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		Ci	ircle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	1		L	
13	COC form is properly signed in relinquished/received sections?  ments (Use Continuation Form if needed):	X		Ci	ircle Applicable: Not relinquished Other (describe)
Coll	(See Conditional of the Hillery).				

PM (or PMA) review: Initials \_ Page 70 of 74 SDG: 592388

Content of the conten	J <sup>B</sup>			O THE		ころうとうと	2	VHOICE	Amalistic	5			C	harlest	Charleston SC 29407	
GEL Work Order Nu is A 30308 Send Results To: jabraham brian.steele@stantec.com *Date Coll		gel.com	ا ا	etody 2	iochemist	get.com   Chemistry   Radiochemistry   Radiobioassay   Specialty Analytics	assay   Sr Redue	St	Allanyta	3			<u> </u>	hone: (	Phone: (843) 556-8171	
GA 3		597.38	88	GEL Pro	iject Ma	GEL Project Manager: Erin Trent	in Tren	ut					E E	ax: (84	Fax: (843) 766-1178	
GA 3	Phor	Phone # (937) 344-6533	344-65	133			Sam	Sample Analysis Requested	nalysi	s Req	nested	0	III in the	e numb	er of contain	(Fill in the number of containers for each test)
GA 3	Fax#	#				Should this			-	IN	IN		IN	_	IN	< Preservative Type (6)
						considered:					(BC	(state)			,gM	Comments
*Date Coll	m@southern	ao.com EL	D@stant com	@stantec.com om		) () Alddr	sp.rez	III .qqz	20B)		)L†L) K	ns H T	(Kjuo o		VI' K'	Note: extra sample is
	* " llected Co (Mi	*Time Collected (Military)	6	6	Sample	adioactive es, please su otopic info	ssible Ha	otal numb A slatsM		KAD 226	Mercur	O) anoinA A 0.00E)		qqA) gA	Alkalinity Metals Na, Fe, I	specific QC
* For composites - indicate start and stop date/time		7	Code		and the same	Si A	d	+	. ×	×	×	×		$\vdash$		NA
09/0/177	+	5060	GD 7	N N	y com			-		-	100	-				pH: 5.42
09/0/122	-	0701	2 2	2 2	D DM			-		-		-				pH: 6.00
22/10/60		0171	F. R.	; 'Z	WO				×	×	×	×		in a		NA
52110160 52110160		1350	Z	z	MG			S	×	×	×	×				pH: 6.41
22/10/60		1400	z	z	9M			-	×	×	×	×				pH: 6.21
09/07/22	+	1430	z	z	WG		0.5	5	×	×	×	×				pH: 6.55
22/20/60		1445	FB	z	WO			5	X	X	×	×	Minage			NA
09/07/22		1545	z	z	MG		D.	5	×	×	×	×				pH: 6.37
1000	NY-	MA	G	2	OW			5	×	XX	X	×				NA
Chain of Custody Signatures		W	2		y		TAT	TAT Requested:	ested:	Normal:	nal:	X B	Rush:	Sp	Specify:	(Subject to Surcharge)
Time	Received by (signed)	) Date	ite	Time		Fa	Fax Results: [ ] Yes	Its: [ ]	Yes	N [X]	No					
0	1926	Mr.	1/3	18	0	Se	Select Deliverable: [ ] C of A [ ] QC Summary	iverable	: [ ]C	of A	10C	Summar	y [ ] level 1		[X] Level 2	[ ] Level 3 [ ] Level 4
2 1243 shu	2000	2 fr	3	18/27	120	293 40	Additional Remarks:	ıl Remo	arks:			2	Intan	1 2 5	0V L 1 No	Cooler Temp:
3	)					F	or Lab	Keceiv	ing US	e Omy	. Cusi	out you	y Dear minus			[ 1 Mountain [ 1 Other
> For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)  1.) Chain of Custody Number = Client Determined	ew form (S)	RR.)	Je Sami	SW a	Matrix Snik	Sample Conection Time Zone . L.v. J. Leaven. ke Dunjicate Sample, G = Grab, C = Composite	ample, G =	= Grab,	C = Com	l A J						- 8
<ol> <li>QC Codes: N = Normal Sample, TB = Trip Blank, FD = Fried Duplicate, LB = Equipment Blank, M3. = Industries and Codes.</li> <li>Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.</li> </ol>	ent blank, MS	sample was	not field	filtered.			•				1	,		-		.*
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, W=Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urme, F=Fecal, N=Nasa	aste Water, W=	Water, ML	=Misc Liq	puid, SO=So	oil, SD=Sec	diment, SL=Slh	ludge, SS=	=Solid W	/aste, 0=	=Oil, F=	Filter, P.	=Wipe, L	=Urine, F	=recal, I	v≡NasaI	
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).  Sample Analysis Requested: Analytical method requested (i.e. 8260B - 3, 6010B/7470A) and number of containers provided for each field blank.	nd number of c	containers p	rovided fo	r each (i.e. a	= Hexane,	ST = Sodium 7	Thiosulfat	te, If no I	preservat	tive is ac	lded = le	eave field	blank			
6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA	s, 3A - Summing	Listed Waste	Vaste		17	0	Other								Please p	Please provide any additional details
	uitable	LW=Listed W (F,K,P and U-I Waste code(s):	LW= Listed Waste (F,K,P and U-liste: Waste code(s):	LW=Listed Waste (F,K,P and U-listed wastes.) Waste code(s):	tes.)	OEEA	OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:	th/low part / Ur	nknowr pH, asl cards, e	n bestos, etc.)	beryll	ium, iri	itants, c	other	below regi concerns. of site coll	below regarding handling and/or disposat concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)
MR= Misc. RCRA metals PCB = Polychlorinate	ted		*				(A)									

CEL Work Order Number: 549    Phone # Phone Phone # Phone # Phone # Phone Phone Phone # Phone Phone Phone Phone Phone # Phone # Phone	Page: 2 of 2 Poject # 175569434 OH: Ouote #:		<u>Ш</u>	Financia c	abo	rato	Laboratories LLC	C	Con	Analysis (	20				GEL 1 2040 Charl	GEL Laboratories, 2040 Savage Road	GEL Laboratories, LLC 2040 Savage Road Charleston SC 20407	D
CEL Work Order Number: 5/14/2/\$P\$ GEL Polyce Manager: Eith Tenum	(1).		Cha	ō	ustod	y and	Analytica	al Requ	Jest	ty Aridiy	931				Phone	(843):	556-817	
Proceedings   Processing   Pr	Number:	GEL Work Order Number	: 5453	0	GEL	Project	Manager:	Erin Tr	ent						Fax: (	843) 7	56-1178	
Fig. 2	Client Name: Georgia Power		Phone # (9.		5533			Saı	mple /	Analy	sis Re	quest	) (s) ps	Fill in	he nu	mber o	f contain	ers for each test)
Novel   Brief   St. Aubran, GA 30308   Statistical Colored   Ordered   Ord	Project/Site Name: Plant Arkwright AP-1		Fax#				Should	this	S.	IN	IIX		7.7	IN	IN		IN	< Preservative Type (6)
Sample ID   Start Beather, Send Results Can be designed and control in Digitations can be designed and the control in Digitation of Casterial Casterial Scheicher, brain acceleration and caste in Times of Johanne (1990)   Sample ID   The Calcine of Casterial Caster	ess: 241 Ralph McGill Blvd SE, Atlanta, GA 30	3308					sample conside	e be red:	7			-	(əte)		(Bi			100
Sample ID	Myer, Emily Scheiben,	Send Results To: jabraham@sou brian.steele@stantec.com edgar	thernco.com	EDD@sta	ntec.com			st.ds	12.50	(B0			FI, Sulfa	709) VI	0209) (			Comments Note: extra sample is
Specific [] Jevel 1 [X] L  [if [] Centr  [if [] Centr  [if ] Specific Speci	Sample ID * For composites - indicate start and stop date/tin		*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered <sup>(3</sup>	Sample Matrix (4)	Radioactive yes, please su			709)		-	,ID) anoinA	Metals App.	I.qqA) gA			required for sample specific QC
Specification   Specificatio	AP1PZ-9	09/07/22	1615	Z	z	MG			5									pH: 4.84
Specific Specific [ ] Level 1 [X] L	AP1PZ-8	09/07/22	1627	N	Z	DM			5				7 . 19y			16		pH: 6.52
Specification   Specificatio	EB-02	09/07/22	1705	EB	Z	WQ			5			_						NA
Specific Specific [ ] Ievel 1 [X] L	AP1PZ-3	09/07/22	1830	Z	Z	9MG			5									pH: 5.47
Specification   Specificatio	AP1PZ-6	09/07/22	1845	Z	z	MG			5			_						pH: 5.56
Specific Specific [ ] Ievel 1 [X] L												477 561						
Jevel 1 [X] L  Jevel 1 [X] L  fic [ ] Centr  fic f, other										6.0			100			2.2	27	
Specifical Specific [] Jevel 1 [X] L									**************************************	4	16.0		7		14.	10270		1
Jevel 1 [X] L	Chai	in of Custody Signatures						TAT	Requ	ested:	Nor	nal:		ush:	S	pecify		(Subject to Surcharge)
	Date T			ate	Time	1	<u> </u>	ax Resu	lts: [ ]	Yes	X	% N						
fic [] Yes  fic [] Centr  c, F=Fecal, N=Na  s, other	11/2	500	200	100	5/0 5	100		select Deli	verable	.[]c		10C	ummary	- 1	vel 1	[X] Le		[ ] Level
fic [ ] Centr	1800	3	LANGE	2	1	14 17	H	or Lab	Receiv	ing Us	e Only	Cusi	odv. Sec	I Intac	2 [ ]		1 No	
e, F=Fecal, N=Na:	sample shipping and delivery details, see Sam	nple Receipt & Review form	(SRR.)				Sample Co	Hection	Time.	Zone:	[X]	Sasterr	[]	Pacific		II3	M[]	[ ] Other:
e, F=Fecal, N=Nar	in of Custody Number = Client Determined  Codes: N = Normal Sample, TB = Trip Blank, FD = Field I  Field II	Duplicate, $\mathbf{E}\mathbf{B} = \mathbf{E}\mathbf{q}$ uipment Blank, the sample was field filtered or - N ·	MS = Matrix S		le, MSD =	Matrix Spi	ike Duplicate S	Sample, G	= Grab,	C = Con	posite							
s, other	rix Codes: DW=Drinking Water, GW=Groundwater, SW=Sple Analysis Requested: Analytical method requested (i.e. 1711 -	Surface Water, WW=Waste Water, 8260B, 6010B/7470A) and number	W=Water, ML	=Misc Liq	uid, SO=S each (i.e.	oil, SD=Se	diment, SL=Sl, 6010B/7470A	ludge, SS=1	Solid Wa	aste, 0=	Oil, F=F	ilter, P=	Wipe, U=	-Urine, F	=Fecal,	N=Nasal		
Se= Selenium  Ag= Silver  MR= Misc. RCRA metals  biphenyls	OWN OR POSSIBLE HAZARDS   CONTROL	Star – Southin rydroxue, SA – Sutt.  Characteristic Hazards  IL = Flammable/Ignitable  O = Corrosive  R. = Reactive	Listed  Listed  LW=L  (F,K,P)	Naste Sted Wa and U-lich	ste ste	- nexane,		ther  T= Other  i.e.: High	r, u no p r/Un vlow p	known H, asb	estos,	sed = le	um, irri	tants, o	ther	4 4 5	lease pro	ide any additional details rding handling and/or dispos i.e.: Origin of sample(s), type
	Se= Selenium Ag= Silver MR= Misc. RCRA metals	SCA Regulated CB = Polychlorinated biphenyls					Ω	escriptic	::.						- 11	5	ano ans	כופת לניסוני, טממ חומוז וכיט, פוכץ

SAMPLE RECEIPT & REVIEW FORM Client: SDG/AR/COC/Work Orders Received By: Shanequa Patterson Date Received: FedEx Express FedEx Ground UPS Field Services Courier Other Carrier and Tracking Number \*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation. Suspected Hazard Information Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes\_\_\_\_No\_\_ A)Shipped as a DOT Hazardous? B) Did the client designate the samples are to be COC notation or radioactive stickers on containers equal client designation. received as radioactive? Maximum Net Counts Observed\* (Observed Counts - Area Background Counts): CPM/mR/Hr C) Did the RSO classify the samples as Classified as: Rad 1 Rad 2 Rad 3 radioactive? COC notation or hazard labels on containers equal client designation. D) Did the client designate samples are hazardous? If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil **RCRA** Asbestos Beryllium E) Did the RSO identify possible hazards? Y Y Sample Receipt Criteria S Comments/Qualifiers (Required for Non-Conforming Items) Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Shipping containers received intact and Chain of custody documents included Circle Applicable: Client contacted and provided COC COC created upon receipt with shipment? Preservation Method: Wet Ice Ice Packs Dry ice None Other: Samples requiring cold preservation \*all temperatures are recorded in Celsius within  $(0 \le 6 \text{ deg. C})$ ?\* Temperature Device Serial #: IR2-22 Daily check performed and passed on IR Secondary Temperature Device Serial # (If Applicable): temperature gun? Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Sample containers intact and sealed? Sample ID's and Containers Affected: Samples requiring chemical preservation 6 at proper pH? If Preservation added, Lot#: 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) Do any samples require Volatile 7 Are liquid VOA vials free of headspace? Yes\_\_\_\_ No\_\_\_ Analysis? Sample ID's and containers affected: ID's and tests affected: Samples received within holding time? Sample ID's on COC match ID's on ID's and containers affected: bottles? Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) Date & time on COC match date & time 10 on bottles? Circle Applicable: No container count on COC Other (describe) Number of containers received match number indicated on COC? Are sample containers identifiable as GEL provided by use of GEL labels? COC form is properly signed in Circle Applicable: Not relinquished Other (describe) relinquished/received sections? Comments (Use Continuation Form if needed):

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PM (or PMA) review: Initials

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
Vermont Virginia NELAP	460202
Washington	C780
w asinington	C/80

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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 AP1

Work Orders: 592396 and 592534

Dear Joju Abraham:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on September 08, 2022 and September 09, 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



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# Certificate of Analysis Report for

GPCC001 Georgia Power Company Client SDG: 592396 GEL Work Order: 592396

#### 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.

	Edith	M.	Test	
Reviewed by		,		

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# Certificate of Analysis Report for

GPCC001 Georgia Power Company Client SDG: 592534 GEL Work Order: 592534

#### 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.

	Edish	M.	Test	
Reviewed by				

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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 ComplianceAP1

Project: GPCC00100 Client Sample ID: EB-01 GPCC001 Sample ID: Client ID: 592396001

Matrix: WO Collect Date: 07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date '	Time	Batch	Mtd.
Rad Gas Flow Proport GFPC Ra228, Liquid		O												
Radium-228	U	1.11	+/-1.14	1.89	+/-1.18	3.00	pCi/L			JE1	10/05/22	0917	2315719	1
Radium-226+Radium	ı-228 Calculai	tion "See Pa	rent Product	ts"										
Radium-226+228 Sum	U	1.35	+/-1.19	1.89	+/-1.22		pCi/L		1	NXL1	10/07/22	1325	2315718	2
Rad Radium-226														
Lucas Cell, Ra226, L	iquid "As Rece	eived"												
Radium-226	U	0.238	+/-0.336	0.585	+/-0.338	1.00	pCi/L			LXP1	10/07/22	0935	2315712	. 3

The following Analytical Methods were performed Description

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Barium-133 Tracer GFPC Ra228, Liquid "As Received" 2315719 82.7 (15% - 125%)

Batch ID Recovery%

**Acceptable Limits** 

#### Notes:

Method

The MDC is a sample specific MDC.

Surrogate/Tracer Recovery

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level RL: Reporting Limit

Test

TPU: Total Propagated Uncertainty MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Project:

Client ID:

GPCC00100 GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: AP1GWA-1 592396002 WG Collect Date: 07-SEP-22

Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	e Batch	Mtd.
Rad Gas Flow Propor		0										
GFPC Ra228, Liquid	d "As Received	"										
Radium-228	U	0.673	+/-0.911	1.56	+/-0.926	3.00	pCi/L		JE1	10/05/22 0917	2315719	) 1
Radium-226+Radiur	n-228 Calculat	tion "See Pa	rent Produc	ts"								
Radium-226+228 Sum		1.77	+/-1.02	1.56	+/-1.05		pCi/L		1 NXL1	10/07/22 1325	2315718	3 2
Rad Radium-226												
Lucas Cell, Ra226, 1	Liquid "As Rece	eived"										
Radium-226		1.09	+/-0.451	0.402	+/-0.492	1.00	pCi/L		LXP1	10/07/22 0935	2315712	2 3

The following Analytical Methods were performed **Description** 

	<u>-</u>
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"	2315719	82.5	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: AP1GWA-2 Project: GPCC00100 GPCC001 592396003 Client ID: WG

Collect Date: 07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF.	Analyst	Date Tim	e Batch	Mtd.
Rad Gas Flow Proporti	ional Countir	ng											
GFPC Ra228, Liquid	"As Received	"											
Radium-228	U	0.919	+/-1.14	1.93	+/-1.16	3.00	pCi/L			JE1	10/05/22 0917	231571	1
Radium-226+Radium	-228 Calculat	ion "See Pa	rent Produci	ts"									
Radium-226+228 Sum	U	1.49	+/-1.20	1.93	+/-1.22		pCi/L		1	NXL1	10/07/22 1325	231571	3 2
Rad Radium-226													
Lucas Cell, Ra226, Li	quid "As Rece	eived"											
Radium-226		0.571	+/-0.373	0.456	+/-0.383	1.00	pCi/L			LXP1	10/07/22 0935	231571	2 3

The following Analytical Methods were performed **Description** 

	<u>•</u>
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"	2315719	80.2	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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 ComplianceAP1

Client Sample ID: Project: FB-01 GPCC00100 Sample ID: GPCC001 592396004 Client ID: Matrix: WQ

Collect Date: 07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analy	st Date Time	Batch	Mtd.
Rad Gas Flow Proporti GFPC Ra228, Liquid		8										
Radium-228	U	0.0557	+/-0.855	1.65	+/-0.855	3.00	pCi/L		JE1	10/05/22 0917	2315719	1
Radium-226+Radium	-228 Calcular	tion "See Pa	irent Produc	ts"								
Radium-226+228 Sum	U	0.348	+/-0.897	1.65	+/-0.898		pCi/L		1 NXL1	10/07/22 1325	2315718	2
Rad Radium-226												
Lucas Cell, Ra226, Li	quid "As Rece	eived"										
Radium-226	U	0.292	+/-0.271	0.400	+/-0.276	1.00	pCi/L		LXP1	10/07/22 0935	2315712	3

The following Analytical Methods were performed **Description** 

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery

Batch ID Recovery% **Acceptable Limits** 2315719 69.7 Barium-133 Tracer GFPC Ra228, Liquid "As Received" (15% - 125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: Project: AP1PZ-1 GPCC00100 GPCC001 592396005 Client ID: WG

Collect Date: 07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF A	nalyst	Date Time	e Batch	Mtd.
	U											
U U	1.24	+/-1.30	2.16	+/-1.34	3.00	pCi/L			JE1	10/05/22 0917	2315719	1
-228 Calculo	ation "See Pa	rent Produc	ts"									
U	1.33	+/-1.34	2.16	+/-1.38		pCi/L		1 1	NXL1	10/07/22 1325	2315718	3 2
quid "As Red	ceived"											
U	0.0893	+/-0.327	0.643	+/-0.328	1.00	pCi/L		]	LXP1	10/07/22 0935	2315712	2 3
	ional Counti "As Received U -228 Calculd U	ional Counting "As Received" U 1.24 -228 Calculation "See Pa U 1.33	ional Counting "As Received"  U 1.24 +/-1.30 -228 Calculation "See Parent Product U 1.33 +/-1.34	ional Counting "As Received"  U 1.24 +/-1.30 2.16 -228 Calculation "See Parent Products"  U 1.33 +/-1.34 2.16  Equid "As Received"	ional Counting "As Received"  U 1.24 +/-1.30 2.16 +/-1.34 -228 Calculation "See Parent Products"  U 1.33 +/-1.34 2.16 +/-1.38  Equid "As Received"	ional Counting "As Received"  U 1.24 +/-1.30 2.16 +/-1.34 3.00 -228 Calculation "See Parent Products"  U 1.33 +/-1.34 2.16 +/-1.38	ional Counting "As Received"  U 1.24 +/-1.30 2.16 +/-1.34 3.00 pCi/L -228 Calculation "See Parent Products"  U 1.33 +/-1.34 2.16 +/-1.38 pCi/L  iquid "As Received"	ional Counting "As Received"  U 1.24 +/-1.30 2.16 +/-1.34 3.00 pCi/L -228 Calculation "See Parent Products"  U 1.33 +/-1.34 2.16 +/-1.38 pCi/L	ional Counting "As Received"  U 1.24 +/-1.30 2.16 +/-1.34 3.00 pCi/L -228 Calculation "See Parent Products"  U 1.33 +/-1.34 2.16 +/-1.38 pCi/L 1 1	ional Counting "As Received"  U 1.24 +/-1.30 2.16 +/-1.34 3.00 pCi/L JE1 -228 Calculation "See Parent Products"  U 1.33 +/-1.34 2.16 +/-1.38 pCi/L 1 NXL1	ional Counting "As Received"  U 1.24 +/-1.30 2.16 +/-1.34 3.00 pCi/L JE1 10/05/22 0917 -228 Calculation "See Parent Products"  U 1.33 +/-1.34 2.16 +/-1.38 pCi/L 1 NXL1 10/07/22 1325	ional Counting "As Received"  U 1.24 +/-1.30 2.16 +/-1.34 3.00 pCi/L JE1 10/05/22 0917 2315719 -228 Calculation "See Parent Products"  U 1.33 +/-1.34 2.16 +/-1.38 pCi/L 1 NXL1 10/07/22 1325 2315718

The following Analytical Methods were performed **Description** 

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery

Surrogate/Tracer Recovery	Test	Daten ID	Recovery 76	Acceptable Linits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2315719	78.6	(15%-125%)

Potch ID Possyowy / Assentable Limits

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Project:

Client ID:

GPCC00100 GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: AP1PZ-7 592396006 WG Collect Date:

07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date Time	Batch	Mtd.
Rad Gas Flow Proportional Counting													
GFPC Ra228, Liquid '	"As Received	"											
Radium-228	U	-0.267	+/-1.08	2.11	+/-1.08	3.00	pCi/L			JE1	10/05/22 0917	2315719	1
Radium-226+Radium-	228 Calculat	tion "See Pa	rent Produci	ts"									
Radium-226+228 Sum	U	0.479	+/-1.15	2.11	+/-1.16		pCi/L		1	NXL1	10/07/22 1325	2315718	2
Rad Radium-226													
Lucas Cell, Ra226, Liq	quid "As Rece	eived"											
Radium-226	U	0.479	+/-0.409	0.626	+/-0.418	1.00	pCi/L			LXP1	10/07/22 0935	2315712	3

The following Analytical Methods were performed **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"	2315719	70.9	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: AP1PZ-10 Project: GPCC00100 GPCC001 592396007 Client ID: WG

Collect Date: 07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proporti		8										
GFPC Ra228, Liquid	"As Received											
Radium-228	U	1.05	+/-1.16	1.94	+/-1.19	3.00	pCi/L		JE1	10/05/22 0917	2315719	1
Radium-226+Radium-	-228 Calcula	tion "See Pa	rent Produc	ts"								
Radium-226+228 Sum	U	1.34	+/-1.21	1.94	+/-1.24		pCi/L		1 NXL1	10/07/22 1325	2315718	2
Rad Radium-226												
Lucas Cell, Ra226, Li	quid "As Reco	eived"										
Radium-226	U	0.298	+/-0.358	0.602	+/-0.363	1.00	pCi/L		LXP1	10/07/22 0935	2315712	3

The following Analytical Methods were performed **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"	2315719	76.7	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Project:

Client ID:

GPCC00100 GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: FB-02 592396008 WQ Collect Date: 07-SEP-22 Receive Date:

08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date T	ime	Batch	Mtd.
Rad Gas Flow Proportion	onal Countin	ng												
GFPC Ra228, Liquid '	'As Received	"												
Radium-228	U	0.647	+/-1.31	2.30	+/-1.32	3.00	pCi/L			JE1	10/05/22 0	917	2315719	1
Radium-226+Radium-	228 Calculat	ion "See Pa	rent Product	s"										
Radium-226+228 Sum	U	1.02	+/-1.35	2.30	+/-1.36		pCi/L		1	NXL1	10/07/22 1	325	2315718	3 2
Rad Radium-226														
Lucas Cell, Ra226, Liq	guid "As Rece	eived"												
Radium-226	U	0.378	+/-0.321	0.452	+/-0.325	1.00	pCi/L			LXP1	10/07/22 1	013	2315712	3

The following Analytical Methods were performed **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"	2315719	78.5	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Project:

Client ID:

GPCC00100 GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: AP1PZ-4 592396009 WG Collect Date: 07-SEP-22

Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result Un	ncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date Time	Batch	Mtd.
Rad Gas Flow Proporti	onal Countir	ng											
GFPC Ra228, Liquid	"As Received	"											
Radium-228	U	1.73	+/-1.43	2.32	+/-1.49	3.00	pCi/L			JE1	10/05/22 0917	2315719	1
Radium-226+Radium-	-228 Calculat	ion "See Pa	rent Product	ts"									
Radium-226+228 Sum		2.32	+/-1.48	2.32	+/-1.54		pCi/L		1	NXL1	10/07/22 1325	2315718	2
Rad Radium-226													
Lucas Cell, Ra226, Lie	quid "As Rece	eived"											
Radium-226		0.590	+/-0.386	0.527	+/-0.397	1.00	pCi/L			LXP1	10/07/22 1013	2315712	3

The following Analytical Methods were performed **Description** 

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2315719	77.4	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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

GPCC00100

GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: DUP-01 Project: Sample ID: Matrix: Client ID: 592396010 WG

Collect Date: 07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF.	Analyst	Date Tin	e Batcl	Mtd.
Rad Gas Flow Proport GFPC Ra228, Liquid		O											
Radium-228	U	-0.991	+/-1.43	2.80	+/-1.43	3.00	pCi/L			JE1	10/05/22 091	7 23157	9 1
Radium-226+Radium	ı-228 Calcular	tion "See Pa	rent Produc	ts"									
Radium-226+228 Sum	U	0.374	+/-1.48	2.80	+/-1.48		pCi/L		1	NXL1	10/07/22 132	5 23157	8 2
Rad Radium-226													
Lucas Cell, Ra226, L	iquid "As Rece	eived"											
Radium-226	U	0.374	+/-0.389	0.627	+/-0.393	1.00	pCi/L			LXP1	10/07/22 101	3 23157	.2 3

The following Analytical Methods were performed Description

	•
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery

Batch ID Recovery% **Acceptable Limits** 2315719 70.5 Barium-133 Tracer GFPC Ra228, Liquid "As Received" (15% - 125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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 ComplianceAP1

GPCC00100 Client Sample ID: AP1PZ-9 Project: GPCC001 Sample ID: Client ID: 592396011 Matrix:

WG Collect Date: 07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proport GFPC Ra228, Liquid		U												
Radium-228	U	-0.536	+/-0.860	1.83	+/-0.860	3.00	pCi/L			JE1	10/05/22	0917	2315719	1
Radium-226+Radium	n-228 Calculai	tion "See Pa	rent Product	s"										
Radium-226+228 Sum	U	0.482	+/-0.923	1.83	+/-0.928		pCi/L		1	NXL1	10/07/22	1325	2315718	3 2
Rad Radium-226														
Lucas Cell, Ra226, L	iquid "As Rece	eived"												
Radium-226		0.482	+/-0.334	0.444	+/-0.347	1.00	pCi/L			LXP1	10/07/22	1013	2315712	2 3

The following Analytical Methods were performed **Description** 

1 EPA 904.0/SW846 9320 Modified 2 Calculation EPA 903.1 Modified

Barium-133 Tracer GFPC Ra228, Liquid "As Received" 2315719 67.2 (15% - 125%)

Batch ID Recovery%

**Acceptable Limits** 

#### Notes:

Method

The MDC is a sample specific MDC.

Surrogate/Tracer Recovery

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level RL: Reporting Limit

Test

TPU: Total Propagated Uncertainty MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: AP1PZ-8 Project: GPCC00100 GPCC001 592396012 Client ID: WG

Collect Date: 07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	st Date Time	Batch	Mtd.
Rad Gas Flow Proport		8										
GFPC Ra228, Liquid	"As Received	"										
Radium-228	U	0.419	+/-1.15	2.08	+/-1.16	3.00	pCi/L		JE1	10/05/22 0917	2315719	1
Radium-226+Radium	-228 Calculat	ion "See Pa	rent Produci	ts"								
Radium-226+228 Sum	U	0.958	+/-1.21	2.08	+/-1.22		pCi/L		1 NXL1	10/07/22 1325	2315718	3 2
Rad Radium-226												
Lucas Cell, Ra226, Li	iquid "As Rece	eived"										
Radium-226		0.539	+/-0.372	0.510	+/-0.382	1.00	pCi/L		LXP1	10/07/22 1013	2315712	2 3

The following Analytical Methods were performed **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"	2315719	65.8	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Project:

Client ID:

GPCC00100 GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: EB-02 592396013 WQ Collect Date: 07-SEP-22

Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF	Analys	t Date Time	e Batch	Mtd.
Rad Gas Flow Proportion		0											
Radium-228	U U	-0.0465	+/-1.37	2.51	+/-1.37	3.00	pCi/L			JE1	10/05/22 0917	2315719	<del>)</del> 1
Radium-226+Radium-	228 Calculat	ion "See Pa	rent Produci	ts"									
Radium-226+228 Sum	U	0.868	+/-1.43	2.51	+/-1.44		pCi/L		1	NXL1	10/07/22 1325	2315718	3 2
Rad Radium-226 Lucas Cell, Ra226, Liq	juid "As Rece	eived"											
Radium-226		0.868	+/-0.410	0.350	+/-0.443	1.00	pCi/L			LXP1	10/07/22 1013	2315712	2 3

The following Analytical Methods were performed **Description** 

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2315719	83.5	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Project:

Client ID:

GPCC00100 GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: AP1PZ-3 592396014 WG Collect Date: 07-SEP-22

Receive Date: 08-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF	Analys	Date Tim	e Batch	Mtd.
Rad Gas Flow Proportion	onal Countin	ng											
GFPC Ra228, Liquid	"As Received	"											
Radium-228	U	1.61	+/-1.16	1.83	+/-1.23	3.00	pCi/L			JE1	10/05/22 0917	231571	9 1
Radium-226+Radium-	228 Calculat	ion "See Pa	rent Product	's"									
Radium-226+228 Sum		2.43	+/-1.25	1.83	+/-1.32		pCi/L		1	NXL1	10/07/22 1325	231571	8 2
Rad Radium-226													
Lucas Cell, Ra226, Lie	quid "As Rece	eived"											
Radium-226		0.825	+/-0.458	0.582	+/-0.480	1.00	pCi/L			LXP1	10/07/22 1013	231571	2 3

The following Analytical Methods were performed **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"	2315719	80.3	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-6 Project: GPCC00100 Sample ID: Matrix: GPCC001 592396015 Client ID: WG

Collect Date: 07-SEP-22 Receive Date: 08-SEP-22 Collector: Client

Date Time Batch Mtd
05/22 0917 2315719 1
07/22 1325 2315718 2
07/22 1048 2315712 3
):

The following Analytical Methods were performed **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"	2315719	71.8	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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 ComplianceAP1

GPCC00100 Client Sample ID: AP1PZ-11 Project: GPCC001 Sample ID: Client ID: 592534001

Matrix: WG Collect Date: 08-SEP-22 Receive Date: 09-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date Ti	me	Batch	Mtd.
Rad Gas Flow Proportion		O												
GFPC Ra228, Liquid	"As Received	"												
Radium-228	U	0.891	+/-1.41	2.42	+/-1.43	3.00	pCi/L			JE1	10/04/22 09	57 2	2317042	. 1
Radium-226+Radium-	-228 Calcular	tion "See Pa	rent Product	<i>s</i> "										
Radium-226+228 Sum	U	1.06	+/-1.42	2.42	+/-1.44		pCi/L		1	NXL1	10/06/22 10	16 2	2317952	2
Rad Radium-226														
Lucas Cell, Ra226, Lie	quid "As Rece	eived"												
Radium-226	U	0.166	+/-0.200	0.319	+/-0.202	1.00	pCi/L			LXP1	10/06/22 07	45 2	2317044	, 3

The following Analytical Methods were performed **Description** 

1 EPA 904.0/SW846 9320 Modified 2 Calculation EPA 903.1 Modified

Surrogate/Tracer Recovery Batch ID Recovery% **Acceptable Limits** Test Barium-133 Tracer GFPC Ra228, Liquid "As Received" 2317042 90.3 (15% - 125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level RL: Reporting Limit

TPU: Total Propagated Uncertainty MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

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

# **Certificate of Analysis**

Georgia Power Company, Southern Company:

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Project:

Client ID:

GPCC00100 GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: DUP-02 592534002 WQ Collect Date: 08-SEP-22

Receive Date: 09-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date 7	Гіте	Batch	Mtd.
Rad Gas Flow Proport	ional Countin	ng												
GFPC Ra228, Liquid	l "As Received	"												
Radium-228	U	-0.177	+/-0.924	1.78	+/-0.924	3.00	pCi/L			JE1	10/04/22 (	)957	2317042	. 1
Radium-226+Radium	ı-228 Calculai	tion "See Pa	irent Product	s"										
Radium-226+228 Sum	U	0.613	+/-0.993	1.78	+/-1.00		pCi/L		1	NXL1	10/06/22 1	1016	2317952	2
Rad Radium-226														
Lucas Cell, Ra226, L	iquid "As Rece	eived"												
Radium-226		0.613	+/-0.364	0.419	+/-0.381	1.00	pCi/L			LXP1	10/06/22 (	)745	2317044	. 3

The following Analytical Methods were performed **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	87.2	(15%-125%)

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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

# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: Sample ID: Matrix: AP1PZ-2 Project: GPCC00100 GPCC001 592534003 Client ID: WG

Collect Date: 08-SEP-22 Receive Date: 09-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analy	st Date Time	Batch	Mtd.
Rad Gas Flow Proport GFPC Ra228, Liquid		O										
Radium-228	U	0.669	+/-1.44	2.52	+/-1.45	3.00	pCi/L		JE1	10/04/22 0957	2317042	1
Radium-226+Radium	ı-228 Calculat	tion "See Pa	rent Produc	ts"								
Radium-226+228 Sum	U	1.76	+/-1.52	2.52	+/-1.55		pCi/L		1 NXL1	10/06/22 1016	2317952	2
Rad Radium-226 Lucas Cell, Ra226, L	iauid "As Roce	oived"										
Radium-226	ічиш Аз Кесе	1.09	+/-0.484	0.563	+/-0.552	1.00	pCi/L		LXP1	10/06/22 0745	2317044	3

The following Analytical Methods were performed **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	80.2	(15%-125%)

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company: Georgia Power Company, Southern

Company Address:

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia 30308 Report Date: December 7, 2022

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: AP1PZ-5 Project: GPCC00100 Sample ID: Matrix: GPCC001 592534004 Client ID: WG

Collect Date: 08-SEP-22 Receive Date: 09-SEP-22 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proport GFPC Ra228, Liquid		8										
Radium-228	U	0.560	+/-1.48	2.63	+/-1.49	3.00	pCi/L		JE1	10/04/22 0957	2317042	1
Radium-226+Radium	-228 Calculat	ion "See Pa	rent Produci	ts"								
Radium-226+228 Sum	U	1.41	+/-1.57	2.63	+/-1.58		pCi/L		1 NXL1	10/06/22 1016	2317952	2
Rad Radium-226												
Lucas Cell, Ra226, Li	iquid "As Rece											
Radium-226		0.850	+/-0.507	0.680	+/-0.522	1.00	pCi/L		LXP1	10/06/22 0817	2317044	3

The following Analytical Methods were performed **Description** 

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EDA 003 1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2317042	72	(15%-125%)

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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

**QC Summary** 

Client: Georgia Power Company, Southern Company

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia Joju Abraham

Workorder: 592396

**Contact:** 

Report Date: December 7, 2022
Page 1 of 2

Parmname		NOM	Sample (	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow										
Batch	2315719 —									
QC1205189621	592396002 DUP									
Radium-228		U	0.673	U	1.22	pCi/L	0		N/A JE1	10/05/2209:17
		Uncert:	+/-0.911		+/-0.941					
		TPU:	+/-0.926		+/-0.989					
QC1205189622	LCS									
Radium-228		43.8			44.9	pCi/L		102	(75%-125%) JE1	10/05/2209:17
		Uncert:			+/-3.44					
		TPU:			+/-11.7					
QC1205189620	MB									
Radium-228				U	1.52	pCi/L			JE1	10/05/2209:17
		Uncert:			+/-1.05					
		TPU:			+/-1.12					
Rad Ra-226										
Batch	2315712 —									
QC1205189608	592396002 DUP									
Radium-226			1.09		0.739	pCi/L	38.6		(0% - 100%) LXP1	10/07/2210:48
		Uncert:	+/-0.451		+/-0.365	•			•	
		TPU:	+/-0.492		+/-0.396					
QC1205189610	LCS									
Radium-226		26.5			22.8	pCi/L		86	(75%-125%) LXP1	10/07/2210:48
		Uncert:			+/-1.83	•				ļ
		TPU:			+/-4.98					
QC1205189607	MB									
Radium-226				U	0.459	pCi/L			LXP1	10/07/2210:48
		Uncert:			+/-0.337					
		TPU:			+/-0.347					
QC1205189609	592396002 MS									
Radium-226		131	1.09		116	pCi/L		87.5	(75%-125%) LXP1	10/07/2210:48
		Uncert:	+/-0.451		+/-9.92	-				
		TPU:	+/-0.492		+/-26.5					

# 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

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# **QC Summary**

Workorder: 592396 Page 2 of 2 NOM Sample Qual  $\mathbf{OC}$ RPD% REC% Parmname Units Range Anlst Date Time

- See case narrative for an explanation J
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- Analyte present. Reported value may be biased low. Actual value is expected to be higher. L
- M if above MDC and less than LLD M
- REMP Result > MDC/CL and < RDL M
- RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier NJ
- One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- Sample results are rejected R
- 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.
- 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.

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Report Date: December 7, 2022

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

**QC Summary** 

Client: Georgia Power Company, Southern Company

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia

Contact: Joju Abraham

Workorder: 592534

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	10/04/2209:55
		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	10/04/2209:55
		Uncert:			+/-3.39					
0.01205102227	MB	TPU:			+/-11.2					
QC1205192227 Radium-228	MB			U	0.724	ъC:/I			JE1	10/04/2209:55
Kaululli-226		Uncert:		U	+/-1.06	pCi/L			JEI	10/04/2209.33
		TPU:			+/-1.07					
Rad Ra-226		11 0.			17 1.07					
Batch	2317044									
QC1205192207	592399001 DUP									
Radium-226	372377001 DC1		1.02		0.872	pCi/L	15.5		(0% - 100%) LXP1	10/06/2208:17
Radiani 220		Uncert:	+/-0.434		+/-0.501	PCI/L	10.0		(070 10070) E211 1	10/00/2200.17
		TPU:	+/-0.491		+/-0.542					
QC1205192209	LCS									
Radium-226		26.5			26.2	pCi/L		98.7	(75%-125%) LXP1	10/06/2208:17
		Uncert:			+/-2.11					
		TPU:			+/-5.53					
QC1205192206	MB									
Radium-226				U	0.395	pCi/L			LXP1	10/06/2208:17
		Uncert:			+/-0.379					
		TPU:			+/-0.384					
QC1205192208	592399001 MS	120	1.02		1.40	G: A		100	(550) 1050() I WD1	10/04/22/20 15
Radium-226		130	1.02		143	pCi/L		109	(75%-125%) LXP1	10/06/2208:17
		Uncert: TPU:	+/-0.434 +/-0.491		+/-10.6 +/-26.3					
		IPU:	+/-0.491		+/-20.3					

#### **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

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

# **QC Summary**

Workorder: 592534

Page 2 of 2

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 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.

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# Radiochemistry Technical Case Narrative Georgia Power Company SDG #: 592396

**Product:** Radium-226+Radium-228 Calculation

**Analytical Method:** Calculation

Analytical Procedure: GL-RAD-D-003 REV# 45

**Analytical Batch:** 2315718

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

<b>GEL Sample ID#</b>	<b>Client Sample Identification</b>
592396001	EB-01
592396002	AP1GWA-1
592396003	AP1GWA-2
592396004	FB-01
592396005	AP1PZ-1
592396006	AP1PZ-7
592396007	AP1PZ-10
592396008	FB-02
592396009	AP1PZ-4
592396010	DUP-01
592396011	AP1PZ-9
592396012	AP1PZ-8
592396013	EB-02
592396014	AP1PZ-3
592396015	AP1PZ-6

# **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:** 2315719

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

GEL Sample ID#	Client Sample Identification
592396001	EB-01
592396002	AP1GWA-1
592396003	AP1GWA-2
592396004	FB-01
592396005	AP1PZ-1

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592396006	AP1PZ-7
592396007	AP1PZ-10
592396008	FB-02
592396009	AP1PZ-4
592396010	DUP-01
592396011	AP1PZ-9
592396012	AP1PZ-8
592396013	EB-02
592396014	AP1PZ-3
592396015	AP1PZ-6
1205189620	Method Blank (MB)
1205189621	592396002(AP1GWA-1) Sample Duplicate (DUP)
1205189622	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:** 2315712

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

GEL Sample ID#	Client Sample Identification
592396001	EB-01
592396002	AP1GWA-1
592396003	AP1GWA-2
592396004	FB-01
592396005	AP1PZ-1
592396006	AP1PZ-7
592396007	AP1PZ-10
592396008	FB-02
592396009	AP1PZ-4
592396010	DUP-01
592396011	AP1PZ-9
592396012	AP1PZ-8
592396013	EB-02
592396014	AP1PZ-3
592396015	AP1PZ-6
1205189607	Method Blank (MB)
1205189608	592396002(AP1GWA-1) Sample Duplicate (DUP)
1205189609	592396002(AP1GWA-1) Matrix Spike (MS)
1205189610	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.

# **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.

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# Radiochemistry Technical Case Narrative Georgia Power Company SDG #: 592534

**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).

Client Sample Identification
AP1PZ-11
DUP-02
AP1PZ-2
AP1PZ-5

#### **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
592534001	AP1PZ-11
592534002	DUP-02
592534003	AP1PZ-2
592534004	AP1PZ-5
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.

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<u>Product:</u> Lucas Cell, Ra226, Liquid <u>Analytical Method:</u> 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
592534001	AP1PZ-11
592534002	DUP-02
592534003	AP1PZ-2
592534004	AP1PZ-5
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.

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ige	QEI, Ouote #:	697.39			S mistry	Badlocher	Chemistry   Badlorhomistry   Badlorhomseav   Speciate Apartics	LLC	Shar	atto Ano	W.				204C	Savag	2040 Savage Road	-	
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ê	O Number:	GEL Work Order Number:	r: 5923		GEL	Project	GEL Project Manager: Erin Trent	: Erin	rent						Fax:	(843)	Fax: (843) 766-1178		
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Ğ	ddress: 241 Ralph McGill Blvd SE, Atlanta, GA 30308	30308					sample be considered:	sample be onsidered:	ıəniri	ΛI	(D0t		(e)i	-	B)	(1.2			
\(\bar{z}\)	Collected By: John Myer, Emily Scheiben, Ockson Bankston	Send Results To: jabraham@southernco.com EDD@brian.steele@stantec.com edgar.smith@stantec.com	uthernco.com r.smith@stant	EDD@st ec.com	@stantec.com	н	Ajdo JI)	ırds	, ot con		ysz poq		ellu Sulfa	1A (602		O.00 E		Comments Note: extra sample is	e is
2396 R	Sample ID  * For composites - indicate start and stop date/time	*Date Collected (num-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample 3) Matrix (4)	Radioactive yes, please sup isotopic info.)	(7) Known or possible Haza	rədmun latoT	Metals Ap (602)	TDS (SM Mei	KAD 226-2	Mercury (Anions (Cl, 1	(300.0 Rev. Metals App. 1 (Co o)	(I.qqA) gA	Alkalinity (3	Metals Al Na, Fe, Mn	required for sample specific QC	ple
v1	EB-01	09/07/22	9060	EB	z	WQ			5	×	×	×	×					NA	
	APIGWA-1	09/07/22	1020	Z	Z	MG			5	×	×	×	X			1		pH: 5.42	
	APIGWA-2	09/07/22	1155	z	z	MG			5	×	×	×	×					pH: 6.00	
	FB-01	09/07/22	1210	FB	N	WQ			5	×	×	×	×		These			NA	
	AP1PZ-1	09/07/22	1350	z	z	MG			5	×	×	×	×					pH: 6.41	
	AP1PZ-7	09/07/22	1400	Z	z	MG			5	X	×	×	X					pH: 6.21	
	AP1PZ-10	09/07/22	1430	z	z	MG			5	×	×	×	X					pH: 6.55	
	FB-02	09/07/22	1445	FB	z	WQ			5	X	X	×	X					NA	
	AP1PZ-4	09/07/22	1545	z	z	MG		5),	5	×	×	×	×					pH: 6.37	
1	DUP-01	09/07/22	NA	FD	Z	WQ			5	X	X	X	X					NA	
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2.) QC	2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike	eld Duplicate, EB = Equipment Blank,	MS = Matrix S	pike Samp	ıle, MSD =	= Matrix Sp	Sample, $MSD = Matrix$ Spike Duplicate Sample, $G = Grab$ , $C = Composite$	Sample, (	3 = Grab	, C= Co	mposite	10474							
3.) Fie	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	yes the sample was field filtered or - N	- for sample wa	s not field	filtered.													,	
4.) Ma	4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, WE-Water, ML=Mise Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal	W=Surface Water, WW=Waste Water	, W=Water, MI	=Misc Lie	=OS 'pint	Soil, SD=Se	ediment, SL=	Sludge, SS	Solid V	Vaste, O	=Oil, F:	=Filter, F	=Wipe, U	=Urine,	F=Fecal,	, N=Nas	la a		
6.) Pre.	5.) Sample Amagas requested. Analytical interior requested (1.1.) across, waters (1.1.) across	id, SH = Sodium Hydroxide, SA = Sul	furic Acid, AA	= Ascorbic	Acid, HX	. ozovb - 3	ST = Sodiun	را - ۲۸. Thiosulfa د	ate. If no	preserva	tive is a	dded = 1	save field	blank					
7.) K	7.) KNOWN OR POSSIBLE HAZARDS	Characteristic Hazards	Listed Waste	Waste		22		Other			-						Ploase nr	Plence provide any additional details	
RCR. As = / Ba = 1	77.20	FL = Flammable/Ignitable CO = Corrosive RE = Reactive	LW= Listed W (F,K,P and U-l) Waste code(s):	isted Warned U-li	LW=Listed Waste (F,K,P and U-listed wastes.) Waste code(s):	rtes.)		OT=Other / Unknown i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:	her / U zh/low alth ha ion:	nknow pH, as:	n bestos etc.)	, berylu	ium, irr	itants,	other		below reg concerns. of site col.	below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of stie collected from, odd matrices, etc.)	sposal type etc.)
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COC Number (1): 4 Coolers			Chain	no	ustod	y and /	of Custody and Analytical Request	Redu	lest						Phon	e: (843	Phone: (843) 556-8171	71	
O Number:	GEL Work Order Number: 54'23	rder Number	: 54.7	200	GEL	Project A	GEL Project Manager: Erin Trent	Erin Tr	ent						Fax:	(843)	Fax: (843) 766-1178		
Qient Name: Georgia Power			Phone # (937)	37) 344-6533	533		Sulfu	Sai	nple A	Sample Analysis Requested (5)	is Re	quest		Fill in	the nu	umber	of conta	(Fill in the number of containers for each test)	st)
Goject/Site Name: Plant Arkwright AP-1			Fax#				Should this	this	e in the	IN	114	IN	71.7	IN	IN		IN	< Preser	< Preservative Type (6)
Address: 241 Ralph McGill Blvd SE, Atlanta, GA 30308	GA 30308						sample be considered:	be ed:	1-21		_		(9)I	-	B)				
Gollected By: John Myer, Emily Scheiben, Ackson Bankston	Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com	jabraham@sou itec.com edgar.	thernco.com	EDD@sta	ntec.com		H)	rds.	Stare	(B0			FI, Sulfa	IV (602				Cor Note: ex	Comments Note: extra sample is
Sample ID  * For composites - indicate start and stop date/time	date/t	*Date Collected (mm-dd-yy)	*Time Collected (Military) (thmm)	QC Code (3)		Sample Matrix (4)	Radioactive yes, please sup isotopic info.)	(7) Known or possible Haza	Total number Metals Ap	(905)	F ASS (TA W	RAD 226-2	Anions (Cl., I) (300.0 Rev.	Metals App. I	(I.qqA) gA	Alkalinity (3	Metals Al. Na, Fe, Mn	requirec	required for sample specific QC
6-ZdIAV		09/07/22	1615	Z	N	WG			5	×	×	×	×					Hd	pH: 4.84
AP1PZ-8		09/07/22	1627	Z	Z	DM			5	×	×	×					A 889	Hd	pH: 6.52
EB-02		09/07/22	1705	EB	z	δM			5	×	×	×	×						NA
AP1PZ-3		09/07/22	1830	Z	N	WG			5	X	X	X	×				7. T	Hd	pH: 5.47
AP1PZ-6		09/07/22	1845	z	z	MG			5	×	×	×	×					:Hd	5.56
													27						
											100			2.5				مير د	
				10.19					7.45 7.45 87.45		7010		9,0				4,7		
	Chain of Custody Signatures	Signatures						TAT	TAT Requested:	ssted:	Normal:	nal:	X	Rush:		Specify:		(Subject to	(Subject to Surcharge)
ate	Time	Received by (signed)	,	Date	Time	111	Fa	Fax Results:	-	] Yes	[X]No	No No							
1 Ochmer and 9/8722	0810	OMMON	North	2 6	501	1/33		Select Deliverable: [ ] C of A	verable	:[]C		10C	[ ] QC Summary		[ ] level 1	[X] Level 2		[ ] Level 3 [ ] Level 4	14
2 95 of Jan 4/8/102	1343 2	mosso	Str	1886/	7 5	43	At	Additional Remarks.	l Rema	vks:									
3	3	7		1			F	For Lab Receiving Use Only: Custody Seal Intact? [ ] Yes	Receivi	ng Use	2 Only	: Cust	ody Sec	d Intac	t? [ ]		[ ] No	Cooler Temp:	ے د
> For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)	ee Sample Receipt &	Review form	(SRR.)				Sample Collection Time Zone: [X] Eastern	llection	Time	cone:	X	asterr		[ ] Pacific		[ ] Central		[ ] Mountain [ ] Other:	ther:
1.) OC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike	= Field Duplicate, <b>EB</b> = E	luipment Blank,	MS = Matrix S <sub>1</sub>	oike Sample	, MSD = ]	Matrix Spik	Sample, $MSD = Matrix$ Spike Duplicate Sample, $G = Grab$ , $C = Composite$	ample, G=	: Grab, C	Z = Com	posite								
3.) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not	- for yes the sample was fie	ld filtered or - N	for sample wa	s not field filtered	Itered.														
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	er, SW=Surface Water, W	W=Waste Water,	W=Water, ML	=Misc Liqu	id, SO=Sc	oil, SD=Sec	diment, SL=Slu	idge, SS=	Solid Wa	1ste, 0=(	Jil, F=F	ilter, P=	Wipe, U=	Urine, F	=Fecal,	N=Nas	1		
5.) Sample Analysis requested. Analytical mention requested the azone, out obtained in number of containers provided for each (i.e. ozone -3, out tibs / 4/04 - 1).  (5) Preservative Type: HA = Hydrochloric Acid, INI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank	ied (i.e. <b>6200B</b> , <b>9010B</b> /74 ic Acid, SH = Sodium Hyd	oxide, SA = Sulfi	or containers parie Acid, AA =	* Ascorbic	each (i.e. c	= Hexane, 5	ST = Sodium T	- 1). 'hiosulfate	If no pr	eservati	ve is adu	ded = leg	ve field b	lank					
7.) KNOWN OR POSSIBLE HAZARDS	Characteristic Hazards	Hazards	Listed Waste	Vaste			O	Other			-						lease pr	Please provide any additional details	nal details
	FL = Flammable/Ignitable CO = Corrosive RE = Reactive	e/Ignitable	LW= Listed W (F,K,P and U-l.	LW= Listed Waste (F,K,P and U-listec Waste code(s):	d Waste U-listed wastes.) (s):	es.)	O mi	OT=Other/Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:	r / Uni Now p. th haza	snown H, asbe wds, et	estos, i	serylli	um, irri	tants, c	ther	~ 0 0	elow reg oncerns f site co	below regarding handling and/or disposal concerns. (i.e., Origin of sample(s), type of site collected from, odd matrices, etc.)	and/or disposal ample(s), type matrices, etc.)
Cd = Cadmium Ag= Silver Cr = Chromium MR= Misc. RCRA metals Pb = Lead	TSCA Regulated PCB = Polychlorinated biphenyls	rinated																	
							1												

<b>GEL</b> Labo	oratories LLC
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SAMPLE RECEIPT & REVIEW FORM Client: SDG/AR/COC/Work Orders Received By: Shanequa Patterson Date Received: FedEx Express FedEx Ground UPS Field-Service Courier **Carrier and Tracking Number** Suspected Hazard Information \*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation. Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes\_\_\_No\_ A)Shipped as a DOT Hazardous? B) Did the client designate the samples are to be COC notation or radioactive stickers on containers equal client designation. received as radioactive? Maximum Net Counts Observed\* (Observed Counts - Area Background Counts): C) Did the RSO classify the samples as Classified as: Rad 1 Rad 2 Rad 3 radioactive? COC notation or hazard labels on containers equal client designation. D) Did the client designate samples are hazardous? If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil **RCRA** Beryllium E) Did the RSO identify possible hazards? N N Sample Receipt Criteria Comments/Qualifiers (Required for Non-Conforming Items) Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Shipping containers received intact and Chain of custody documents included Circle Applicable: Client contacted and provided COC COC created upon receipt with shipment? Preservation Method: Wet Ice Ice Packs Dry ice None Other: Samples requiring cold preservation \*all temperatures are recorded in Celsius within  $(0 \le 6 \text{ deg. C})$ ?\* Temperature Device Serial #: IR2-22 Daily check performed and passed on IR Secondary Temperature Device Serial # (If Applicable): temperature gun? Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Sample containers intact and sealed? Sample ID's and Containers Affected: Samples requiring chemical preservation 6 at proper pH? If Preservation added, Lot#: 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) Do any samples require Volatile 7 Are liquid VOA vials free of headspace? Yes\_\_\_ No\_\_ NA\_ Analysis? Sample ID's and containers affected: ID's and tests affected: 8 Samples received within holding time? ID's and containers affected: Sample ID's on COC match ID's on bottles? Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) Date & time on COC match date & time 10 on bottles? Circle Applicable: No container count on COC Other (describe) Number of containers received match number indicated on COC? Are sample containers identifiable as GEL provided by use of GEL labels? Circle Applicable: Not relinquished Other (describe) COC form is properly signed in relinquished/received sections? Comments (Use Continuation Form if needed):

Page 34 of 37 SDG: 592396 Rev1

PM (or PMA) review: Initials

Page: 1 of 1	7	< 9 7 5 7 8 C = 1	1		2	+01		-							GEL	Labor	GEL Laboratories, LLC	TTC	
GEL Ouote #:	)	)	paleo		mistry IR	adiochemi	Chemistry   Badiochemistry   Badiochemis	ioassav	Specialt	v Analyt	SS				Char]	Savage leston.	2040 Savage road Charleston, SC 29407	407	
OOC Number (1). 1 Cooler	5	592534	Chain	0	ustod	/ and A	of Custody and Analytical Request	Redu	est						Phon	e: (84.	Phone: (843) 556-8171	8171	
Number:	GEL Wor	GEL Work Order Number:			GEL F	roject M	GEL Project Manager: Erin Trent	Erin Tr	ent					The state of the s	Fax:	(843)	Fax: (843) 766-1178	78	
Objent Name: Georgia Power			Phone # (937)	(7) 344-6533	533			Sar	nple A	Sample Analysis Requested (5)	is Req	ueste	-CD0003.59	Fill in	the nu	ımber	of con	tainers fo	(Fill in the number of containers for each test)
Doject/Site Name: Plant Arkwright AP-1			Fax#				Should this	this	ne.	IN	IN	IN		IN	IN		IN		<- Preservative Type (6)
Odress: 241 Ralph McGill Blvd SE, Atlanta, GA 30308	GA 30308						sample be considered:	be ed:	A Property		-		(91g		(B)	(1.2			
Gollected By: John Myer, Emily Scheiben, Sekson Bankston		Send Results To: jabraham@southernco.com EDD@ brian.steele@stantec.com edgar.smith@stantec.com	thernco.com I smith@stante	EDD@sta	@stantec.com		) (If	sp.u	THE R	(B0			FI, Sulfa	IA (602		900.0 R			Comments Note: extra sample is
Sample ID  * Four composites - indicate start and stop date time	date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military)	8	Field Filtered <sup>(3)</sup>	Sample Matrix (4)	Radioactive yes, please sup isotopic info.)	ro nwonX (7) possible Haza	nedmun lateT A slateM	508) SM MS) SQT	KAD 226-2	Mercury	(S) snoinA (300.0 Rev	Metals App. (Co o	I.qqA) gA	Alkalinity (3	Metals A Na, Fe, Mi		required for sample specific QC
		09/08/22	1015	z	z	9M			5	×	×	×	×						pH: 6.77
DUP-02	*	09/08/22	NA	FD	z	WQ	115		5	X	X	×	×				N IS		NA
APIPZ-2		09/08/22	1025	z	z	9M			5	×	X	×	×						pH: 6.11
AP1PZ-5		09/08/22	1225	z	z	9M			S	X	X	×	×						pH: 6.12
							直									-		5	
															17 15 16				
													_						
	Chain of Cust	Chain of Custody Signatures						TAT	TAT Requested:	sted:	Normal:	nal:	X B	Rush:		Specify:	y:		(Subject to Surcharge)
Relinquirished By (Signed) Date	Time	Received by (signed)		Date	Time		H	Fax Results: [ ] Yes	ts: [ ]	Yes	(X)No	No.							
1 HornWall 4/8/22	1435	1 FealE	16 8	8/22		1700		Select Deliverable: [ ] C of A [ ] QC Summary	verable	:[]C	fA [	10cs	ummar	- 1	[ ] level 1	[X]	[X] Level 2	[ ] Level 3	3 [ ] Level 4
2 %		2 Assolution	6	7	22	9:10		Additional Remarks:	I Remo	ırks:									
3		3					F	For Lab Receiving Use Only: Custody Seal Intact? [	Receivi	ng Use	Only.	Cust	ody Se	al Inta	217 [ ]	] Yes			.0
> For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)  1.) Chain of Custudy Number = Client Determined  2.) OC Godes: N= Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike	ee Sample Receij - Field Duplicate, El	ot & Review form  8 = Equipment Blank,	(SRR.)  MS = Matrix S	pike Samp	le, MSD =	Matrix Spik	Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite	nuection Sample, G	Grab, (	C= Com	l A J E	astern		[ ] racine	-	Central	1	urannom [ ]	III [ ] Outer.
3) Field Filteredt. Hor liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.  4) Machine Choline Mark. Section Water SW-Surface Water. WW=Water. WL=Miser. ML=Miser. Louid. SO=Soil. SD=Sediment. SL=Studge. SS=Solid Waste. O=Oil. F=Filter. P=Wipe. U=Urine. F=Fecal. N=Nasal	<ul> <li>for yes the sample w</li> <li>er SW=Surface Water</li> </ul>	as field filtered or - N	- for sample wa	s not field	filtered.	oil. SD=Sed	iment, SL=S	ludge, SS=	Solid W	iste, O=(	oil, F=F	lter, P=	Wipe, U	=Urine,	F=Fecal	Z=Na	Teg		
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).	sted (i.e. <b>8260B</b> , 6010	B/7470A) and number	of containers p	rovided fo	each (i.e.	8260B - 3,	\$010B/7470A	[ -1). Thiosulfat	If no n	tevrasar	obe si ado	Pd	ve field	hlank					
TO KINGTON ON POSSIBLE HAZARDS	Characteri	Characteristic Hazards	Listed Waste	Waste	mond, and	Troume, t		Other	5								Please	provide a	Please provide any additional details
RCRA Metals  As = Arsemic Hg = Mercury  Ba = Barrium Se = Selenium  Cd = Cadmium Ag = Silver	FL = Flammable CO = Corrosive RE = Reactive TSCA Regulate	FL = Flammable/Ignitable CO = Corrosive RE = Reactive TSCA Regulated	LW=L (F,K,P, Waste c	LW= Listed Waste (F.K.P and U-listed Waste code(s):	LW=Listed Waste (F, K, P and U-listed wastes.) Waste code(s):	tes.)		OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:	er / Un vlow p th hazi	known H, asbu ards, ei	estos, l	beryllii	um, irr	itants,	other		below concer of site	regarding ms. (i.e.: collected	below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)
Cr=(Thrommurm MR=Misc. RCRA metals Pb=Lead	PCB = Polychlorinated biphenyls	Polychlorinated biphenyls																	

GEL	Laboratories LLC
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	GEL Laboratories LLC				SAMPLE RECEIPT & REVIEW FORM
Cli	ent: GPCC			SD	G/AR/COC/Work Order: 592521 592534
Re	eived By: Shanequa Patterson			Da	te Received: 919122
	Carrier and Tracking Number				Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
Sus	pected Hazard Information	Yes	No	*If	Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)S	hipped as a DOT Hazardous?		1	Haz	ard Class Shipped: UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
	Did the client designate the samples are to be ived as radioactive?		1	CO	C notation or radioactive stickers on containers equal client designation.
2000	Did the RSO classify the samples as pactive?		1	Ma	cimum Net Counts Observed* (Observed Counts - Area Background Counts)  CPM / mR/Hr  Classified as: Rad 1 Rad 2 Rad 3
D) I	Did the client designate samples are hazardous?		1		C notation or hazard labels on containers equal client designation.  or E is yes, select Hazards below.
E) I	Did the RSO identify possible hazards?		X	n D	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?	4			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*		K		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?	X			Temperature Device Serial #:  R2-22   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? YesNoNA(If yes, take to VOA Freezer)  Do liquid VOA vials contain acid preservation? YesNoNA(If unknown, select No)  Are liquid VOA vials free of headspace? YesNoNA  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?	(			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	K			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? COC form is properly signed in	1			Circle Applicable: Not relinquished Other (describe)
Corr	relinquished/received sections? ments (Use Continuation Form if needed):	X	E.		- Survey parameter State (describe)
Con	mens (Ose Continuation Form if needed):				

PM (or PMA) review: Initials \_

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
0	





August 29, 2022

Kelley Sharpe ARCADIS - Atlanta 2839 Paces Ferry Rd STE 900 Atlanta, GA 30339

RE: Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

#### 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

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





#### **CERTIFICATIONS**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

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 Virginia VELAP ID: 460263 South Carolina Certification #: 83006001

Texas Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

**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



# **SAMPLE SUMMARY**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92621107001	OR-0.8	Water	08/16/22 10:15	08/17/22 13:00
92621107002	OR-0.3	Water	08/16/22 11:00	08/17/22 13:00
92621107003	OR-0.1	Water	08/16/22 11:25	08/17/22 13:00
92621107004	OR+0.25	Water	08/16/22 12:30	08/17/22 13:00
92621107005	BC-0.1	Water	08/16/22 12:20	08/17/22 13:00



# **SAMPLE ANALYTE COUNT**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92621107001	OR-0.8	EPA 245.1		1	PASI-GA
		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
2621107002	OR-0.3	EPA 245.1	VB	1	PASI-GA
		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
2621107003	OR-0.1	EPA 245.1	VB	1	PASI-GA
		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
2621107004	OR+0.25	EPA 245.1	VB	1	PASI-GA
		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
2621107005	BC-0.1	EPA 245.1	VB	1	PASI-GA
		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

 ${\sf PASI-A} = {\sf Pace \ Analytical \ Services \ - \ Asheville}$ 

PASI-G = Pace Analytical Services - Green Bay

PASI-GA = Pace Analytical Services - Peachtree Corners, GA



Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

Pace Project No.: 92621107								
Sample: OR-0.8	Lab ID: 926	21107001	Collected: 08/16/2	2 10:15	Received: 08	3/17/22 13:00 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
245.1 Mercury	Analytical Meth	nod: EPA 24	45.1 Preparation Met	hod: EF	PA 245.1			
	Pace Analytica	l Services -	Peachtree Corners,	GA				
Mercury	ND	mg/L	0.00020	1	08/22/22 09:00	08/22/22 15:11	7439-97-6	
6010D ATL ICP	Analytical Meth	nod: EPA 60	010D Preparation Me	thod: E	PA 3010A			
			Peachtree Corners,					
Potassium	3.1	mg/L	0.20	1	08/19/22 15:44	08/19/22 23:15	7440-09-7	
Sodium	8.0	mg/L	1.0	1		08/19/22 23:15		
Calcium	7.6	mg/L	1.0	1		08/19/22 23:15		
Magnesium	2.2	mg/L	0.050	1		08/19/22 23:15		
Wagnesiani	2.2	mg/L	0.000	'	00/13/22 13.44	00/13/22 23:13	7 +00 00 +	
6020 MET ICPMS	•		020B Preparation Me		PA 3005A			
	Pace Analytica	I Services -	Peachtree Corners,	GA				
Antimony	ND	mg/L	0.0030	1	08/22/22 15:10	08/23/22 15:55	7440-36-0	
Arsenic	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 15:55	7440-38-2	
Barium	0.021	mg/L	0.0050	1	08/22/22 15:10	08/23/22 15:55	7440-39-3	
Beryllium	ND	mg/L	0.00050	1	08/22/22 15:10	08/23/22 15:55	7440-41-7	
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 15:55	7440-42-8	
Cadmium	ND	mg/L	0.00050	1	08/22/22 15:10	08/23/22 15:55	7440-43-9	
Chromium	ND	mg/L	0.0050	1		08/23/22 15:55		
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 15:55	7440-48-4	
Lead	ND	mg/L	0.0010	1	08/22/22 15:10	08/23/22 15:55	7439-92-1	
Lithium	ND	mg/L	0.030	1		08/23/22 15:55		
Molybdenum	ND	mg/L	0.010	1		08/23/22 15:55		
Selenium	ND	mg/L	0.0050	1		08/23/22 15:55		
Thallium	ND	mg/L	0.0010	1		08/23/22 15:55		
2540C Total Dissolved Solids	Analytical Meth	od: SM 25	40C 2015					
23400 Total Dissolved Solids	•		Peachtree Corners,	GΔ				
Total Dissolved Solids	56.9	mg/L	25.0	1		08/19/22 08:46		
		_		•		30, 10,22 00.40		
2320B Alkalinity	Analytical Meth							
	Pace Analytica	l Services -	Green Bay					
Alkalinity, Total as CaCO3	30.2	mg/L	10.0	1		08/25/22 20:46		
Alkalinity,Bicarbonate (CaCO3)	30.2	mg/L	10.0	1		08/25/22 20:46		
300.0 IC Anions 28 Days	Analytical Meth	nod: EPA 30	00.0 Rev 2.1 1993					
TOTAL TO AMOUNT TO BUYO	Pace Analytica							
Chloride	7.8	mg/L	1.0	1		08/19/22 19:21	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		08/19/22 19:21		
Sulfate	5.1	Ū	1.0	1		08/19/22 19:21		
Juliale	5.1	mg/L	1.0	ı		00/19/22 19:21	14000-19-0	



Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

Sample: OR-0.3	Lab ID: 926	21107002	Collected: 08/16/2	2 11:00	Received: 08	3/17/22 13:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury	Analytical Meth	nod: EPA 24	5.1 Preparation Met	hod: EF	PA 245.1			
	Pace Analytica	l Services -	Peachtree Corners,	GA				
Mercury	ND	mg/L	0.00020	1	08/22/22 09:00	08/22/22 15:22	7439-97-6	
6010D ATL ICP	Analytical Meth	nod: EPA 60	010D Preparation Me	thod: E	PA 3010A			
	•		Peachtree Corners,					
Potassium	3.1	mg/L	0.20	1	08/19/22 15:44	08/19/22 23:20	7440-09-7	
Sodium	8.2	mg/L	1.0	1		08/19/22 23:20		
Calcium	7.7	mg/L	1.0	1		08/19/22 23:20		
Magnesium	2.2	mg/L	0.050	1		08/19/22 23:20		
Wagnesium	2.2	mg/L	0.030		00/19/22 13.44	00/19/22 23.20	7439-93-4	
6020 MET ICPMS	•		20B Preparation Me		PA 3005A			
	Pace Analytica	I Services -	Peachtree Corners,	GA				
Antimony	ND	mg/L	0.0030	1	08/22/22 15:10	08/23/22 16:01	7440-36-0	
Arsenic	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:01	7440-38-2	
Barium	0.022	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:01	7440-39-3	
Beryllium	ND	mg/L	0.00050	1	08/22/22 15:10	08/23/22 16:01	7440-41-7	
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 16:01	7440-42-8	
Cadmium	ND	mg/L	0.00050	1		08/23/22 16:01		
Chromium	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:01	7440-47-3	
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:01	7440-48-4	
Lead	ND	mg/L	0.0010	1	08/22/22 15:10	08/23/22 16:01	7439-92-1	
Lithium	ND	mg/L	0.030	1		08/23/22 16:01		
Molybdenum	ND	mg/L	0.010	1		08/23/22 16:01		
Selenium	ND	mg/L	0.0050	1		08/23/22 16:01		
Thallium	ND	mg/L	0.0010	1		08/23/22 16:01		
2540C Total Dissolved Solids	Analytical Meth	nod: SM 254	40C-2015					
20400 Total Dissolved Collas	•		Peachtree Corners,	GA				
Total Dissolved Solids	103	mg/L	25.0	1		08/19/22 08:46	3	
2320B Alkalinity	Analytical Meth	nod: SM 232	20B					
•	Pace Analytica							
Alkalinity, Total as CaCO3	30.5	mg/L	10.0	1		08/25/22 21:06	5	
Alkalinity,Bicarbonate (CaCO3)	30.5	mg/L	10.0	1		08/25/22 21:06		
300.0 IC Anions 28 Days	Analytical Meth	nod: EPA 30	00.0 Rev 2.1 1993					
	Pace Analytica							
Chloride	7.9	mg/L	1.0	1		08/19/22 20:34	16887-00-6	
Fluoride	0.12	mg/L	0.10	1		08/19/22 20:34		
Sulfate	5.2	mg/L	1.0	1		08/19/22 20:34		



Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

Sample: OR-0.1	Lab ID: 926	21107003	Collected: 08/16/2	22 11:25	Received: 08	3/17/22 13:00 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury	Analytical Meth	nod: EPA 24	45.1 Preparation Me	thod: EF	'A 245.1			
-	Pace Analytica	l Services -	Peachtree Corners,	GA				
Mercury	ND	mg/L	0.00020	1	08/22/22 09:00	08/22/22 15:29	7439-97-6	
6010D ATL ICP	Analytical Meth	nod: EPA 60	010D Preparation Me	ethod: E	PA 3010A			
	•		Peachtree Corners,					
Potassium	3.1	mg/L	0.20	1	08/19/22 15:44	08/19/22 23:25	7440-09-7	
Sodium	8.0	mg/L	1.0	1		08/19/22 23:25		
Calcium	7.6	mg/L	1.0	1		08/19/22 23:25		
Magnesium	2.2	mg/L	0.050	1		08/19/22 23:25		
Wagnesium	2.2	mg/L	0.030	ı	00/19/22 13:44	00/19/22 23.23	7439-93-4	
6020 MET ICPMS	•		020B Preparation Me		PA 3005A			
	Pace Analytica	I Services -	Peachtree Corners,	GA				
Antimony	ND	mg/L	0.0030	1	08/22/22 15:10	08/23/22 16:46	7440-36-0	
Arsenic	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:46	7440-38-2	
Barium	0.022	mg/L	0.0050	1		08/23/22 16:46		
Beryllium	ND	mg/L	0.00050	1	08/22/22 15:10	08/23/22 16:46	7440-41-7	
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 16:46	7440-42-8	
Cadmium	ND	mg/L	0.00050	1	08/22/22 15:10	08/23/22 16:46	7440-43-9	
Chromium	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:46	7440-47-3	
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:46	7440-48-4	
Lead	ND	mg/L	0.0010	1	08/22/22 15:10	08/23/22 16:46	7439-92-1	
Lithium	ND	mg/L	0.030	1		08/23/22 16:46		
Molybdenum	ND	mg/L	0.010	1		08/23/22 16:46		
Selenium	ND	mg/L	0.0050	1		08/23/22 16:46		
Thallium	ND	mg/L	0.0010	1		08/23/22 16:46		
2540C Total Dissolved Solids	Analytical Meth	nod: SM 254	40C-2015					
20400 Total Dissolved Collas	•		Peachtree Corners,	GA				
Total Dissolved Solids	45.9	mg/L	25.0	1		08/19/22 08:46		
2320B Alkalinity	Analytical Meth	nod: SM 232	20B					
•	Pace Analytica							
Alkalinity, Total as CaCO3	30.3	mg/L	10.0	1		08/25/22 21:12		
Alkalinity, Bicarbonate (CaCO3)	30.3	mg/L	10.0	1		08/25/22 21:12		
300.0 IC Anions 28 Days	Analytical Meth	nod: EPA 30	00.0 Rev 2.1 1993					
	Pace Analytica							
Chloride	6.9	mg/L	1.0	1		08/19/22 20:48	16887-00-6	
Fluoride	0.11	mg/L	0.10	1		08/19/22 20:48		
. 1401140	V. 1 1	1119/ 🗀	0.10			00/10/22 20.40	10007 70 0	



Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

Parameters         Results         Units           245.1 Mercury         Analytical Method: EPA Pace Analytical Service           Mercury         ND mg/L           6010D ATL ICP         Analytical Method: EPA Pace Analytical Service           Potassium         3.1 mg/L           Sodium         8.0 mg/L           Calcium         7.5 mg/L           Magnesium         2.1 mg/L           6020 MET ICPMS         Analytical Method: EPA Pace Analytical Service           Antimony         ND mg/L           Arsenic         ND mg/L           Barium         0.021 mg/L           Beryllium         ND mg/L           Boron         ND mg/L           Cadmium         ND mg/L           Chromium         ND mg/L           Cobalt         ND mg/L           Lead         ND mg/L           Lithium         ND mg/L           Molybdenum         ND mg/L           Selenium         ND mg/L           Thallium         ND mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service           Total Dissolved Solids         43.9 mg/L	245.1 Preparation M s - Peachtree Corners	S, GA  Method: E S, GA  Method: E S, GA  Method: E S, GA  Method: E S, GA	08/22/22 09:00 EPA 3010A  08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 EPA 3005A  08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	Analyzed  08/22/22 15:32  08/19/22 23:30  08/19/22 23:30  08/19/22 23:30  08/19/22 23:30  08/23/22 16:52  08/23/22 16:52  08/23/22 16:52  08/23/22 16:52  08/23/22 16:52  08/23/22 16:52  08/23/22 16:52	7440-09-7 7440-23-5 7440-70-2 7439-95-4 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Pace Analytical Service  Mercury  ND mg/L  6010D ATL ICP  Analytical Method: EPA Pace Analytical Service  Potassium  Sodium  Calcium  Rodium  Calcium  T.5 mg/L  Magnesium  Analytical Method: EPA Pace Analytical Service  Analytical Method: EPA Pace Analytical Service  Analytical Method: EPA Pace Analytical Service  Antimony  Arsenic  Antimony  Arsenic  ND mg/L  Barium  ND mg/L  Beryllium  ND mg/L  Cadmium  ND mg/L  Cadmium  ND mg/L  Cobalt  ND mg/L  Lead  ND mg/L  Analytical Method: SM 2 Pace Analytical Service  Total Dissolved Solids  43.9 mg/L	6010D Preparation Ms - Peachtree Corners  0.00020 6010D Preparation Ms - Peachtree Corners  0.20 1.0 0.050 6020B Preparation Ms - Peachtree Corners  0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	S, GA  Method: E S, GA  Method: E S, GA  Method: E S, GA  Method: E S, GA	08/22/22 09:00 EPA 3010A  08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 EPA 3005A  08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-09-7 7440-23-5 7440-70-2 7439-95-4 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Mercury  ND mg/L  6010D ATL ICP  Analytical Method: EPA Pace Analytical Service  Potassium  Sodium  Sodium  Rug/L  Sodium  7.5 mg/L  Magnesium  Analytical Method: EPA Pace Analytical Service  Analytical Method: EPA Pace Analytical Service  Analytical Method: EPA Pace Analytical Service  Antimony  Arsenic  Antimony  Arsenic  ND mg/L  Barium  ND mg/L  Beryllium  ND mg/L  Cadmium  ND mg/L  Codalt  ND mg/L  Cobalt  ND mg/L  Lead  ND mg/L  Lead  ND mg/L  Lithium  ND mg/L  Lithium  ND mg/L  Analytical Method: SM 2 Pace Analytical Service  Analytical Method: SM 2 Pace Analytical Service  Total Dissolved Solids  43.9 mg/L	0.00020 6010D Preparation M s - Peachtree Corners  0.20 1.0 0.050 6020B Preparation M s - Peachtree Corners  0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	Method: Es, GA	O8/19/22 15:44 O8/19/22 15:44 O8/19/22 15:44 O8/19/22 15:44 O8/19/22 15:44 EPA 3005A  08/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10	08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-09-7 7440-23-5 7440-70-2 7439-95-4 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Analytical Method: EPA Pace Analytical Service Potassium Sodium Sodium Rangnesium Magnesium Pace Analytical Method: EPA Pace Analytical Method: EPA Pace Analytical Method: EPA Pace Analytical Method: EPA Pace Analytical Service Antimony Arsenic Barium Beryllium Boron Cadmium Chromium Chromium Chromium ND Mg/L Lead ND Mg/L Lead ND Mg/L Lithium Molybdenum ND Mg/L Molybdenum Selenium ND Mg/L Thallium Analytical Method: EPA Pace Analytical Service ND Mg/L ND Mg/L Analytical Method: SM 2 Pace Analytical Method: SM 2 Pace Analytical Service Total Dissolved Solids  43.9 Mg/L	6010D Preparation M s - Peachtree Corners 0.20 1.0 0.050 6020B Preparation M s - Peachtree Corners 0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	Method: E s, GA 1 1 1 Method: E s, GA 1 1 1 1 1 1	O8/19/22 15:44 O8/19/22 15:44 O8/19/22 15:44 O8/19/22 15:44 O8/19/22 15:44 EPA 3005A  08/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10 O8/22/22 15:10	08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-09-7 7440-23-5 7440-70-2 7439-95-4 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Potassium Sodium Sodium Rodium	0.20 1.0 0.050 6020B Preparation Ms - Peachtree Corners 0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	s, GA  1  1  1  Method: E  5, GA  1  1  1  1  1  1  1  1  1  1  1  1	08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 EPA 3005A  08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-23-5 7440-70-2 7439-95-4 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Potassium Sodium Sodium Rodium	0.20 1.0 0.050 6020B Preparation Ms - Peachtree Corners 0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	s, GA  1  1  1  Method: E  5, GA  1  1  1  1  1  1  1  1  1  1  1  1	08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 EPA 3005A  08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-23-5 7440-70-2 7439-95-4 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Potassium  Sodium  Sodium  Rodium  Sodium  Rodium  Rodiybdenum  Rod	0.20 1.0 1.0 0.050 6020B Preparation Ms - Peachtree Corners 0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 EPA 3005A 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-23-5 7440-70-2 7439-95-4 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Sodium         8.0 mg/L           Calcium         7.5 mg/L           Magnesium         2.1 mg/L           6020 MET ICPMS         Analytical Method: EPA Pace Analytical Service           Antimony         ND mg/L           Arsenic         ND mg/L           Barium         0.021 mg/L           Beryllium         ND mg/L           Boron         ND mg/L           Cadmium         ND mg/L           Chromium         ND mg/L           Cobalt         ND mg/L           Lead         ND mg/L           Molybdenum         ND mg/L           Selenium         ND mg/L           Thallium         ND mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service           Total Dissolved Solids         43.9 mg/L	1.0 1.0 0.050 6020B Preparation M s - Peachtree Corners 0.0030 0.0050 0.0050 0.0050 0.0050 0.0050	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	08/19/22 15:44 08/19/22 15:44 08/19/22 15:44 EPA 3005A 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/19/22 23:30 08/19/22 23:30 08/19/22 23:30 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-23-5 7440-70-2 7439-95-4 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Calcium         7.5 mg/L           Magnesium         7.5 mg/L           6020 MET ICPMS         Analytical Method: EPA Pace Analytical Service           Antimony         ND mg/L           Arsenic         ND mg/L           Barium         0.021 mg/L           Beryllium         ND mg/L           Boron         ND mg/L           Cadmium         ND mg/L           Chromium         ND mg/L           Cobalt         ND mg/L           Lead         ND mg/L           Lithium         ND mg/L           Molybdenum         ND mg/L           Selenium         ND mg/L           Thallium         ND mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service           Total Dissolved Solids         43.9 mg/L	1.0 0.050 6020B Preparation M s - Peachtree Corners 0.0030 0.0050 0.0050 0.0050 0.0050 0.0050	Method: E S, GA 1 1 1 1 1 1 1 1 1 1 1 1 1	08/19/22 15:44 08/19/22 15:44 EPA 3005A 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/19/22 23:30 08/19/22 23:30 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-70-2 7439-95-4 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Magnesium   2.1 mg/L mg/L	0.050 6020B Preparation No. 10030 0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	Method: Es, GA  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	08/19/22 15:44 EPA 3005A  08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/19/22 23:30 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
6020 MET ICPMS         Analytical Method: EPA Pace Analytical Service           Antimony         ND mg/L           Arsenic         ND mg/L           Barium         0.021 mg/L           Beryllium         ND mg/L           Boron         ND mg/L           Cadmium         ND mg/L           Chromium         ND mg/L           Cobalt         ND mg/L           Lead         ND mg/L           Lithium         ND mg/L           Molybdenum         ND mg/L           Selenium         ND mg/L           Thallium         ND mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service           Total Dissolved Solids         43.9 mg/L	6020B Preparation No. 10030 0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	Method: E s, GA ) 1 ) 1 ) 1 ) 1 ) 1	08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Pace Analytical Service	s - Peachtree Corners 0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	s, GA  1  1  1  1  1  1  1  1  1  1  1  1  1	08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Antimony  Arsenic  Barium  Beryllium  Boron  Cadmium  ND  Mg/L  Chromium  ND  Mg/L  Cobalt  Lead  ND  Mg/L  Lead  ND  Mg/L  Lithium  ND  Mg/L  Lithium  ND  Mg/L  Analytical Method: SM 2  Pace Analytical Service  Total Dissolved Solids  ND  Mg/L  Anservice  ND  Mg/L  Analytical Method: SM 2  Pace Analytical Service	0.0030 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Arsenic         ND         mg/L           Barium         0.021         mg/L           Beryllium         ND         mg/L           Boron         ND         mg/L           Cadmium         ND         mg/L           Chromium         ND         mg/L           Cobalt         ND         mg/L           Lead         ND         mg/L           Lithium         ND         mg/L           Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Total Dissolved Solids         43.9         mg/L	0.0050 0.0050 0.00050 0.040 0.00050 0.0050	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Arsenic         ND         mg/L           Barium         0.021         mg/L           Beryllium         ND         mg/L           Boron         ND         mg/L           Cadmium         ND         mg/L           Chromium         ND         mg/L           Cobalt         ND         mg/L           Lead         ND         mg/L           Lithium         ND         mg/L           Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Total Dissolved Solids         43.9         mg/L	0.0050 0.0050 0.00050 0.040 0.00050 0.0050	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9
Barium         0.021         mg/L           Beryllium         ND         mg/L           Boron         ND         mg/L           Cadmium         ND         mg/L           Chromium         ND         mg/L           Cobalt         ND         mg/L           Lead         ND         mg/L           Lithium         ND         mg/L           Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Total Dissolved Solids         43.9         mg/L	0.0050 0.00050 0.040 0.00050 0.0050 0.0050	1 1 1 1 1 1 1	08/22/22 15:10 08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/23/22 16:52 08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-39-3 7440-41-7 7440-42-8 7440-43-9
Beryllium         ND         mg/L           Boron         ND         mg/L           Cadmium         ND         mg/L           Chromium         ND         mg/L           Cobalt         ND         mg/L           Lead         ND         mg/L           Lithium         ND         mg/L           Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Total Dissolved Solids         43.9         mg/L	0.00050 0.040 0.00050 0.0050 0.0050	1 1 1 1 1	08/22/22 15:10 08/22/22 15:10 08/22/22 15:10	08/23/22 16:52 08/23/22 16:52 08/23/22 16:52	7440-41-7 7440-42-8 7440-43-9
Soron	0.040 0.00050 0.0050 0.0050	) 1 ) 1 ) 1	08/22/22 15:10 08/22/22 15:10	08/23/22 16:52 08/23/22 16:52	7440-42-8 7440-43-9
Cadmium         ND         mg/L           Chromium         ND         mg/L           Cobalt         ND         mg/L           Lead         ND         mg/L           Lithium         ND         mg/L           Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Total Dissolved Solids         43.9         mg/L	0.00050 0.0050 0.0050	1 1	08/22/22 15:10	08/23/22 16:52	7440-43-9
Chromium         ND         mg/L           Cobalt         ND         mg/L           Lead         ND         mg/L           Lithium         ND         mg/L           Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Total Dissolved Solids         43.9         mg/L	0.0050 0.0050	1			
Cobalt         ND         mg/L           Lead         ND         mg/L           Lithium         ND         mg/L           Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Total Dissolved Solids         43.9         mg/L	0.0050		00/22/22 10:10		
Lead         ND         mg/L           Lithium         ND         mg/L           Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Total Dissolved Solids         43.9         mg/L			08/22/22 15:10	08/23/22 16:52	
Lithium         ND         mg/L           Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Pace Analytical Service           Total Dissolved Solids         43.9         mg/L	0.0010	) 1		08/23/22 16:52	
Molybdenum         ND         mg/L           Selenium         ND         mg/L           Thallium         ND         mg/L           2540C Total Dissolved Solids         Analytical Method: SM 2           Pace Analytical Service         Pace Analytical Service           Total Dissolved Solids         43.9         mg/L	0.030			08/23/22 16:52	
Selenium ND mg/L Thallium ND mg/L  2540C Total Dissolved Solids Analytical Method: SM 2 Pace Analytical Service  Total Dissolved Solids 43.9 mg/L				08/23/22 16:52	
Thallium ND mg/L  2540C Total Dissolved Solids Analytical Method: SM 2 Pace Analytical Service  Total Dissolved Solids 43.9 mg/L				08/23/22 16:52	
2540C Total Dissolved Solids  Analytical Method: SM 2 Pace Analytical Service Total Dissolved Solids  43.9 mg/L				08/23/22 16:52	
Pace Analytical Service Total Dissolved Solids 43.9 mg/L					
Total Dissolved Solids 43.9 mg/L		0.4			
•	s - Peachtree Corners	s, GA			
2320B Alkalinity Analytical Method: SM 2	25.0	1		08/19/22 08:46	
	2320B				
Pace Analytical Service	s - Green Bay				
Alkalinity, Total as CaCO3 29.7 mg/L	10.0	) 1		08/25/22 21:17	
Alkalinity, lotal as odoco 29.7 mg/L				08/25/22 21:17	
, ,				00,20,22 21.17	
300.0 IC Anions 28 Days Analytical Method: EPA Pace Analytical Service					
•		) 1		08/19/22 21:02	16997 00 6
3	1.1				
Fluoride         0.12         mg/L           Sulfate         5.2         mg/L				08/19/22 21:02	16984-48-8 14808-79-8



Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

Sample: BC-0.1	Lab ID: 926	21107005	Collected: 08/16/2	22 12:2	0 Received: 08	3/17/22 13:00 I	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury	Analytical Meth	nod: EPA 24	5.1 Preparation Met	hod: E	PA 245.1			
	Pace Analytica	l Services -	Peachtree Corners,	GA				
Mercury	ND	mg/L	0.00020	1	08/22/22 09:00	08/22/22 15:35	7439-97-6	
6010D ATL ICP	Analytical Meth	od: EPA 60	010D Preparation Me	ethod: E	EPA 3010A			
	•		Peachtree Corners,					
Potassium	2.4	mg/L	0.20	1	08/19/22 15:44	08/19/22 23:44	7440-09-7	
Sodium	7.5	mg/L	1.0	1	08/19/22 15:44	08/19/22 23:44	7440-23-5	
Calcium	10.3	mg/L	1.0	1	08/19/22 15:44	08/19/22 23:44	7440-70-2	
Magnesium	4.3	mg/L	0.050	1	08/19/22 15:44	08/19/22 23:44	7439-95-4	
6020 MET ICPMS	Analytical Meth	nod: EPA 60	20B Preparation Me	thod: E	EPA 3005A			
	Pace Analytica	l Services -	Peachtree Corners,	GA				
Antimony	ND	mg/L	0.0030	1	08/22/22 15:10	08/23/22 16:58	7440-36-0	
Arsenic	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:58	7440-38-2	
Barium	0.070	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:58	7440-39-3	
Beryllium	ND	mg/L	0.00050	1	08/22/22 15:10	08/23/22 16:58	7440-41-7	
Boron	ND	mg/L	0.040	1	08/22/22 15:10	08/23/22 16:58	7440-42-8	
Cadmium	ND	mg/L	0.00050	1	08/22/22 15:10	08/23/22 16:58	7440-43-9	
Chromium	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:58	7440-47-3	
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:58	7440-48-4	
Lead	0.0012	mg/L	0.0010	1	08/22/22 15:10	08/23/22 16:58	7439-92-1	
Lithium	ND	mg/L	0.030	1	08/22/22 15:10	08/23/22 16:58	7439-93-2	
Molybdenum	ND	mg/L	0.010	1	08/22/22 15:10	08/23/22 16:58	7439-98-7	
Selenium	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 16:58	7782-49-2	
Thallium	ND	mg/L	0.0010	1	08/22/22 15:10	08/23/22 16:58	7440-28-0	
2540C Total Dissolved Solids	Analytical Meth	nod: SM 254	40C-2015					
	Pace Analytica	l Services -	Peachtree Corners,	GA				
Total Dissolved Solids	85.9	mg/L	25.0	1		08/19/22 08:47	•	
2320B Alkalinity	Analytical Meth	nod: SM 232	20B					
	Pace Analytica	l Services -	Green Bay					
Alkalinity, Total as CaCO3	44.8	mg/L	10.0	1		08/25/22 21:23	}	
Alkalinity, Bicarbonate (CaCO3)	44.8	mg/L	10.0	1		08/25/22 21:23	}	
300.0 IC Anions 28 Days	Analytical Meth	nod: EPA 30	0.0 Rev 2.1 1993					
•	Pace Analytica							
Chloride	7.0	mg/L	1.0	1		08/19/22 21:17	16887-00-6	
Fluoride	0.11	mg/L	0.10	1		08/19/22 21:17		
Sulfate	7.1	mg/L	1.0	1		08/19/22 21:17		



#### **QUALITY CONTROL DATA**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Mercury

Date: 08/29/2022 01:19 PM

QC Batch: 718660 Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

METHOD BLANK: 3746036 Matrix: Water

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Mercury mg/L ND 0.00020 08/22/22 14:58

LABORATORY CONTROL SAMPLE: 3746037

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units mg/L 0.0025 0.0022 90 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3746038 3746039

MS MSD

92621107001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result **RPD** RPD Qual Result Conc. % Rec % Rec Limits 0.0025 20 Mercury mg/L ND 0.0025 0.0020 0.0021 81 84 70-130

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.



#### **QUALITY CONTROL DATA**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

QC Batch: 718462 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D ATL

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

METHOD BLANK: 3745239 Matrix: Water

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

		Blank	Reporting		
Parameter	Units	Result	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	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Calcium	mg/L		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												
			MS	MSD								
	Ç	92618822019	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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.



#### **QUALITY CONTROL DATA**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

QC Batch: 718742 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

METHOD BLANK: 3746438 Matrix: Water

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers		
Farameter		. ————— -		Analyzeu	Quaiiileis		
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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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							
			MS	MSD								
		92620540002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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.



Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

MATRIX SPIKE & MATRIX	SPIKE DUPL	ICATE: 3746	747		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	

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.



Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

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: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

METHOD BLANK: 3744034 Matrix: Water

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Total Dissolved Solids mg/L ND 25.0 08/19/22 08:45

LABORATORY CONTROL SAMPLE: 3744035

Spike LCS LCS % Rec
Parameter Units Conc. Result % Rec Limits Qualifiers

Total Dissolved Solids mg/L 400 380 95 80-120

SAMPLE DUPLICATE: 3744037

92621116005 Dup Max Parameter Units Result Result **RPD RPD** Qualifiers 105 **Total Dissolved Solids** 108 3 mg/L 25

SAMPLE DUPLICATE: 3744488

Date: 08/29/2022 01:19 PM

92621107001 Dup Max RPD RPD Parameter Units Result Result Qualifiers Total Dissolved Solids 56.9 mg/L 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.



Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

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: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

METHOD BLANK: 2444373 Matrix: Water

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Alkalinity, Total as CaCO3 mg/L ND 10.0 08/25/22 20:22

LABORATORY CONTROL SAMPLE: 2444374

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units mg/L Alkalinity, Total as CaCO3 200 207 103 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2444375 2444376

MS MSD

92621107001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result **RPD** RPD Qual Result Conc. % Rec % Rec Limits 104 Alkalinity, Total as CaCO3 mg/L 30.2 200 200 237 238 104 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.



Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

QC Batch: 718269 Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Asheville

% Rec

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

METHOD BLANK: 3744375 Matrix: Water

Associated Lab Samples: 92621107001, 92621107002, 92621107003, 92621107004, 92621107005

		Blank	Reporting		
Parameter	Units	Result	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				
		Spike	LCS	LCS	•
_		_		_	

Parameter Limits Qualifiers Units Conc. Result % Rec Chloride 50 50.4 101 90-110 mg/L Fluoride 2.5 mg/L 95 90-110 2.4 Sulfate 50.2 100 mg/L 50 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3744377	3744378

MATRIX STIRE & MATRIX ST	IKE DOI	92621107001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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: 374	744379 3	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	

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.



#### **QUALIFIERS**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

#### **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**

Date: 08/29/2022 01:19 PM

M1

Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92621107

Date: 08/29/2022 01:19 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92621107001	OR-0.8	EPA 245.1	718660	EPA 245.1	 718713
92621107002	OR-0.3	EPA 245.1	718660	EPA 245.1	718713
92621107003	OR-0.1	EPA 245.1	718660	EPA 245.1	718713
92621107004	OR+0.25	EPA 245.1	718660	EPA 245.1	718713
92621107005	BC-0.1	EPA 245.1	718660	EPA 245.1	718713
92621107001	OR-0.8	EPA 3010A	718462	EPA 6010D	718518
92621107002	OR-0.3	EPA 3010A	718462	EPA 6010D	718518
92621107003	OR-0.1	EPA 3010A	718462	EPA 6010D	718518
92621107004	OR+0.25	EPA 3010A	718462	EPA 6010D	718518
92621107005	BC-0.1	EPA 3010A	718462	EPA 6010D	718518
92621107001	OR-0.8	EPA 3005A	718742	EPA 6020B	718842
92621107002	OR-0.3	EPA 3005A	718742	EPA 6020B	718842
92621107003	OR-0.1	EPA 3005A	718742	EPA 6020B	718842
92621107004	OR+0.25	EPA 3005A	718742	EPA 6020B	718842
92621107005	BC-0.1	EPA 3005A	718742	EPA 6020B	718842
92621107001	OR-0.8	SM 2540C-2015	718207		
92621107002	OR-0.3	SM 2540C-2015	718207		
92621107003	OR-0.1	SM 2540C-2015	718207		
92621107004	OR+0.25	SM 2540C-2015	718207		
92621107005	BC-0.1	SM 2540C-2015	718207		
92621107001	OR-0.8	SM 2320B	424462		
92621107002	OR-0.3	SM 2320B	424462		
92621107003	OR-0.1	SM 2320B	424462		
92621107004	OR+0.25	SM 2320B	424462		
92621107005	BC-0.1	SM 2320B	424462		
92621107001	OR-0.8	EPA 300.0 Rev 2.1 1993	718269		
92621107002	OR-0.3	EPA 300.0 Rev 2.1 1993	718269		
92621107003	OR-0.1	EPA 300.0 Rev 2.1 1993	718269		
92621107004	OR+0.25	EPA 300.0 Rev 2.1 1993	718269		
92621107005	BC-0.1	EPA 300.0 Rev 2.1 1993	718269		



# **CHAIN-OF-CUSTODY / Analytical Request Document**

		CCR Appendix IV Anlimony, Arsenic, Barium, Barylbum, Cadmium, Chromium, Coball, Fluoride, Lead, Lilbium, Mercury, Molybdenum, Selenium, Thailium, Radium 226, Radium, 228	Major lons <sup>2</sup> - Mg, Na, K, total alkalinin, bicarbonate alkalinin	CCR Appendix III1 - B, Ca, Cl, F, Sulfate, Total Dissolved Solids (TDS)	The second secon	ADDITIONAL COMMENTS	11 ADDITIONAL COMMENTS			BC-0 3	BC-0.3	BC-0.1	OR+0.25 OR-1-8 BC-0.1 BC-0.3	OR-0.1 OR+0.25 OR+1:0 BC-0.1 BC-0.3	OR-0.1 OR-0.1 OR-0.25 OR-1-0 BC-0.1 BC-0.3	OR-0.8 OR-0.3 OR-0.1 OR-0.25 OR-1-0 BC-0.1 BC-0.3	One 0. Samp1  OR-0.1  OR-0.1  BC-0.1  BC-0.3		SA One o Sampl Sampl OR-0.8 OR-0.3 OR-0.1 BC-0.3						
		Beryltium, Cadmium, ury, Molybdenum, Selenium,	te atkalinity	ssolved Solids (TDS)	EW10	THE RESERVE AND ASSESSMENT OF THE PARTY OF T	EAYO	- Control of the cont	Taylor of the state of the stat	Taylor of the state of the stat		\$b	5D	\$b	5D	5D	MAYRIX CODE Deating Weller DW Writer WY Water WAY Product SL Oil Sulfole OIL Wipe WP Au AP Other OT Trasue TS	MATRIX Densing Weler Water Water Weste Weler Product Sel/Soled Oil Other Tissue	MATRIX Denting Weler Water Water Waste Walar Product SoldSold Oil Wipe Au Other Tissue	MATRIX Denking We Water Waste Waste Product Sold/Sold Oil Oil Other Trassue	MATRIX Disaking We Water Waste Water Waste Water Coduct Coll Solf-Sold Oil Wilpe Au Other Trissue	MATRIX Denating We Water Water Water Water Aur Other Trasue	MATRIX Denating We Waste Wate Waste Wate Product God/Solid Oil Wilpe Au Other Trissue	MATRIX Denating W Water Water Waste Waste Product Scal/Solid Oil Wipe Air Other Trissue	MATRIX Denking W Where Waste Waste Waste Product of Oil Wipe Ale Other Tresue
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Qualtrax ID: 69614

DC#\_Title: ENV-FRM-HUN1-0083 v01\_Sample Condition Upon Receipt

Effective Date: 05/12/2022

ooratory receiving samples: .sheville	Huntersville 🗌	Raleigh	Mechanicsville Atlanta Kernersville
Sample Condition Upon Receipt  Client Name:		Proje	ect #: WO#: 92621107
urier: Fed Ex UPS Commercial Pace	USPS Other:	Client	PM: MP Due Date: 08/24/22 CLIENT: GR-ArcadAt1
stody Seal Present? Yes No Sea	als Intact? Yes	□No	Date/Initials Person Examining Contents: 8/17/22
cking Material: Bubble Wrap l	Bubble Bags Nor	ne 🗌 Other	Biological Tissue Frozen?  ☐ Yes ☐ No ☐ N/A
Oler Temp:  Correction Factorier Temp:  Add/Subtract	8\ ^	Wet □Blue	□None  Temp should be above freezing to 6°C
oler Temp Corrected (°C):  DA Regulated Soil (  N/A, water sample)	4.8	_	Samples out of temp criteria. Samples on ice, cooling proces has begun
Did samples originate in a quarantihe zone within t (check maps)? Yes No	he United States: CA, N	, or SC	Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?  Yes No  Comments/Discrepancy:
Chain of Custody Present?	ØYes □No	□N/A 1	
Samples Arrived within Hold Time?	☐Yes ☐No		
Short Hold Time Analysis (<72 hr.)?	□Yes □No	N/A 3	
Rush Turn Around Time Requested?	□Yes □No	- 35	
Sufficient Volume?	₹¶Yes □No		
Correct Containers Used?	Yes No		
-Pace Containers Used?	Øfes □No		``   <u> </u>
Containers Intact?	□¥es □No		
Dissolved analysis: Samples Field Filtered?	□Yes □No	N/A 8	
Sample Labels Match COC?		N/A 9	Sample BE -0.3 NOT
-Includes Date/Time/ID/Analysis Matrix:	W		sample BC-0.3 Not
Headspace in VOA Vials (>5-6mm)?	□Yes □No	اما	
Trip Blank Present?	□Yes □No	DN/A 1	11.
Trip Blank Custody Seals Present?	Yes □ No	DM/A	
MMENTS/SAMPLE DISCREPANCY	21 22		Field Data Required? ☐Yes ☐No
		Lot	ID of split containers:
NT NOTIFICATION/RESOLUTION			
		Data/Tima	
erson contacted:	6:	_ Date/Time:	
Project Manager SCURF Review:			Date:

Page 20 of 21

Page 1 of 2



DC#\_Title: ENV-FRM-HUN1-0083 v01\_Sample Condition Upon Receipt

Effective Date: 05/12/2022

\*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples. Exceptions: VOA, Colliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

Project #

WO#:92621107

Due Date: 08/24/22

CLIENT: GA-ArcadAt1

\*\*Bottom half of box is to list number of bottles

\*\*\*Check all unpreserved Nitrates for chlorine

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)	BP45-125 mL Plastic H2SO4 (pH < 2) (CI-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (CI-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	<b>AG1H-1</b> liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG35-250 mL Amber H25O4 (pH < 2)	DG94-250 mL Amber NH4CI (N/A)(CI-)	DG9H-40 mL VOA HCI (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)	BPIN	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AGOU-100 mL Amber Unpreserved (N/A) (CI-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1	B B	$\vdash$	- BP;	BP	BP		BP.	7d8	W	AG	AG	AG	AG	AG.	8	DG	NG	VG	OG -	DQ.	^/	SP	SP2	_	8	AG	ΛS	DG
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	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.





December 12, 2022

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.: 92621114

#### 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 - Greensburg

(Greensburg, Pa) - Revision 1 - This report replaces the September 12, 2022 report. This project was revised on December 12, 2022 to add Radium Calculations.

Rev. 1 - This repalces the September 12, 2022 final report. This report was revised to report Radium 226+228, 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

Maiya tacks

(770)734-4200

Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR Ben Hodges, Georgia Power Warren Johnson, ARCADIS - Atlanta Laura Midkiff, Georgia Power Tina Sullivan, ERM



(770)734-4200



**CERTIFICATIONS** 

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590 Arizona Certification #: AZ0734

**Arkansas Certification** 

California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694

Delaware Certification EPA Region 4 DW Rad

Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET

Guam Certification Hawaii Certification Idaho Certification Illinois Certification Indiana Certification Iowa Certification #: 391

Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020 Maryland Certification #: 308

Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991 Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



# **SAMPLE SUMMARY**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92621114001	OR-0.8	Water	08/16/22 10:15	08/17/22 13:00
92621114002	OR-0.3	Water	08/16/22 11:00	08/17/22 13:00
92621114003	OR-0.1	Water	08/16/22 11:25	08/17/22 13:00
92621114004	OR+0.25	Water	08/16/22 12:30	08/17/22 13:00
92621114005	BC-0.1	Water	08/16/22 12:20	08/17/22 13:00



# **SAMPLE ANALYTE COUNT**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92621114001	OR-0.8	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92621114002	OR-0.3	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92621114003	OR-0.1	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92621114004	OR+0.25	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92621114005	BC-0.1	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

Sample: OR-0.8 PWS:	<b>Lab ID:</b> 9262° Site ID:	1114001 Collected: 08/16/22 10:15 Sample Type:	Received:	08/17/22 13:00	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 903.1	-0.240 ± 0.470 (1.13) C:NA T:101%	pCi/L	09/03/22 16:15	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.160 ± 0.405 (0.909) C:75% T:86%	pCi/L	09/09/22 18:13	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	$0.160 \pm 0.875$ (2.04)	pCi/L	12/12/22 09:37	7440-14-4	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

Sample: OR-0.3 PWS:	<b>Lab ID: 9262</b> Site ID:	1114002 Collected: 08/16/22 11:00 Sample Type:	Received:	08/17/22 13:00 I	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 903.1	0.222 ± 0.523 (0.969) C:NA T:96%	pCi/L	09/03/22 16:15	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.223 ± 0.541 (1.21) C:65% T:86%	pCi/L	09/09/22 18:13	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.445 ± 1.06 (2.18)	pCi/L	12/12/22 09:37	7440-14-4	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

Sample: OR-0.1 PWS:	<b>Lab ID: 9262</b> Site ID:	1114003 Collected: 08/16/22 11:25 Sample Type:	Received:	08/17/22 13:00 M	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 903.1	0.367 ± 0.559 (0.962) C:NA T:104%	pCi/L	09/03/22 16:15	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.341 ± 0.419 (0.886) C:68% T:82%	pCi/L	09/09/22 15:02	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.708 ± 0.978 (1.85)	pCi/L	12/12/22 09:37	7440-14-4	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

Sample: OR+0.25 PWS:	<b>Lab ID: 9262</b> 1 Site ID:	114004 Collected: 08/16/22 12:30 Sample Type:	Received:	08/17/22 13:00 I	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 903.1	-0.606 ± 0.475 (1.26) C:NA T:105%	pCi/L	09/03/22 16:15	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.148 ± 0.383 (0.854) C:74% T:87%	pCi/L	09/09/22 15:03	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.148 ± 0.858 (2.11)	pCi/L	12/12/22 09:37	7440-14-4	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

Sample: BC-0.1 PWS:	Lab ID: 9262 Site ID:	1114005 Collected: 08/16/22 12:20 Sample Type:	Received:	08/17/22 13:00	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 903.1	0.000 ± 0.537 (1.12) C:NA T:104%	pCi/L	09/03/22 16:15	5 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.474 ± 0.412 (0.829) C:71% T:86%	pCi/L	09/09/22 15:03	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.474 ± 0.949 (1.95)	pCi/L	12/12/22 09:37	7440-14-4	



#### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

QC Batch: 528128 Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92621114001, 92621114002, 92621114003, 92621114004, 92621114005

METHOD BLANK: 2562215 Matrix: Water

Associated Lab Samples: 92621114001, 92621114002, 92621114003, 92621114004, 92621114005

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 0.0561 ± 0.256 (0.152) C:NA T:97%
 pCi/L
 09/03/22 16:15

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



#### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

QC Batch: 528130 Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92621114001, 92621114002, 92621114003, 92621114004, 92621114005

METHOD BLANK: 2562222 Matrix: Water

Associated Lab Samples: 92621114001, 92621114002, 92621114003, 92621114004, 92621114005

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.344 ± 0.314 (0.636) C:78% T:95%
 pCi/L
 09/09/22 15:02

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.



#### **QUALIFIERS**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

#### **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.

Act - Activity

Date: 12/12/2022 11:42 AM

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621114

Date: 12/12/2022 11:42 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
92621114001	OR-0.8	EPA 903.1	528128		
92621114002	OR-0.3	EPA 903.1	528128		
92621114003	OR-0.1	EPA 903.1	528128		
92621114004	OR+0.25	EPA 903.1	528128		
92621114005	BC-0.1	EPA 903.1	528128		
92621114001	OR-0.8	EPA 904.0	528130		
92621114002	OR-0.3	EPA 904.0	528130		
92621114003	OR-0.1	EPA 904.0	528130		
92621114004	OR+0.25	EPA 904.0	528130		
92621114005	BC-0.1	EPA 904.0	528130		
92621114001	OR-0.8	Total Radium Calculation	553014		
92621114002	OR-0.3	Total Radium Calculation	553014		
92621114003	OR-0.1	Total Radium Calculation	553014		
92621114004	OR+0.25	Total Radium Calculation	553014		
92621114005	BC-0.1	Total Radium Calculation	553014		

,	Chromium Thallium,	Major Ions	CCR App		2100	1 6	5 6	9	<b>9</b>	382	200			3	100	3	ITEM#			Requeste		Email	Address:	Company:	Section A	
	CCR Appendix IV Antimony, Artenic, danum, carymann, casamann, Chromium, Coball, Fluoride, Lead, Lilhium, Mercury, Molybdenum, Selenium, Thailium, Redium 226, Radium, 228	Major fons <sup>2</sup> - Mg, Na, K, total alkatinity, bicarbonate alkalinity	CCR Appendix all - B, Ca, Cl, F, Suraie, Total Inssolved Solves (1999)	To Do Of E Calkete Total Dissolved Solids (I	ADDITIONAL COMMENTS					8003		ORMA NOT SAMPLED	OR+0.25	OR-0.1	OR-0.3	OR-0.8	e dre	SAMPLE ID		Requested Due Date: 5 day TAT	678.485.5298 Fax	warren johnson@arcadis.com	l	ARCADIS - Atlanta	Section A Required Client Information:	Pace Wildyncar
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Pace
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MANATTICAL SERVICES

DC#\_Title: ENV-FRM-HUN1-0083 v01\_Sample Condition Upon Receipt

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Effective Date: 05/12/2022	Ф	

boratory receiving samples:  Asheville	Huntersville		Raleigh[	_ Mie	chanicsvi	ille∏ Atlan	ta Ker	nersville[
Sample Condition Upon Receipt  Client Name:	۲,	_	-	 roject #		#:926		1
ourier: Fed Ex UPS Commercial Pace	USPS Other:_		Clie	nt	PM: M	P C T: GA-Arcad		09/08/22
ustody Seal Present? Yes No Sea	s Intact?	]Yes	∏No		Date/Init	ials Person Examir	ing Contents೭	8/17/22
acking Material: Bubble Wrap B	ubble Bags	None	☐ Oti	her		Biological T	issue Frozeni	
TR Gun ID: Correction Fact	Type of ice:	<b>-</b> EIV	Vet Blu	ue 🗌	None			
poler Temp: Add/Subtract ( poler Temp Corrected (°C):				Ten	Samples of	e above freezing out of temp criteria		e, cooling proce
DA Regulated Soit ( N/A, water sample)  Did samples originate in a quarantihe zone within the	e United States: (	:A, NY, o	ır SC			ginate from a foreig		
(check maps)? Yes No				Inci	uding Hawaii	and Puerto Rico)? Comments/Dis		No
Chain of Custody Present?	<b>⊉</b> Yes	□No	□N/A	1.		Comments/Dis	перапсу.	
Samples Arrived within Hold Time?		1.72	- 11197	1				
		□ <sub>No</sub>	□N/A	2.				
Short Hold Time Analysis (<72 hr.)?	Yes	□N <sub>0</sub>	□N/A	3.				1
Rush Turn Around Time Requested?	Yes	No	□N/A	4.	-			44
Sufficient Volume?	Yes	□No	□N/A	5.				
Correct Containers Used?	Ves	□No	□N/A	6.				11
-Pace Containers Used?	<b>⊠</b> Yes	□No	□N/A					10
Containers Intact?	□¥v€s	□No	□N/A_	7.	200 J. C. S. C. S.		6	
Dissolved analysis: Samples Field Filtered?	□Yes	□Nø.	□N/A	8.	628	2		
Sample Labels Match COC?  -Includes Date/Time/ID/Analysis Matrix:	W	Firl Virl	□N/A <b>}</b> }	9. 🕻	-0	13 notes	esevi	
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Headspace in VOA Vials (>5-6mm)? Trip Blank Present?	Yes □Yes	□ No	<b>□</b> M/A	10.		1		17
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Trip Blank Custody Seals Present?  MMENTS/SAMPLE DISCREPANCY	□Yes	□No	LJM7A		0.0	Field Data	Required?	Yes No
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NT NOTIFICATION/RESOLUTION							43.5	
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erson contacted:	·		Date/Time	<u> </u>				
Project Manager SCURF Review:					Date:	-		

Page 15 of 16

Qualtrax ID: 69614



DC#\_Title: ENV-FRM-HUN1-0083 v01\_Sample Condition Upon Receipt

Effective Date: 05/12/2022

\*Check mark top half of box if pH and/or dechlorination is verified and \_\_\_\_p

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

WO#: 92621114

PM: MF

Due Date: 09/08/22

CLIENT: GA-ArcadAt1

tem#	BP4U-125 mL Plastic Unpreserved (N/A) (CI-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4\$-125 mL Plastic H2SO4 (pH < 2) (CI-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	<b>BP4B-</b> 125 mt Plastic NaOH (pH > 12) (CI-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mt VOA HCI (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	DG95-40 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)	APIN	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (CI-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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						,
		A April Marie				

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.





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

Maiya tacks

(770)734-4200

Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR Ben Hodges, Georgia Power Warren Johnson, ARCADIS - Atlanta Laura Midkiff, Georgia Power







February 02, 2023 Page 2

cc: Tina Sullivan, ERM





#### **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



# **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



# **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

 ${\sf PASI-A} = {\sf Pace \ Analytical \ Services \ - \ Asheville}$ 

PASI-G = Pace Analytical Services - Green Bay

PASI-GA = Pace Analytical Services - Peachtree Corners, GA



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

Sample: BC-0.8a	Lab ID: 9262	21120001	Collected: 08/16/2	2 15:55	Received: 08	3/17/22 13:00 M	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Meth	od: EPA 60	10D Preparation Me	thod: E	PA 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 Meth	od: EPA 60	20B Preparation Me	thod: E	PA 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 Meth	od: SM 254	OC-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 Meth	od: SM 232	20B					
•	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 Meth	od: EPA 30	0.0 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	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

Sample: BC-0.3	Lab ID: 926	21120002	Collected: 08/16/2	2 11:5	Received: 08	3/17/22 13:00 N	fatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010D ATL ICP	Analytical Meth	nod: EPA 60	010D Preparation Me	ethod: E	EPA 3010A			
	Pace Analytica	I 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 Meth	nod: EPA 60	020B Preparation Me	thod: E	EPA 3005A			
	Pace Analytica	l 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		08/23/22 18:02		
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		08/23/22 18:02		
Cobalt	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:02	7440-48-4	
.ead	ND	mg/L	0.0010	1		08/23/22 18:02		
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		08/23/22 18:02		
Selenium	ND	mg/L	0.0050	1	08/22/22 15:10	08/23/22 18:02	7782-49-2	
<sup>-</sup> hallium	ND	mg/L	0.0010	1		08/23/22 18:02		
2540C Total Dissolved Solids	Analytical Meth	nod: SM 25	40C-2015					
	•		Peachtree Corners,	GA				
Total Dissolved Solids	90.9	mg/L	25.0	1		08/19/22 08:47		
2320B Alkalinity	Analytical Meth	nod: SM 23	20B					
	Pace Analytica							
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		
800.0 IC Anions 28 Days	Analytical Meth	nod: EPA 30	00.0 Rev 2.1 1993					
	Pace Analytica							
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		
Sulfate	5.4	mg/L	1.0	1		08/20/22 10:44		



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

Sample: BC-0.5.5	Lab ID: 9262	21120003	Collected: 08/16/2	2 16:15	Received: 08	/17/22 13:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Meth	od: EPA 60	10D Preparation Me	thod: E	PA 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 Meth	od: EPA 60	20B Preparation Me	thod: El	PA 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 Meth	od: SM 254	OC-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 Meth	od: SM 232	20B					
•	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 Meth	od: EPA 30	0.0 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	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

Sample: BC-0.5.6	Lab ID: 9262	21120004	Collected: 08/16/2	2 16:05	Received: 08	/17/22 13:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010D ATL ICP	Analytical Meth	od: EPA 60°	10D Preparation Me	thod: E	PA 3010A			
	Pace Analytical	Services - I	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 Meth	od: EPA 602	20B Preparation Me	thod: El	PA 3005A			
	Pace Analytical	Services - I	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 Meth	od: SM 254	0C-2015					
	Pace Analytical	l Services - I	Peachtree Corners,	GA				
Total Dissolved Solids	83.9	mg/L	25.0	1		08/19/22 08:48		
2320B Alkalinity	Analytical Meth	od: SM 232	0B					
•	Pace Analytical	Services - 0	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 Meth	od: EPA 300	0.0 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	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

Sample: BC-0.5.7	Lab ID: 9262	21120005	Collected: 08/16/2	22 16:25	Received: 08	/17/22 13:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010D ATL ICP	Analytical Meth	od: EPA 60	10D Preparation Me	ethod: E	PA 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 Meth	od: EPA 60	20B Preparation Me	ethod: E	PA 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	
_ithium	ND	mg/L	0.030	1	08/22/22 15:10	08/23/22 18:20	7439-93-2	
2540C Total Dissolved Solids	Analytical Meth	od: SM 254	OC-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 Meth	od: SM 232	:0B					
·	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 Meth	od: EPA 30	0.0 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	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

Sample: BC-BR	Lab ID: 9262	21120006	Collected: 08/16/2	22 17:00	Received: 08	3/17/22 13:00 N	Natrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Meth	od: EPA 60	10D Preparation Me	ethod: E	PA 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 Meth	od: EPA 60	20B Preparation Me	thod: E	PA 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 Meth	od: SM 254	10C-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 Meth	od: SM 232	20B					
•	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 Meth	od: EPA 30	0.0 Rev 2.1 1993					
<del>-</del>	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	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

QC Batch: 718462 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A 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	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
				/0 TGC		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 DUPLI	CATE: 3745	241		3745242							•
	,	92618822019	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

QC Batch: 718742 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A 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
Farameter		. ————— -		Analyzeu	————
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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 SP	IKE DUPLI	CATE: 3746	747		3746748							
			MS	MSD								
	9	92620540002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony	mg/L	ND 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.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3746	747		3746748							
Parameter	g Units	2620540002 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	

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.



Plant Arkwright-CCR Ash Pond-Revised Report Project:

Pace Project No.: 92621120

QC Batch Method:

QC Batch:

718207

SM 2540C-2015

Analysis Method:

SM 2540C-2015

Analysis Description:

2540C Total Dissolved Solids

Laboratory:

Pace Analytical Services - Peachtree Corners, GA

92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006 Associated Lab Samples:

METHOD BLANK: 3744034

Parameter

Parameter

Parameter

Parameter

Matrix: Water

Associated Lab Samples:

92621120001, 92621120002, 92621120003, 92621120004, 92621120005, 92621120006

Blank Result Reporting

Units

Limit

Analyzed

Qualifiers

Total Dissolved Solids

mg/L

Units

mg/L

Units

mg/L

mg/L

ND

25.0 08/19/22 08:45

LABORATORY CONTROL SAMPLE: 3744035

LCS Result

LCS % Rec % Rec Limits

80-120

**RPD** 

Qualifiers

**Total Dissolved Solids** 

SAMPLE DUPLICATE: 3744037

92621116005 Result

105

56.9

Spike

Conc.

Dup

108

Result

380

3

10

95

**RPD** 

Max

25

25

Qualifiers

**Total Dissolved Solids** 

Total Dissolved Solids

Date: 02/02/2023 03:41 PM

SAMPLE DUPLICATE: 3744488

Units

92621107001 Result

Dup Result

62.9

RPD

Max RPD

Qualifiers

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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Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

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

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Alkalinity, Total as CaCO3 mg/L ND 10.0 08/25/22 20:22

LABORATORY CONTROL SAMPLE: 2444374

Spike LCS LCS % Rec Conc. Result Limits Qualifiers Parameter Units % Rec Alkalinity, Total as CaCO3 200 207 103 80-120 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2444375 2444376

MS MSD

92621107001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result **RPD** RPD Result Conc. Result % Rec % Rec Limits Qual 104 Alkalinity, Total as CaCO3 mg/L 30.2 200 200 237 238 104 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.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

LABORATORY CONTROL CAMPLE: 2744276

QC Batch: 718269 Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch 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

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chloride	mg/L	ND 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	

LABORATORT CONTROL SAMPLE.	3/443/0	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 SP	IKE DUPL	ICATE: 3744	377		3744378							
		92621107001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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 SP	IKE DUPL	ICATE: 3744	379		3744380							
			MS	MSD								
		92621116006	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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	

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.



#### **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**

Date: 02/02/2023 03:41 PM

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92621120

Date: 02/02/2023 03:41 PM

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		



# CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

		CCR App Chromiur Thallium,	Major ton	CCR App		11	10	9	<b>&amp;</b>	7	6	OL	4	မ	2	1	ITEM#		Request	Phone:	Email	Addiess	Company	Required	Section A
		CCR Appendix N <sub>5</sub> - Antimony, Arsenic, Berium, Beryllium, Cadmium, Chonrium, Coball, Fluoride, Lead, Lithium, Mercury, Molybdenum, Seterium, Theilium, Radium 226, Radium, 228	Major tons? - Mg. Na, K, total atkalinity, bicarbonate atkalinity	CCR Appendix III - B, Ca, Cl, F, Sulfale, Total Dissolved Solids (TDS)	ADDITIONAL COMMENTS		*Accie				BC-BR	BC-0.5.7	BC-0.5.6	BC-0.5.5	BC-0.3	BC-0.8a	SAMPLE ID One Character per box. (A-Z, 0-9 /, .) Sample ids must be unique		Requested Due Date: 5 day TAT	678.485.5298 Fax:	warren johnson@arcadis.com	Altanta, GA 30339	0.75	Required Client Information:	A
2		admium, enum, Selenium,		ids (TDS)													MATRIX COON Drinking Water DW Writer WH Waste Waler WAP Product P Sul/Solid OL OH Wipe Ar Other Ts		Project #	Project	Purcha	Copy	Report To:	Requir	Section B
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Pace
ABALYTICAL SERVICES

DC#\_Title: ENV-FRM-HUN1-0083 v01\_Sample Condition Upon Receipt

Effective Date: 05/12/2022

aboratory receiving samples: Asheville Eden Greenwood [	Huntersville	Ralei	gh∐ M	echanicsville Atlanta Kernersville
Sample Condition Upon Receipt  Client Name:	1 -		Project #	WO#: 92621120
Courier: Fed Ex U	PS USPS Other:		Client	PM: MP Due Date: 08/24/22 CLIENT: GA-ArcadAtl
Custody Seal Present? Yes No S	ieals Intact?	res 🔲	40	Date/Initials Person Examining Contents 3/17/22
Packing Material: Bubble Wrap	Bubble Bags	None 🔲	Other	Biological Tissue Frozen?
Thermometer:				☐Yes ☐No ☐N/A
Cooler Temp:  Cooler Temp:  Cooler Temp:  Correction F  Add/Subtra		-∐wet [	_	None  Mp should be above freezing to 6°C
Cooler Temp Corrected (°C):	4.8	<del></del>		Samples out of temp criteria. Samples on ice, cooling process
USDA Regulated Soil ( N/A, water sample)	110			has begun
Did samples originate in a quarantine zone within (check maps)? Yes No	the United States: CA	, NY, or SC		d samples originate from a foreign source (internationally, luding Hawaii and Puerto Rico)? Yes No
Chair of Custody Present?	me?		<del>-</del>	Comments/Discrepancy:
Chain of Custody Present?  Samples Arrived within Hold Time?		No N/A		
Short Hold Time Analysis (<72 hr.)?		No □N/A		
Rush Turn Around Time Requested?		/		
		180		
Sufficient Volume?	- /	]No □N/A		
Correct Containers Used? -Pace Containers Used?		]No	I	
Containers Intact?		]No □N/A		
Dissolved analysis: Samples Field Filtered?		]No □N/A		
Sample Labels Match COC?		]No		
-Includes Date/Time/ID/Analysis Matrix:	W	_		
Headspace in VOA Vials (>5-6mm)?	□Yes □	No DATA	10.	
Trip Blank Present?	☐Yes ☐	No AN/A	11.	
Trip Blank Custody Seals Present?	□Yes	No DATA		
COMMENTS/SAMPLE DISCREPANCY				Field Data Required? ☐Yes ☐No
LIENT NOTIFICATION/RESOLUTION			Lot ID of s	split containers:
- 2- 2-2-3-4-3-1-1	ď			
Person contacted:		Date/T	me:	
Project Manager SCURF Review:				Date:
Project Manager SRF Review:				Date:

# DC#\_Title: ENV-FRM-HUN1-0083 v01\_Sample Condition Upon Receipt

Page 32 pt 27

Effective Date: 05/12/2022

\*\*\*Check all unpreserved Mitrates for chlorine

	selfted to sedmin tail at ai vad to tled mottag**
	Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg
	within the acceptance range for preservation samples.
# toslor9	*Check mark top half of box if pH and/or dechlorination is verified and

DG	VSC	AG	BP3	SP2	SP5	V/c	DG	DG	VG	VG	DGS	Des	AG	AGI	AG	AG1	AGI	WG	BP4	BP4	The state of the s	BP4	891	BP2	ててててててて て 853	BPA
DG9U-40 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	AG0U-100 mL Amber Unpreserved (N/A) (CI-)	BP3R-250 mL Plastic (NH2)25O4 (9.3-9.7)	SP2T-250 mL Sterile Plastic (N/A – lab)	SP5T-125 mL Sterile Plastic (N/A – lab)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	DG9S-40 mL VOA H2SO4 (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	DG9H-40 mL VOA HCI (N/A)	DG94-250 mL Amber NH4Cl (N/A)(Cl-)	AG35-250 mL Amber H2SO4 (pH < 2)	AG15-1 liter Amber H2SO4 (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	AG1H-1 liter Amber HCl (pH < 2)	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	WGFU-Wide-mouthed Glass jar Unpreserved	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	BP42-125 mL Plastic ZN Acetate & NaOH (>9)	BP3N-250 mL plastic HNO3 (pH < 2)	BP45-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP1U-1 liter Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP3U-250 mL Plastic Unpreserved (N/A)	BP4U-125 mL Plastic Unpreserved (N/A) (CI-)

# 10J	Amount of Preservative bebbs	noitevreserg emiT betruibe	Date preservation adjusted	tqiəcən noqu Hq	Type of Preservative	Sample ID
						W
						_

Mote: Whenever there is a discrepancy affecting Morth Carolina compliance samples, a copy of this form will be sent to the Morth Carolina DEMR Certification Office (i.e., Out of hold, incorrect preservative, out of temp, incorrect containers.



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

February 17, 2023

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

Re: Arkwright CCR Groundwater Compliance AP1

Work Order: 609413

Dear Joju Abraham:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 03, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

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

grie & Trent

Purchase Order: GPC82177-0005

Enclosures



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# Certificate of Analysis Report for

GPCC001 Georgia Power Company Client SDG: 609413 GEL Work Order: 609413

#### 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 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.

Vie & Trent

Reviewed by

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

# Certificate of Analysis

Project:

Client ID:

Report Date: February 17, 2023

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FB-02

Sample ID: 609413001

Matrix: WQ

Collect Date: 01-FEB-23 09:30
Receive Date: 03-FEB-23
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions Liqu	iid "As Recei	ved"										
Chloride	U	ND	0.0670	0.200	mg/L		1	HXC1	02/03/23	1941	2378595	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate		0.504	0.133	0.400	mg/L		1					
Mercury Analysis-CVA	A											
7470 Cold Vapor Mercu	ary, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1120	2378873	2
Metals Analysis-ICP-M	S											
SW846 3005A/6020B "	As Received	"										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/11/23	2201	2378597	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					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved So	olids "As Rec	eived"										
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	02/08/23	1114	2379677	4
The following Prep Met	thods were pe	erformed:										

	1				
Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	LG2	02/06/23	0840	2378596
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	02/06/23	1118	2378872

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FB-02 Project: GPCC00100 Sample ID: 609413001 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units Pl	F DF Analyst Date	Time Batch	Method
The following Ar	nalytical Methods were performed:						
Method	Description			Ana	lyst 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

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# Certificate of Analysis

Report Date: February 17, 2023

GPCC00100

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1GWA-1

Sample ID: 609413002

Matrix: WG

Collect Date: 01-FEB-23 10:10
Receive Date: 03-FEB-23
Collector: Client

3002 Client ID: GPCC001

Project:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time B	Batch	Method
Field Data												
Client collected Fiel	d pH "As Receiv	ved"										
Field pH	1	5.55			SU			EOS1	02/01/23	1010 23	378396	1
Ion Chromatography	у											
EPA 300.0 Anions I	Liquid "As Recei	ived"										
Chloride	•	1.98	0.0670	0.200	mg/L		1	HXC1	02/03/23	2010 23	378595	2
Fluoride		0.288	0.0330	0.100	mg/L		1					
Sulfate		43.6	0.665	2.00	mg/L		5	HXC1	02/04/23	1006 23	378595	3
Mercury Analysis-C	CVAA											
7470 Cold Vapor M	ercury, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1121 23	378873	4
Metals Analysis-ICF	P-MS											
SW846 3005A/6020	B "As Received											
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/13/23	1608 23	378597	5
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0571	0.000670	0.00400	mg/L	1.00	1					
Beryllium		0.00103	0.000200	0.000500	mg/L	1.00	1					
Boron		0.0954	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Calcium		16.7	0.0800	0.200	mg/L	1.00						
Chromium	J	0.00448	0.00300	0.0100	mg/L	1.00						
Cobalt		0.00334	0.000300	0.00100	mg/L	1.00						
Lead	U	ND	0.000500	0.00200	mg/L	1.00						
Lithium	J	0.00633	0.00300	0.0100	mg/L	1.00						
Molybdenum	U	ND	0.000200	0.00100	mg/L	1.00						
Selenium	J	0.00304	0.00150	0.00500	mg/L	1.00						
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved	d Solids "As Rec	eived"										
Total Dissolved Solids		112	2.38	10.0	mg/L			CH6	02/08/23	1114 23	379677	6
The following Prep	Methods were po	erformed:										
Method	Description	n		Analyst	Date	,	Tim	e Pr	ep Batch			
SW846 3005A	ICP-MS 3005	5A PREP		LG2	02/06/23		0840	23	78596			
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		RM4	02/06/23		1118	23	78872			

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1GWA-1 Project: GPCC00100 Sample ID: 609413002 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following A	nalytical Methods were performed:							
Method	Description			A	nalys	st 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	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

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# Certificate of Analysis

Project:

Client ID:

Report Date: February 17, 2023

GPCC00100

2378872

2378596

1118

0840

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-EB-02

Sample ID: 609413003

Matrix: WQ

Collect Date: 01-FEB-23 10:45

EPA 7470A Mercury Prep Liquid

ICP-MS 3005A PREP

SW846 7470A Prep

SW846 3005A

Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography											
EPA 300.0 Anions Liq	uid "As Recei	ved"									
Chloride	U	ND	0.0670	0.200	mg/L		1	HXC1	02/03/23	2040 2378595	1
Fluoride	U	ND	0.0330	0.100	mg/L		1				
Sulfate	U	ND	0.133	0.400	mg/L		1				
Mercury Analysis-CV	AA										
7470 Cold Vapor Merc	cury, Liquid "A	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1123 2378873	2
Metals Analysis-ICP-N	ИS										
SW846 3005A/6020B	"As Received	"									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/11/23	2230 2378597	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					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Solids Analysis											
SM2540C Dissolved S	olids "As Rec	eived"									
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	02/08/23	1114 2379677	4
The following Prep Mo	ethods were po	erformed:									
Method	Description	n		Analyst	Date	,	Tim	e Pr	ep Batch		

RM4

LG2

02/06/23

02/06/23

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-EB-02 Project: GPCC00100 Sample ID: 609413003 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following A	nalytical Methods were performed:							
Method	Description			A	Analys	st 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

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# Certificate of Analysis

Report Date: February 17, 2023

GPCC00100

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-1 Sample ID: 609413004

Matrix: WG

Collect Date: 01-FEB-23 11:50
Receive Date: 03-FEB-23
Collector: Client

413004 Client ID: GPCC001

Project:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Field Data												
Client collected Field	pH "As Receiv	ved"										
Field pH	•	6.45			SU			EOS1	02/01/23	1150	2378396	1
Ion Chromatography												
EPA 300.0 Anions Lic	uid "As Recei	ived"										
Sulfate	1	106	1.33	4.00	mg/L		10	HXC1	02/04/23	1036	2378595	2
Chloride		2.45	0.0670	0.200	mg/L		1	HXC1	02/03/23	2110	2378595	3
Fluoride		0.141	0.0330	0.100	mg/L		1					
Mercury Analysis-CV	AA											
7470 Cold Vapor Mer	cury, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1128	2378873	4
Metals Analysis-ICP-N	MS											
SW846 3005A/6020B	"As Received	"										
Boron		0.348	0.0260	0.0750	mg/L	1.00	5	PRB	02/11/23	2234	2378597	5
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/11/23	2350	2378597	6
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0417	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					
Calcium		32.9	0.0800	0.200	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt	J	0.000836	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	J	0.00412	0.00300	0.0100	mg/L	1.00	1					
Molybdenum	J	0.000721	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved S	Solids "As Rec											
Total Dissolved Solids		207	2.38	10.0	mg/L			CH6	02/08/23	1114	2379677	7
The following Prep M	ethods were pe	erformed:										
Method	Description	n		Analyst	Date	Т	ime	e Pr	ep Batch			
SW846 3005A	ICP-MS 3005	5A PREP		LG2	02/06/23	O	840	23	78596			
SW846 7470A Prep	EPA 7470A I	Mercury Prep Liquid		RM4	02/06/23	1	118	23	78872			

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-1 Project: GPCC00100 Sample ID: 609413004 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description					Analys	t Comments		
1	SM 4500-H B	/SW846 9040C, SM 2550B							
2	EPA 300.0								
3	EPA 300.0								
4	SW846 7470A	A							
5	SW846 3005A	A/6020B							
6	SW846 3005A	A/6020B							
7	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

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

# Certificate of Analysis

Project:

Client ID:

Report Date: February 17, 2023

GPCC00100

GPCC001

2378872

1118

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1GWA-2

Sample ID: 609413005

Matrix: WG

SW846 7470A Prep

Collect Date: 01-FEB-23 11:55 03-FEB-23 Receive Date: Collector: Client

EPA 7470A Mercury Prep Liquid

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time ]	Batch	Method
Field Data												
Client collected Field pl	H "As Receiv	/ed"										
Field pH		6.08			SU			EOS1	02/01/23	1155 2	378396	1
Ion Chromatography												
EPA 300.0 Anions Liqu	iid "As Recei	ved"										
Chloride		2.09	0.0670	0.200	mg/L		1	HXC1	02/03/23	2140 2	378595	2
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate		1.67	0.133	0.400	mg/L		1					
Mercury Analysis-CVA	A											
7470 Cold Vapor Merci	ury, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1130 2	378873	3
Metals Analysis-ICP-M	IS											
SW846 3005A/6020B "	'As Received	"										
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1	PRB	02/12/23	1248 2	378597	4
Boron	J	0.00973	0.00520	0.0150	mg/L	1.00	1					
Calcium		4.50	0.0800	0.200	mg/L	1.00	1					
Chromium	J	0.00868	0.00300	0.0100	mg/L	1.00	1					
Cobalt	U	ND	0.000300	0.00100	mg/L	1.00	1					
Lithium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/11/23	2238 2	378597	5
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0302	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Molybdenum		0.00146	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved So		. 10										
Total Dissolved Solids	olids "As Rec	eived										
	olids "As Rec	38.0	2.38	10.0	mg/L			CH6	02/08/23	1114 2	379677	6
The following Prep Me		38.0	2.38	10.0	mg/L			СН6	02/08/23	1114 2	379677	6
The following Prep Me Method		38.0 erformed:	2.38	10.0 Analyst	mg/L Date	-	Гimе		02/08/23 ep Batch	1114 2	379677	6

RM4

02/06/23

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

Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1GWA-2 Project: GPCC00100
Sample ID: 609413005 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description	1				Analys	st Comments		
1	SM 4500-H B	S/SW846 9040C, SM 2550B							
2	EPA 300.0								
3	SW846 7470A	A							
4	SW846 3005A	A/6020B							
5	SW846 3005A	A/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

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

# Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FD-01 Sample ID: 609413006

Matrix: WG

SW846 7470A Prep

SW846 3005A

Collect Date: 01-FEB-23 12:00
Receive Date: 03-FEB-23
Collector: Client

EPA 7470A Mercury Prep Liquid

ICP-MS 3005A PREP

Project: GPCC00100 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Ion Chromatography	7										
EPA 300.0 Anions L	iquid "As Recei	ved"									
Sulfate	1	2410	26.6	80.0	mg/L		200	HXC1	02/04/23	1449 2378595	1
Chloride		8.08	0.0670	0.200	mg/L		1	HXC1	02/03/23	2210 2378595	2
Fluoride	J	0.0619	0.0330	0.100	mg/L		1				
Mercury Analysis-C	VAA										
7470 Cold Vapor Me	ercury, Liquid "A	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1132 2378873	3
Metals Analysis-ICP	P-MS										
SW846 3005A/6020		"									
Boron		7.66	0.520	1.50	mg/L	1.00	100	PRB	02/11/23	2241 2378597	4
Calcium		476	8.00	20.0	mg/L	1.00	100				
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/11/23	2354 2378597	5
Arsenic	J	0.00236	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0215	0.000670	0.00400	mg/L	1.00	1				
Beryllium		0.000776	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		0.405	0.000300	0.00100	mg/L	1.00	1				
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1				
Lithium	J	0.00895	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				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Solids Analysis											
SM2540C Dissolved	l Solids "As Rec	eived"									
Total Dissolved Solids		3120	23.8	100	mg/L			CH6	02/08/23	1114 2379677	6
The following Prep I	Methods were pe	erformed:									
Method	Description	n		Analyst	Date	-	Гітє	Pr	ep Batch		

RM4

LG2

02/06/23

02/06/23

1118

0840

2378872

2378596

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

Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FD-01 Project: GPCC00100 Sample ID: 609413006 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analyti	cal Methods were performed:							
Method	Description			1	Analys	st 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

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# Certificate of Analysis

Project:

Client ID:

Report Date: February 17, 2023

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FD-02

Sample ID: 609413007

Matrix: WG

Collect Date: 01-FEB-23 12:00
Receive Date: 03-FEB-23
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chromatography	7											
EPA 300.0 Anions L	iquid "As Recei	ved"										
Sulfate	•	1380	26.6	80.0	mg/L		200	HXC1	02/04/23	1519	2378595	1
Chloride		5.07	0.0670	0.200	mg/L		1	HXC1	02/03/23	2240	2378595	2
Fluoride		0.202	0.0330	0.100	mg/L		1					
Mercury Analysis-C	VAA											
7470 Cold Vapor Me	ercury, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1134	2378873	3
Metals Analysis-ICP	P-MS											
SW846 3005A/6020	B "As Received	"										
Boron		4.01	0.520	1.50	mg/L	1.00	100	PRB	02/11/23	2245	2378597	4
Calcium		394	8.00	20.0	mg/L	1.00	100					
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/11/23	2357	2378597	5
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0390	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	0.000739	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	J	0.00628	0.00300	0.0100	mg/L	1.00	1					
Molybdenum		0.00350	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved	l Solids "As Rec	eived"										
Total Dissolved Solids		2120	7.93	33.3	mg/L			CH6	02/08/23	1114	2379677	6
The following Prep I	Methods were pe	erformed:										

The following free Methods were performed.									
Method	Description	Analyst	Date	Time	Prep Batch				
SW846 3005A	ICP-MS 3005A PREP	LG2	02/06/23	0840	2378596				
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	02/06/23	1118	2378872				

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FD-02 Project: GPCC00100
Sample ID: 609413007 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date Time Batch Method
The following Analyti	cal Methods were performed:					
Method	Description				Analy	st 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

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# Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-2 Sample ID: 609413008

Matrix: WG

Collect Date: 01-FEB-23 13:45
Receive Date: 03-FEB-23
Collector: Client

Project: GPCC00100 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	e Batch	Method
Field Data												
Client collected Fiel	ld pH "As Receiv	ved"										
Field pH	•	6.28			SU			EOS1	02/01/23	1345	2378396	1
Ion Chromatography	y											
EPA 300.0 Anions I	Liquid "As Recei	ved"										
Sulfate	1	574	6.65	20.0	mg/L		50	HXC1	02/04/23	1549	2378595	2
Chloride		3.31	0.0670	0.200	mg/L		1	HXC1	02/04/23	0139	2378595	3
Fluoride	J	0.0811	0.0330	0.100	mg/L		1					
Mercury Analysis-C	CVAA											
7470 Cold Vapor M	ercury, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1135	2378873	4
Metals Analysis-ICI	P-MS											
SW846 3005A/6020	B "As Received	"										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/12/23	0001	2378597	5
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0193	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Cadmium	J	0.000348	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.0858	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.0153	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					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Boron		0.385	0.0520	0.150	mg/L	1.00	10	PRB	02/11/23	2249	2378597	6
Calcium		142	0.800	2.00	mg/L	1.00	10					
Solids Analysis												
SM2540C Dissolved	d Solids "As Rec	eived"										
Total Dissolved Solids		851	2.38	10.0	mg/L			CH6	02/08/23	1114	2379677	7
The following Prep	Methods were pe	erformed:										
Method	Description	n		Analyst	Date	-	Гimе	e Pr	ep Batch			
SW846 3005A	ICP-MS 3005	SA PREP		LG2	02/06/23	(	0840	23	78596			
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		RM4	02/06/23	1	1118	23	78872			

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-2 Project: GPCC00100 Sample ID: 609413008 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description					Analys	st Comments		
1	SM 4500-H B	/SW846 9040C, SM 2550B							
2	EPA 300.0								
3	EPA 300.0								
4	SW846 7470A	A							
5	SW846 3005A	A/6020B							
6	SW846 3005A	A/6020B							
7	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

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

# Certificate of Analysis

Project:

Client ID:

Report Date: February 17, 2023

GPCC00100

2378596

0840

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-6 Sample ID: 609413009

Matrix: WG

SW846 3005A

Collect Date: 01-FEB-23 13:55
Receive Date: 03-FEB-23
Collector: Client

ICP-MS 3005A PREP

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	F Analyst Date		Time	Batch	Method
Field Data												
Client collected Fie	eld pH "As Receiv	ved"										
Field pH	1	5.45			SU			EOS1	02/01/23	1355	2378396	1
Ion Chromatograph	ny											
EPA 300.0 Anions	•	ived"										
Sulfate		2380	26.6	80.0	mg/L		200	HXC1	02/04/23	1619	2378595	2
Chloride		8.13	0.0670	0.200	mg/L		1	HXC1			2378595	3
Fluoride	J	0.0718	0.0330	0.100	mg/L		1					
Mercury Analysis-	CVAA				C							
7470 Cold Vapor N		As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1137	2378873	4
Metals Analysis-IC	CP-MS											
SW846 3005A/602	20B "As Received	["										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/12/23	0005	2378597	5
Arsenic	J	0.00249	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0225	0.000670	0.00400	mg/L	1.00	1					
Beryllium		0.000829	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		0.421	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	J	0.00849	0.00300	0.0100	mg/L	1.00						
Molybdenum	U	ND	0.000200	0.00100	mg/L	1.00						
Selenium	U	ND	0.00150	0.00500	mg/L	1.00						
Thallium	U	ND	0.000600	0.00200	mg/L	1.00						
Boron		7.69	0.520	1.50	mg/L	1.00		PRB	02/11/23	2252	2378597	6
Calcium		494	8.00	20.0	mg/L	1.00	100					
Solids Analysis												
SM2540C Dissolve	ed Solids "As Rec	ceived"										
Total Dissolved Solids		3800	23.8	100	mg/L			CH6	02/08/23	1115	2380460	7
The following Prep	Methods were p	erformed:										
Method	Description	n		Analyst	Date	,	Time	e Pr	ep Batch		·	· · · · · · · · · · · · · · · · · · ·
SW846 7470A Prep	EPA 7470A	Mercury Prep Liquid		RM4	02/06/23		1118	23	78872			

LG2

02/06/23

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

Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-6 Project: GPCC00100 Sample ID: 609413009 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method					
The following Analytic	cal Methods v	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	A												
5	SW846 3005A	A/6020B												
6	SW846 3005A	A/6020B												
7	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

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# Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-10 Sample ID: 609413010

Matrix: WG

Collect Date: 01-FEB-23 14:28 Receive Date: 03-FEB-23 Collector: Client

ICP-MS 3005A PREP

SW846 3005A

Project: GPCC00100 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	e Batch	Method
Field Data												
Client collected Field p	H "As Receiv	ved"										
Field pH		6.38			SU			EOS1	02/01/23	1428	2378396	1
Ion Chromatography												
EPA 300.0 Anions Liqu	uid "As Recei	ved"										
Sulfate		238	2.66	8.00	mg/L		20	HXC1	02/04/23	1649	2378595	2
Chloride		8.01	0.0670	0.200	mg/L		1	HXC1	02/04/23	0238	2378595	3
Fluoride		0.482	0.0330	0.100	mg/L		1					
Mercury Analysis-CVA	λA											
7470 Cold Vapor Merc	ury, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1139	2378873	4
Metals Analysis-ICP-M	IS											
SW846 3005A/6020B	'As Received'	"										
Boron		0.349	0.0520	0.150	mg/L	1.00	10	PRB	02/11/23	2256	2378597	5
Calcium		85.9	0.800	2.00	mg/L	1.00	10					
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/12/23	0008	2378597	6
Arsenic	J	0.00294	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0316	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		0.00125	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.0148	0.00300	0.0100	mg/L	1.00	1					
Molybdenum		0.00257	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved So	olids "As Rec	eived"										
Total Dissolved Solids		498	2.38	10.0	mg/L			CH6	02/08/23	1115	2380460	7
The following Prep Me	thods were pe	erformed:										
Method	Description	n		Analyst	Date		Γim	e Pr	ep Batch			
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		RM4	02/06/23	1	1118	23	78872			

LG2

02/06/23

0840

2378596

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

Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-10 Project: GPCC00100 Sample ID: 609413010 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method					
The following Analytic	cal Methods v	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	A												
5	SW846 3005A	A/6020B												
6	SW846 3005A	A/6020B												
7	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

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

# Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-4 Sample ID: 609413011

Matrix: WG

Collect Date: 01-FEB-23 15:40 Receive Date: 03-FEB-23 Collector: Client Project: GPCC00100 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Field Data												
Client collected Field	pH "As Receiv	ved"										
Field pH	1	6.47			SU			EOS1	02/01/23	1540	2378396	1
Ion Chromatography												
EPA 300.0 Anions Li	quid "As Recei	ived"										
Sulfate	•	1380	26.6	80.0	mg/L		200	HXC1	02/04/23	1719	2378595	2
Chloride		5.15	0.0670	0.200	mg/L		1	HXC1	02/04/23	0308	2378595	3
Fluoride		0.143	0.0330	0.100	mg/L		1					
Mercury Analysis-CV	'AA											
7470 Cold Vapor Mei	cury, Liquid ".	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1140	2378873	4
Metals Analysis-ICP-	MS											
SW846 3005A/6020E	3 "As Received	["										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/12/23	0019	2378597	5
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0394	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	0.000752	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	J	0.00621	0.00300	0.0100	mg/L	1.00	1					
Molybdenum		0.00360	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1	BB B	00/11/00	22.50	2250505	_
Boron		3.99 394	0.260	0.750	mg/L	1.00	50	PRB	02/11/23	2259	2378597	6
Calcium Solids Analysis		394	4.00	10.0	mg/L	1.00	50					
•												
SM2540C Dissolved	Solids "As Rec	ceived"										
Total Dissolved Solids		2190	7.93	33.3	mg/L			CH6	02/08/23	1115	2380460	7
The following Prep M	lethods were p	erformed:										
Method	Description	n		Analyst	Date	7	Γime	e Pr	ep Batch			
SW846 3005A	ICP-MS 300:	5A PREP		LG2	02/06/23	(	0840	23	78596			
SW846 7470A Prep	EPA 7470A	Mercury Prep Liquid		RM4	02/06/23	1	1118	23	78872			

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-4 Project: GPCC00100 Sample ID: 609413011 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method					
The following Analytic	cal Methods v	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	A												
5	SW846 3005A	A/6020B												
6	SW846 3005A	A/6020B												
7	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

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# Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-11 Sample ID: 609413012

Matrix: WG

Collect Date: 01-FEB-23 15:48 Receive Date: 03-FEB-23

EPA 7470A Mercury Prep Liquid

SW846 7470A Prep

Collector: Client

Project: GPCC00100 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Field Data												
Client collected Field	pH "As Receiv	ed"										
Field pH	<b>L</b>	6.83			SU			EOS1	02/01/23	1548	2378396	1
Ion Chromatography												
EPA 300.0 Anions Lic	nuid "As Recei	ved"										
Chloride	1	1.16	0.0670	0.200	mg/L		1	HXC1	02/04/23	0338	2378595	2
Fluoride		0.124	0.0330	0.100	mg/L		1					
Sulfate		44.7	0.665	2.00	mg/L		5	HXC1	02/04/23	1748	2378595	3
Mercury Analysis-CV	AA											
7470 Cold Vapor Mer	cury, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1142	2378873	4
Metals Analysis-ICP-N	MS											
SW846 3005A/6020B		"										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/11/23	2310	2378597	5
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0196	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Boron		0.166	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	ND	0.000300	0.00100	mg/L	1.00	1					
Calcium		24.6	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		0.00170	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved S	Solids "As Rec	eived"										
Total Dissolved Solids		170	2.38	10.0	mg/L			CH6	02/08/23	1115	2380460	6
The following Prep M	ethods were pe	erformed:										
Method	Description	1		Analyst	Date	7	Γim	e Pr	ep Batch			
SW846 3005A	ICP-MS 3005	A PREP		LG2	02/06/23	C	0840		78596			

RM4

02/06/23

1118

2378872

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-11 Project: GPCC00100 Sample ID: 609413012 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following A	nalytical Methods were performed:							
Method	Description				Analys	st 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	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

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# Certificate of Analysis

Report Date: February 17, 2023

GPCC00100

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-7 Sample ID: 609413013

Matrix: WG

SW846 3005A

Collect Date: 01-FEB-23 16:00
Receive Date: 03-FEB-23
Collector: Client

ICP-MS 3005A PREP

609413013 Client ID: GPCC001

Project:

0840

2378596

02/06/23

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Field Data												
Client collected Fi	ield pH "As Receiv	ed"										
Field pH	1	6.51			SU			EOS1	02/01/23	1600	2378396	1
Ion Chromatograp	hy											
EPA 300.0 Anions	s Liquid "As Recei	ved"										
Chloride	1	6.83	0.0670	0.200	mg/L		1	HXC1	02/04/23	0408	2378595	2
Fluoride	J	0.0931	0.0330	0.100	mg/L		1					
Sulfate		1390	13.3	40.0	mg/L		100	HXC1	02/04/23	1818	2378595	3
Mercury Analysis	-CVAA											
7470 Cold Vapor		As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1144	2378873	4
Metals Analysis-IO	CP-MS											
SW846 3005A/60	20B "As Received	"										
Boron		2.53	0.260	0.750	mg/L	1.00	50	PRB	02/11/23	2318	2378597	5
Calcium		347	4.00	10.0	mg/L	1.00	50					
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/12/23	0023	2378597	6
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0409	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	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		0.00204	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolv	ed Solids "As Rec	eived"										
Total Dissolved Solids		2060	7.93	33.3	mg/L			CH6	02/08/23	1115	2380460	7
The following Pre	p Methods were pe	erformed:										
Method	Description	1		Analyst	Date	-	Гіте	e Pr	ep Batch			
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		RM4	02/06/23	1	1118	23	78872			
• · · · · · · · · · · · · · · ·												

LG2

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-7 Project: GPCC00100
Sample ID: 609413013 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	vere performed:							
Method	Description					Analys	t Comments		
1	SM 4500-H B	/SW846 9040C, SM 2550B							
2	EPA 300.0								
3	EPA 300.0								
4	SW846 7470A	Λ							
5	SW846 3005A	A/6020B							
6	SW846 3005A	A/6020B							
7	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

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# Certificate of Analysis

Report Date: February 17, 2023

GPCC00100

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-8 Sample ID: 609413014

Matrix: WG

Collect Date: 02-FEB-23 10:10
Receive Date: 03-FEB-23
Collector: Client

3014 Client ID: GPCC001

Project:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Field Data												
Client collected Field pl	H "As Receiv	ved"										
Field pH		6.60			SU			EOS1	02/02/23	1010	2378396	1
Ion Chromatography												
EPA 300.0 Anions Liqu	id "As Recei	ived"										
Chloride		2.67	0.0670	0.200	mg/L		1	HXC1	02/04/23	0438	2378595	2
Fluoride		0.215	0.0330	0.100	mg/L		1					
Sulfate		702	13.3	40.0	mg/L		100	HXC1	02/04/23	1848	2378595	3
Mercury Analysis-CVA	A											
7470 Cold Vapor Mercu	ıry, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1149	2378873	4
Metals Analysis-ICP-M	S											
SW846 3005A/6020B ".	As Received	."										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/12/23	0026	2378597	5
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0464	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	0.000677	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	J	0.00351	0.00300	0.0100	mg/L	1.00	1					
Molybdenum		0.510	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Boron		2.90	0.260	0.750	mg/L	1.00	50	PRB	02/11/23	2321	2378597	6
Calcium		305	4.00	10.0	mg/L	1.00	50					
Solids Analysis												
SM2540C Dissolved So	lids "As Rec	eived"										
Total Dissolved Solids		2800	4.76	20.0	mg/L			CH6	02/09/23	1328	2381199	7
The following Prep Met	hods were pe	erformed:										
Method	Description	n		Analyst	Date	-	Гim	e Pr	ep Batch			
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		RM4	02/06/23		1118	23	78872			
SW846 3005A	ICP-MS 3005	5A PREP		LG2	02/06/23	(	0840	23	78596			

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

Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-8 Project: GPCC00100 Sample ID: 609413014 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description					Analys	st Comments		
1	SM 4500-H B	/SW846 9040C, SM 2550B							
2	EPA 300.0								
3	EPA 300.0								
4	SW846 7470A	A							
5	SW846 3005A	A/6020B							
6	SW846 3005A	A/6020B							
7	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

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

# Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-9 Sample ID: 609413015

Matrix: WG

Collect Date: 02-FEB-23 10:13
Receive Date: 03-FEB-23
Collector: Client

EPA 7470A Mercury Prep Liquid

SW846 7470A Prep

Project: GPCC00100 Client ID: GPCC001

	0 1:5:	D 1.	DI	DI	TT '4	DE	DE	A 1	. D .			3.6.1.1
Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Field Data												
Client collected Field	pH "As Receiv	ved"										
Field pH	•	4.62			SU			EOS1	02/02/23	1013	2378396	1
Ion Chromatography												
EPA 300.0 Anions Lic	uid "As Recei	ved"										
Sulfate	1	336	5.32	16.0	mg/L		40	HXC1	02/04/23	2118	2378595	2
Chloride		6.96	0.0670	0.200	mg/L		1	HXC1	02/04/23	0737	2378595	3
Fluoride		0.733	0.0330	0.100	mg/L		1					
Mercury Analysis-CV	AA				-							
7470 Cold Vapor Mer	cury, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1151	2378873	4
Metals Analysis-ICP-l	MS				•							
SW846 3005A/6020B	"As Received	"										
Boron		0.742	0.0520	0.150	mg/L	1.00	10	PRB	02/11/23	2325	2378597	5
Calcium		71.0	0.800	2.00	mg/L	1.00	10					
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/12/23	0030	2378597	6
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0247	0.000670	0.00400	mg/L	1.00	1					
Beryllium		0.000670	0.000200	0.000500	mg/L	1.00	1					
Cadmium		0.00113	0.000300	0.00100	mg/L	1.00	1					
Chromium	U	ND	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.113	0.000300	0.00100	mg/L	1.00	1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.159	0.00300	0.0100	mg/L	1.00	1					
Molybdenum	J	0.000667	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved S	Solids "As Rec	eived"										
Total Dissolved Solids		563	2.38	10.0	mg/L			CH6	02/09/23	1400	2381200	7
The following Prep M	ethods were pe	erformed:										
Method	Description	n		Analyst	Date	]	Γim	e Pr	ep Batch			
SW846 3005A	ICP-MS 3005	5A PREP		LG2	02/06/23	(	)840	23	78596			

RM4

02/06/23

1118

2378872

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

Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-9 Project: GPCC00100 Sample ID: 609413015 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description					Analys	st Comments		
1	SM 4500-H B	/SW846 9040C, SM 2550B							
2	EPA 300.0								
3	EPA 300.0								
4	SW846 7470A	A							
5	SW846 3005A	A/6020B							
6	SW846 3005A	A/6020B							
7	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

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

# Certificate of Analysis

Project:

Client ID:

Report Date: February 17, 2023

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FB-01

Sample ID: 609413016

Matrix: WQ

Collect Date: 02-FEB-23 10:45 Receive Date: 03-FEB-23

Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chromatography	/											
EPA 300.0 Anions L		ived"										
Chloride	U	ND	0.0670	0.200	mg/L		1	HXC1	02/04/23	0807	2378595	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Mercury Analysis-C	VAA											
7470 Cold Vapor Me	ercury, Liquid ".	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	02/07/23	1153	2378873	2
Metals Analysis-ICF	P-MS											
SW846 3005A/6020	B "As Received	<u>l</u> "										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/11/23	2328	2378597	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					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved	d Solids "As Rec	ceived"										
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	02/09/23	1400	2381200	4
The following Prep	Methods were p	erformed:										
Method	Description	n		Analyst	Date	,	Time	e Pr	ep Batch			

Method	Description	Analyst	Date	Time	Prep Batch
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	02/06/23	1118	2378872
SW846 3005A	ICP-MS 3005A PREP	LG2	02/06/23	0840	2378596

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

Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FB-01 Project: GPCC00100 Sample ID: 609413016 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Ar	nalytical Methods were performed:							
Method	Description			Α	Analys	st 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

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# Certificate of Analysis

Report Date: February 17, 2023

02/09/23 1400 2381200

GPCC00100

GPCC001

Project:

mg/L

mg/L

mg/L

1.00 1

1.00 1

CH6

Client ID:

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

Atlanta, Georgia 30308

0.0323

ND

U

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-5 Sample ID: 609413017

Matrix: WG

Collect Date: 02-FEB-23 12:33
Receive Date: 03-FEB-23
Collector: Client

Parameter DL RL Units PF Qualifier Result DF Analyst Date Time Batch Method Field Data Client collected Field pH "As Received" Field pH SU 6.12 EOS1 02/02/23 1233 2378396 1 Ion Chromatography EPA 300.0 Anions Liquid "As Received" 2060 Sulfate 26.6 80 O 200 HXC1 02/04/23 2147 2378595 mo/I 2

Sullate		2000	20.0	80.0	mg/L	۷-	D HACI	02/04/23	214/ 23/0393	2
Chloride		7.86	0.0670	0.200	mg/L		HXC1	02/04/23	0837 2378595	3
Fluoride		0.258	0.0330	0.100	mg/L		1			
Mercury Analysis-CVAA										
7470 Cold Vapor Mercury, Lic	quid "A	As Received"								
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	JP2	02/07/23	1154 2378873	4
Metals Analysis-ICP-MS										
SW846 3005A/6020B "As Rec	eived'	'								
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	l PRB	02/12/23	0034 2378597	5
Arsenic	J	0.00353	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		0.0258	0.000300	0.00100	mg/L	1.00	1			
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1			
Lithium		0.256	0.00300	0.0100	mg/L	1.00	1			

Thallium U ND 0.0006000.00200 mg/L 1.00 1 02/11/23 2332 2378597 Boron 7.22 0.520 1.50 mg/L1.00 100 PRB Calcium 593 8.00 20.0 mg/L1.00 100 Solids Analysis SM2540C Dissolved Solids "As Received"

23.8

0.00100

0.00500

100

0.000200

0.00150

The following Prep Methods were performed:

Molybdenum

Total Dissolved Solids

Selenium

Method	Description	Analyst	Date	Time	Prep Batch
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	02/06/23	1118	2378872
SW846 3005A	ICP-MS 3005A PREP	LG2	02/06/23	0840	2378596

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-5 Project: GPCC00100 Sample ID: 609413017 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	vere performed:							
Method	Description	1				Analys	st Comments		
1	SM 4500-H B	/SW846 9040C, SM 2550B							
2	EPA 300.0								
3	EPA 300.0								
4	SW846 7470A	Λ							
5	SW846 3005A	A/6020B							
6	SW846 3005A	A/6020B							
7	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

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# Certificate of Analysis

Project:

Client ID:

Report Date: February 17, 2023

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-EB-01

Sample ID: 609413018

Matrix: WQ

02-FEB-23 13:10 Collect Date: Receive Date: 03-FEB-23

Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Ion Chromatograp	ohy											
EPA 300.0 Anions	s Liquid "As Recei	ived"										
Chloride	U	ND	0.0670	0.200	mg/L		1	HXC1	02/04/23	0907	2378595	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	02/07/23	1156	2378873	2
Metals Analysis-I	CP-MS											
SW846 3005A/60	20B "As Received	."										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	02/11/23	2336	2378597	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					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolv	ed Solids "As Rec	eived"										
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	02/09/23	1400	2381200	4
The following Pre	p Methods were po	erformed:										
Method	Description	n		Analyst	Date	,	Time	e Pr	ep Batch			

Method	Description	Analyst	Date	Time	Prep Batch
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	RM4	02/06/23	1118	2378872
SW846 3005A	ICP-MS 3005A PREP	LG2	02/06/23	0840	2378596

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Certificate of Analysis

Report Date: February 17, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-EB-01 Project: GPCC00100
Sample ID: 609413018 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following An	alytical Methods v	vere performed:							
Method	Description					Analy	st Comments		
1	EPA 300.0								
2	SW846 7470A	1							
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

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# QC Summary

Report Date: February 17, 2023

Page 1 of 9

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

**Contact:** Joju Abraham

Workorder: 609413

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Ion Chromatography Batch 2378595	-	• • • • • • • • • • • • • • • • • • • •	• -			- , •	<u> </u>	
QC1205311615 609413004 DUP Chloride		2.45	2.44	mg/L	0.209		(0%-20%) HXC1	02/04/23 00:39
Fluoride		0.141	0.133	mg/L	5.85 ^		(+/-0.100)	
Sulfate		106	106	mg/L	0.0179		(0%-20%)	02/04/23 11:06
QC1205311617 609413014 DUP Chloride		2.67	2.67	mg/L	0.0412		(0%-20%)	02/04/23 05:08
Fluoride		0.215	0.203	mg/L	6.08 ^		(+/-0.100)	
Sulfate		702	700	mg/L	0.193		(0%-20%)	02/04/23 19:18
QC1205311614 LCS Chloride	5.00		4.85	mg/L		96.9	(90%-110%)	02/03/23 18:41
Fluoride	2.50		2.62	mg/L		105	(90%-110%)	
Sulfate	10.0		10.0	mg/L		100	(90%-110%)	
QC1205311613 MB Chloride		U	ND	mg/L				02/03/23 18:11
Fluoride		U	ND	mg/L				
Sulfate		U	ND	mg/L				
QC1205311616 609413004 PS Chloride	5.00	2.45	7.65	mg/L		104	(90%-110%)	02/04/23 01:09

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# QC Summary

Workorder: 609413 Page 2 of 9 QC RPD% REC% Parmname **NOM** Sample Qual Units Range Anlst Date Time Ion Chromatography Batch 2378595 Fluoride 2.50 0.141 2.65 mg/L100 (90%-110%) HXC1 02/04/23 01:09 Sulfate 10.0 10.6 21.4 108 (90%-110%) 02/04/23 11:36 mg/L QC1205311618 609413014 PS Chloride 5.00 2.67 7.86 104 (90%-110%) 02/04/23 07:07 mg/L Fluoride 2.50 0.215 2.71 mg/L 99.6 (90%-110%) Sulfate 10.0 7.02 17.6 106 02/04/23 20:48 mg/L (90%-110%) Metals Analysis - ICPMS 2378597 QC1205311620 LCS 0.0490 Antimony 0.0500 mg/L 97.9 (80%-120%) PRB 02/11/23 21:58 Arsenic 0.0500 0.0489 97.7 (80%-120%) mg/L 0.0500 0.0481 Barium mg/L 96.2 (80%-120%) Beryllium 0.0500 0.0553 mg/L 111 (80%-120%) Boron 0.100 0.106 106 (80%-120%) mg/L Cadmium 0.0500 0.0501 mg/L 100 (80%-120%) Calcium 2.00 2.06 mg/L103 (80%-120%) Chromium 0.0500 0.0494 mg/L 98.9 (80%-120%) 0.0500 0.0491 98.2 Cobalt (80%-120%) mg/L

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# QC Summary

Workorder: 609413 Page 3 of 9 Parmname NOM QC Units RPD% REC% Sample Qual Range Anlst Date Time **Metals Analysis - ICPMS** 2378597 Batch Lead 0.0500 0.0501 mg/L 100 (80%-120%) PRB 02/11/23 21:58 0.0515 103 Lithium 0.0500mg/L (80%-120%) Molybdenum 0.0500 0.0506 mg/L 101 (80%-120%) Selenium 0.0500 0.0486 97.2 mg/L(80%-120%) Thallium 0.0500 0.0494 mg/L 98.9 (80%-120%) QC1205311619 MB U ND 02/11/23 21:54 Antimony mg/LU ND Arsenic mg/L U ND Barium mg/L Beryllium U ND mg/LU ND Boron mg/L Cadmium U ND mg/L U ND Calcium mg/L Chromium U ND mg/LU ND Cobalt mg/LU Lead ND mg/L

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# QC Summary

Workorder: 609413 Page 4 of 9 QC RPD% REC% Range Parmname **NOM** Sample Qual Units Anlst Date Time Metals Analysis - ICPMS Batch 2378597 U Lithium ND mg/LPRB 02/11/23 21:54 U Molybdenum ND mg/L U Selenium ND mg/LThallium U ND mg/L QC1205311621 609413002 MS 0.0500 U ND 0.0504 101 (75%-125%) 02/13/23 16:20 Antimony mg/LND Arsenic 0.0500 U 0.0526 mg/L 102 (75% - 125%)Barium 0.0500 0.0571 0.116 mg/L 118 (75%-125%) Beryllium 0.0500 0.00103 0.0562 mg/L 110 (75% - 125%)0.100 0.0954 0.205 109 Boron mg/L(75%-125%) 0.0500 U ND 0.0527 Cadmium 105 (75%-125%) mg/L Calcium 2.00 16.7 19.2 N/A mg/L(75%-125%) Chromium 0.0500 0.00448 0.0553 J mg/L 102 (75%-125%) Cobalt 0.0500 0.00334 0.0555 104 (75%-125%) mg/L 0.0500 U ND 0.0527 105 Lead mg/L (75%-125%) Lithium 0.0500 J 0.00633 0.0589 mg/L 105 (75% - 125%)

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# QC Summary

Workorder: 609413 Page 5 of 9

Parmname	NOM	Sample Q	oual QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS Batch 2378597									
Molybdenum	0.0500 U	ND	0.0560	mg/L		112	(75%-125%)	PRB	02/13/23 16:20
Selenium	0.0500 J	0.00304	0.0506	mg/L		95	(75%-125%)		
Thallium	0.0500 U	ND	0.0518	mg/L		104	(75%-125%)		
QC1205311622 609413002 MSD Antimony	0.0500 U	ND	0.0511	mg/L	1.32	102	(0%-20%)		02/13/23 16:16
Arsenic	0.0500 U	ND	0.0529	mg/L	0.654	103	(0%-20%)		
Barium	0.0500	0.0571	0.116	mg/L	0.0069	118	(0%-20%)		
Beryllium	0.0500	0.00103	0.0574	mg/L	2.24	113	(0%-20%)		
Boron	0.100	0.0954	0.204	mg/L	0.154	109	(0%-20%)		
Cadmium	0.0500 U	ND	0.0526	mg/L	0.203	105	(0%-20%)		
Calcium	2.00	16.7	19.2	mg/L	0.0458	N/A	(0%-20%)		
Chromium	0.0500 J	0.00448	0.0556	mg/L	0.577	102	(0%-20%)		
Cobalt	0.0500	0.00334	0.0550	mg/L	0.889	103	(0%-20%)		
Lead	0.0500 U	ND	0.0524	mg/L	0.544	105	(0%-20%)		
Lithium	0.0500 J	0.00633	0.0579	mg/L	1.64	103	(0%-20%)		
Molybdenum	0.0500 U	ND	0.0557	mg/L	0.383	111	(0%-20%)		

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# **QC** Summary

Workorder: 609413 Page 6 of 9 QC RPD% REC% Range Parmname NOM Sample Qual Units Anlst Date Time Metals Analysis - ICPMS Batch 2378597 Selenium 0.0500 0.00304 0.0522 mg/L3.28 98.4 (0%-20%)PRB 02/13/23 16:16 Thallium 0.0500 U ND 0.0517mg/L 0.212 103 (0%-20%)QC1205311623 609413002 SDILT U ND U ND N/A (0%-20%) 02/13/23 16:23 Antimony ug/L Arsenic U ND U ND ug/L N/A (0%-20%)Barium 57.1 10.7 (0%-20%) ug/L 6.19 1.03 U ND Beryllium ug/L N/A (0%-20%)Boron 95.4 22.6 ug/L 18.6 (0%-20%)U Cadmium ND U ND ug/L N/A (0%-20%)Calcium 16700 3210 ug/L 3.67 (0%-20%)J U Chromium 4.48 ND N/A (0%-20%)ug/L Cobalt 3.34 J 0.639 ug/L 4.43 (0%-20%)U ND ND U Lead ug/L N/A (0%-20%)Lithium J 6.33 U ND ug/L N/A (0%-20%)U ND U ND Molybdenum ug/L N/A (0%-20%)

J

3.04

U

ND

ug/L

N/A

(0%-20%)

Selenium

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# QC Summary

Workorder: 609413				-		•	,					D 7 60
Parmname		NOM	ī	Sample	Oual	QC	Units	RPD%	REC%	Range A	Anlst	Page 7 of 9  Date Time
Metals Analysis - ICPMS Batch 2378597		NON	L	Sample	Quai	<u> </u>	Units	Kr D 76	KEC 70	Kange A	mst	Date Time
Thallium			U	ND	U	ND	ug/L	N/A		(0%-20%)	PRB	02/13/23 16:23
Metals Analysis-Mercury Batch 2378873												
QC1205312123 609382001 Mercury	DUP		U	ND	U	ND	mg/L	N/A			JP2	02/07/23 11:13
QC1205312122 LCS Mercury		0.00200				0.00208	mg/L		104	(80%-120%)		02/07/23 11:09
QC1205312121 MB Mercury					U	ND	mg/L					02/07/23 11:07
QC1205312124 609382001 Mercury	MS	0.00200	U	ND		0.00201	mg/L		100	(75%-125%)		02/07/23 11:14
QC1205312125 609382001 Mercury	SDILT		U	ND	U	ND	ug/L	N/A		(0%-10%)		02/07/23 11:16
Solids Analysis Batch 2379677												
QC1205313479 609435002 Total Dissolved Solids	DUP			857		820	mg/L	4.37		(0%-5%)	СН6	02/08/23 11:14
QC1205314103 609211001 Total Dissolved Solids	DUP			597		602	mg/L	0.834		(0%-5%)		02/08/23 11:14
QC1205313478 LCS Total Dissolved Solids		300				301	mg/L		100	(95%-105%)		02/08/23 11:14
QC1205313477 MB Total Dissolved Solids					U	ND	mg/L					02/08/23 11:14

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# **QC** Summary

Workorder: 609413 Page 8 of 9 Sample Qual Parmname **NOM** QC Units RPD% REC% Range Anlst Date Time Solids Analysis 2380460 Batch QC1205314545 609745006 DUP 265 259 **Total Dissolved Solids** mg/L CH6 02/08/23 11:15 2.29 (0%-5%)QC1205314544 LCS 300 02/08/23 11:15 **Total Dissolved Solids** 302 mg/L 101 (95%-105%) QC1205314543 MB U ND 02/08/23 11:15 Total Dissolved Solids mg/L Batch 2381199 OC1205315841 609405005 DUP 216 Total Dissolved Solids 209 3.29 (0%-5%)CH6 02/09/23 13:28 mg/L QC1205315840 LCS Total Dissolved Solids 300 302 mg/L 101 (95%-105%) 02/09/23 13:28 QC1205315839 Total Dissolved Solids U ND mg/L02/09/23 13:28 Batch 2381200 QC1205315845 609413015 DUP Total Dissolved Solids 563 578 CH6 02/09/23 14:00 mg/L 2.63 (0%-5%)QC1205315846 609424011 DUP Total Dissolved Solids 77.0 71.0 mg/L 8.11\* (0%-5%)02/09/23 14:00 LCS QC1205315844 300 **Total Dissolved Solids** 300 100 (95%-105%) 02/09/23 14:00 mg/L QC1205315843 MB U ND 02/09/23 14:00 Total Dissolved Solids mg/L

#### **Notes:**

The Qualifiers in this report are defined as follows:

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# **OC** Summary

609413 Page 9 of 9

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

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated

Workorder:

- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Ν Metals--The Matrix spike sample recovery is not within specified control limits
- Η Analytical holding time was exceeded
- < Result is less than value reported
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- 7. Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ٨ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- Е %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Ε General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed FB invalid for reporting to regulatory agencies
- See case narrative N1
- Y Other specific qualifiers were required to properly define the results. Consult case narrative.
- 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 R
- В The target analyte was detected in the associated blank.
- 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 e reporting purposes
- J See case narrative for an explanation

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 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.

\* 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 #: 609413

## **Metals**

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

**Analytical Batch:** 2378597

**Preparation Method:** SW846 3005A

**Preparation Procedure:** GL-MA-E-006 REV# 14

**Preparation Batch:** 2378596

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

CEL Sample ID#	Client Comple Identification
GEL Sample ID#	Client Sample Identification ARK-AP1-FB-02
609413001	1 1
609413002	ARK-AP1GWA-1
609413003	ARK-AP1-EB-02
609413004	ARK-AP1PZ-1
609413005	ARK-AP1GWA-2
609413006	ARK-AP1-FD-01
609413007	ARK-AP1-FD-02
609413008	ARK-AP1PZ-2
609413009	ARK-AP1PZ-6
609413010	ARK-AP1PZ-10
609413011	ARK-AP1PZ-4
609413012	ARK-AP1PZ-11
609413013	ARK-AP1PZ-7
609413014	ARK-AP1PZ-8
609413015	ARK-AP1PZ-9
609413016	ARK-AP1-FB-01
609413017	ARK-AP1PZ-5
609413018	ARK-AP1-EB-01
1205311619	Method Blank (MB)ICP-MS
1205311620	Laboratory Control Sample (LCS)
1205311623	609413002(ARK-AP1GWA-1L) Serial Dilution (SD)
1205311621	609413002(ARK-AP1GWA-1S) Matrix Spike (MS)
1205311622	609413002(ARK-AP1GWA-1SD) 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 609413004 (ARK-AP1PZ-1), 609413006 (ARK-AP1-FD-01), 609413007 (ARK-AP1-FD-02), 609413008 (ARK-AP1PZ-2), 609413009 (ARK-AP1PZ-6), 609413010 (ARK-AP1PZ-10), 609413011 (ARK-AP1PZ-4), 609413013 (ARK-AP1PZ-7), 609413014 (ARK-AP1PZ-8), 609413015 (ARK-AP1PZ-9) and 609413017 (ARK-AP1PZ-5) were diluted to ensure that the analyte concentrations were within the linear calibration range of the instrument.

A 1 + -					6094	13				
Analyte	004	006	007	008	009	010	011	013	014	015
Boron	5X	100X	100X	10X	100X	10X	50X	50X	50X	10X
Calcium	1X	100X	100X	10X	100X	10X	50X	50X	50X	10X

Amalasta	609413
Analyte	017
Boron	100X
Calcium	100X

**Product:** Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

**Analytical Method:** SW846 7470A

Analytical Procedure: GL-MA-E-010 REV# 39

**Analytical Batch:** 2378873

**Preparation Method:** SW846 7470A Prep

Preparation Procedure: GL-MA-E-010 REV# 39

**Preparation Batch:** 2378872

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

<b>GEL Sample ID#</b>	<b>Client Sample Identification</b>
609413001	ARK-AP1-FB-02
609413002	ARK-AP1GWA-1
609413003	ARK-AP1-EB-02
609413004	ARK-AP1PZ-1
609413005	ARK-AP1GWA-2
609413006	ARK-AP1-FD-01
609413007	ARK-AP1-FD-02
609413008	ARK-AP1PZ-2
609413009	ARK-AP1PZ-6
609413010	ARK-AP1PZ-10
609413011	ARK-AP1PZ-4
609413012	ARK-AP1PZ-11

609413013	ARK-AP1PZ-7
609413014	ARK-AP1PZ-8
609413015	ARK-AP1PZ-9
609413016	ARK-AP1-FB-01
609413017	ARK-AP1PZ-5
609413018	ARK-AP1-EB-01
1205312121	Method Blank (MB)CVAA
1205312122	Laboratory Control Sample (LCS)
1205312125	609382001(NonSDGL) Serial Dilution (SD)
1205312123	609382001(NonSDGD) Sample Duplicate (DUP)
1205312124	609382001(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:** 2378595

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

GEL Sample ID#	Client Sample Identification
609413001	ARK-AP1-FB-02
609413002	ARK-AP1GWA-1
609413003	ARK-AP1-EB-02
609413004	ARK-AP1PZ-1
609413005	ARK-AP1GWA-2
609413006	ARK-AP1-FD-01
609413007	ARK-AP1-FD-02
609413008	ARK-AP1PZ-2
609413009	ARK-AP1PZ-6
609413010	ARK-AP1PZ-10
609413011	ARK-AP1PZ-4
609413012	ARK-AP1PZ-11
609413013	ARK-AP1PZ-7
609413014	ARK-AP1PZ-8
609413015	ARK-AP1PZ-9
609413016	ARK-AP1-FB-01
609413017	ARK-AP1PZ-5
609413018	ARK-AP1-EB-01
1205311613	Method Blank (MB)
1205311614	Laboratory Control Sample (LCS)
1205311615	609413004(ARK-AP1PZ-1) Sample Duplicate (DUP)
1205311616	609413004(ARK-AP1PZ-1) Post Spike (PS)
1205311617	609413014(ARK-AP1PZ-8) 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.

#### **Technical Information**

#### **Sample Dilutions**

The following samples 1205311615 (ARK-AP1PZ-1DUP), 1205311616 (ARK-AP1PZ-1PS), 1205311617 (ARK-AP1PZ-8DUP), 1205311618 (ARK-AP1PZ-8PS), 609413002 (ARK-AP1GWA-1), 609413004 (ARK-AP1PZ-1), 609413006 (ARK-AP1-FD-01), 609413007 (ARK-AP1-FD-02), 609413008 (ARK-AP1PZ-2), 609413009 (ARK-AP1PZ-6), 609413010 (ARK-AP1PZ-10), 609413011 (ARK-AP1PZ-4), 609413012 (ARK-AP1PZ-11), 609413013 (ARK-AP1PZ-7), 609413014 (ARK-AP1PZ-8), 609413015 (ARK-AP1PZ-9) and 609413017 (ARK-AP1PZ-5) 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.

A l					609	9413				
Analyte	002	004	006	007	008	009	010	011	012	013
Sulfate	5X	10X	200X	200X	50X	200X	20X	200X	5X	100X

Analysta	6	60941	3
Analyte	014	015	017
Sulfate	100X	40X	200X

**Product:** Solids, Total Dissolved **Analytical Method:** SM 2540C

Analytical Procedure: GL-GC-E-001 REV# 20

**Analytical Batch:** 2379677

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

<b>GEL Sample ID#</b>	Client Sample Identification
609413001	ARK-AP1-FB-02
609413002	ARK-AP1GWA-1
609413003	ARK-AP1-EB-02
609413004	ARK-AP1PZ-1
609413005	ARK-AP1GWA-2
609413006	ARK-AP1-FD-01
609413007	ARK-AP1-FD-02
609413008	ARK-AP1PZ-2
1205313477	Method Blank (MB)
1205313478	Laboratory Control Sample (LCS)
1205313479	609435002(ARK-ARAMW-9) Sample Duplicate (DUP)
1205314103	609211001(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.

#### **Miscellaneous Information**

#### **Additional Comments**

Sample filtration took > 10 minutes; therefore as prescribed in the method, a reduced aliquot was used. 1205314103 (Non SDG 609211001DUP), 609413006 (ARK-AP1-FD-01) and 609413007 (ARK-AP1-FD-02).

**Product:** Solids, Total Dissolved **Analytical Method:** SM 2540C

Analytical Procedure: GL-GC-E-001 REV# 20

**Analytical Batch:** 2380460

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

GEL Sample ID#	Client Sample Identification
609413009	ARK-AP1PZ-6
609413010	ARK-AP1PZ-10
609413011	ARK-AP1PZ-4
609413012	ARK-AP1PZ-11
609413013	ARK-AP1PZ-7
1205314543	Method Blank (MB)
1205314544	Laboratory Control Sample (LCS)
1205314545	609745006(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.

#### **Miscellaneous Information**

#### **Additional Comments**

Sample filtration took > 10 minutes; therefore as prescribed in the method, a reduced aliquot was used. 609413009 (ARK-AP1PZ-6), 609413011 (ARK-AP1PZ-4) and 609413013 (ARK-AP1PZ-7).

**Product: Solids, Total Dissolved Analytical Method:** SM 2540C

**Analytical Procedure:** GL-GC-E-001 REV# 20

**Analytical Batch:** 2381199

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

GEL Sample ID#	Client Sample Identification
609413014	ARK-AP1PZ-8
1205315839	Method Blank (MB)
1205315840	Laboratory Control Sample (LCS)
1205315841	609405005(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.

#### **Miscellaneous Information**

#### **Additional Comments**

Sample filtration took > 10 minutes; therefore as prescribed in the method, a reduced aliquot was used. 609413014 (ARK-AP1PZ-8).

**Product:** Solids, Total Dissolved **Analytical Method:** SM 2540C

Analytical Procedure: GL-GC-E-001 REV# 20

Analytical Batch: 2381200

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

GEL Sample ID#	Client Sample Identification
609413015	ARK-AP1PZ-9
609413016	ARK-AP1-FB-01
609413017	ARK-AP1PZ-5
609413018	ARK-AP1-EB-01
1205315843	Method Blank (MB)
1205315844	Laboratory Control Sample (LCS)
1205315845	609413015(ARK-AP1PZ-9) Sample Duplicate (DUP)
1205315846	609424011(ARK-ARGWC-9) 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	1205315846 (ARK-ARGWC-9DUP)	8.11* (0%-5%)

#### **Miscellaneous Information**

#### **Additional Comments**

Sample filtration took > 10 minutes; therefore as prescribed in the method, a reduced aliquot was used. 609413017 (ARK-AP1PZ-5).

#### **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.

Clear Name Converges   Nover   Nover	Peax: (843)	175569434 4 Coolers 6 6 9 4 1 3	(5	Chain		DOFA	torie	Laboratories LLC Chemistry   Radiophensistry   Special of Custody and Analytical Request	ssy I Specialty Analytics equest	catty Anal	ytics				GEL 1 2040 ( Charle Phone	Savage Saton, Seston,	GEL Laboratories, LLC 2040 Savage Road Charleston, SC 29407 Phone: (843) 556-8171	
Containers for ea   Cont	Proceed (1973-344-6533)   Strong to the complete and continues for each test)   Proceeding the complete and continues for each test)   Proceeding the continue continues for each test)   Proceeding the continues continues and the continues c	GEL Work Order Number:	mper:		G	EL Proje	ect Mana	ger: Erin	Trent						Fax: (	843) 7	66-1178	
Subject   Subj	State   Colored   Colore		Phone		344-6532	3)	5		Sample	e Analy	sis Re	queste	<u>3</u>	ill in	the nu	mber c	of containers	for each test)
(task, AS) (Subj. Subj.	Secretary   Colored State		Fax:				S	hould this	S.	IN	IN			IN	IN	IN	IN	< Preservative Type (6)
(task   AS   AS   AS   AS   AS   AS   AS   A	Column   C						× 5	ample be	ajner	(B(				-	pq		100000000000000000000000000000000000000	
Caupi	The Collected	ssults To: jabraham@s	@southernco	.com EDI	O@stantec m	c.com	100000000000000000000000000000000000000		Г	0709) (		(I.	FI, Sulfa	∕I .qqÆ	mD 822		)Z09) ti	Comments
NA  pH: 5.55  NA  pH: 6.45  pH: 6.08  NA  NA  pH: 6.28  pH: 5.45  ph: 6.28	02-01-23   1045   EB   N   WQ   S   S   X   X   X   X   X   N   N   N   N   N	*Date Collecter (mm-dd-yy)	rted Colle (Milli	me cted (arry) (Co	6	ield Sar	Кадіоасцуе	isotopic info.)		I .qqA) gA		TDS (SM	,ID) anoinA	Metals A	KAD 226-2		Na, Fe, Mı	( Task_code: AKK-CCK- ASSMT-2023S1 )
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pH: 6.28   pH: 5.45   pH: 6.38	1345   N   N   WG   S   N   X   X   X   X   X   X   X   X   N   PH: 6.28	02-01-23					70		5		×	×	-	X	×	×		NA
pH: 5.45     pH: 6.38     (Subject to Surcharge     X   Level 2 [ ] Level 3 [ ] Level     No Cooler Temp: °C     Mountain [ ] Other:	No. 2-01-23   1355   N   N   N   N   N   N   N   N   N	02-01-23					- D/		5		×	×		×	×	×		pH: 6.28
pH: 6.38   Subject to Surcharge   Mountain [] Other:	National Signatures	02-01-23							5	41.42	×	×		×	×	×		pH: 5.45
Subject to Surcharge   X   Level 2     Level 3     Level     Level	Rushi   Specify   Specify   Specify   Specify   Specify   Specify   Specify   Specify   Such and by the point Name   Date   Rax Results: [1 Yes [X] No	02-01-23		547.0			. D <sub>1</sub>		5		×	×		X	X	X		pH: 6.38
[X] Level 2 [ ] Level 3 [ ] Level 3 [ ] Level 3 [ ] Novel 5 [ ] Novel 7 [ ] Mountain [ ] Other:	Received by (signed)   Print Name   Date   Park Results: [1] Yes   [X] No	Custody Signatur	ares			1			TAT Red	quested		rmal:	R	:qsn	S	pecify		(Subject to Surcharge)
X] Level 2 [ ] Level 3 [ ] Level 3 [] Level 3 ] No Cooler Temp: oC [] Mountain [] Other:	Sample Collection Time Form (SRR)   Select Deliverable: [] Cof A [] QC Summary [] level 1 [X] Level 2 [] Level 3 [] Level 4	Received by	y (signed)	Print	Name	Date		Fax R	Results:	[ ] Yes	[x]	No						
] No Cooler Temp: [ ] Mountain [ ] Other:	2	It him	Potte	7		8	3.3	}   Select	t Deliver	rable: [	]C of /		C Sum	ımary	[ ] le	vel 1	Level	3 [ ] Level
] No Cooler Temp: [ ] Mountain [ ] Other:	3	242	Klan	3	7	/	135	S Addit	ional Re	emarks:								
	EB = Equipment Blank, MS = Matrix Spike Duplicate Sample, G = Grab, C = Composite te was field filtered or - N - for sample was not field filtered.  Sample, MSD = Matrix Spike Duplicate Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite te was field filtered or - N - for sample was not field filtered.  Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite te was field filtered or - N - for sample was not field filtered.  Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite the was field filtered or - N - for sample was not field filtered.  Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite the was field filtered or - N - for sample sample was not field filtered.  Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite the was field filtered or - N - for sample sampl	3 ()		`			A	For I	Lab Rece	eiving U	se Only	v: Cust	ody Sea	ıl Intac			] No	
EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite swas field filtered or - N - for sample was not field filtered.  ater, WW=Waste Water, W=Water, ML=Mise Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal	EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite are, ww=Waste Water, ML=Mise Liquid, SO=Soil, SD=Sediment, SI=Shadge, SS=Soid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal  10B7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10B7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10B7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A) and number of containers provided for each (i.e. 8250B - 3, 6010B/7470A - 1).  10BF7470A - 10B	eipt & Review for	form (SRR.				Samp	ole Collect	tion Tim	ie Zone	: [X]	Eastern	[]	Pacific		Centra		ıtain [] Other:
	ium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank  Please provide any additional details  Listed Waste  Trosive  (i.e.: High/low pH, asbestos)  Please provide any additional details  Description:  (i.e.: High/low pH, asbestos)  Description:  Please provide any additional details  below regarding handling and/or disposa  (i.e.: Origin of sample(s), type  of site collected from, odd matrices, etc.)  Description:  planted  iphenyls	EB = Equipment Blar e was field filtered or- arcr, WW=Waste Wa	ilank, MS = N r - N - for san Vater, W=Wat	latrix Spike ple was no er, ML=Mi	: Sample, N t field filte isc Liquid,	MSD = Matr red. SO=Soil, SI	ix Spike Dup	olicate Sampl	le, G = Gra , SS=Solid	ab, C = Cc	omposite ≔Oil, F=	Filter, P=	Wipe, U=	=Urine, I	7=Fecal,	N=Nasa	17	
1	Lusted Waste  UW= Listed Waste  OT= Other / Unknown  (F,K,P and U-listed wastes.)  Waste code(s):  Description:	edium Hydroxide, SA =	= Sulfuric Ac.	d, AA = As	scorbic Ac	id, <b>HX</b> = He	xane, S1 = S	sodium I mos	sulfate, If n	no preserv	ative is a	adea = Ie	ive neid i	Slank		ľ		
- nexalle, 3.1 - continii i iliosunate, ii ilo presei vative is adued - reave field bialin	egulated Olychlorinated oiphenyls	eristic Hazards immable/Ignitable brosive active		W= Liste (K,P and aste code	ed Waste  U-listed	f wastes.)		OTher OT= (i.e.: i misc. Descr	r Other / L High/low health h	Unknow w pH, as tazards,	n bestos, etc.)	berylli	um, irri	tants, c	other	4 9 0 0.	Please provid below regard concerns. (i of site collect	e any additional details ing handling and/or disposal :: Origin of sample(s), type ed from, odd matrices, etc.)
Other  OT= Other / Unknown  (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)  Description:		Regulated Polychlorinated binhenvls		No. of	i ese n						3	-, 46						
(i.e., Highllow pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)  Description:		3	3										i.					

Page: 2 of 2. Project # 175569434				hors	aboratories								GEL 2040	Labor	GEL Laboratories, LLC 2040 Savage Road		
GEL Quote #: 4 Coolers		get stern Chain		stody a	Chemistry   Radiochemistry   Radioblossisty   Specialty Analytics of Custody and Analytical Regulact	ladioblossia Tical Rec	Special	alty Arrain	rtics				Char	leston,	Charleston, SC 29407		
	GEL Work Order Number:			GEL Pro	GEL Project Manager: Erin Trent	er: Erin	rent						Fax:	(843)	Fax: (843) 766-1178		
Client Name: Georgia Power		Phone # (937	-344-65	33)		S	Sample	Analysis Requested (5)	sis Re	queste		Fill in	the nu	ımber	of contains	(Fill in the number of containers for each test)	
Project/Site Name: Plant Arkwright Ash Pond AP-1		Fax:			Sh	Should this	S.	IN	IN	-		IN	IN	IN	IN	< Preservative Type (6)	
Address: 241 Ralph McGill Blvd SE, Atlanta, GA 30308	8				Sa Co	sample be considered:	nənisə	(B0)					pqu	(8			
Collected By: Emily Scheiben; John Myer; Sene Jackson Bankston; Bryan Pennell brian	Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com	hernco.com E mith@stantec	DD@stant	ec.com		ards )	nos to r	709) (I		.1) dtəM î				(7470E		Comments	
Sample ID *For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2) Fi	Field Si	Sample Matrix (4)	isotopic info.] (7) Known or possible Haz	odmun ladoT	.qqA) gA	Metals App.	AS) SUT	PC2 ,(D) snoinA ,vsR 0.00£)	Metals	EAD 226-	Mercury	Metals A Na, Fe, M	ASSMT-2023S1)	را
ARK-AP1PZ-4	02-01-23	1540	z	Z	MG		5		×	×	×	×	×	×		pH: 6.47	
ARK-APIPZ-11	02-01-23	1548	Z	Z	MG		5		×	X	X	×	×	×		pH: 6.83	
ARK-APIPZ-7	02-01-23	1600	Z	z	MG		5		×	X	×	×	X	×		pH: 6.51	
ARK-AP1PZ-8	02-02-23	1010	z	z	M.G		5		X	X	X	X	X	X		pH: 6.60	
ARK-AP1PZ-9	02-02-23	1013	Z	Z	M.G		5		X	×	X	X	X	×		pH: 4.62	
ARK-AP1-FB-01	02-02-23	1045	FB	z	WQ		S		×	×	X	×	×	×		NA	
ARK-AP1PZ-5	02-02-23	1233	Z	z	MG		5		×	×	×	×	×	×		pH: 6.12	
ARK-AP1-EB-01	02-02-23	1310	EB	z	WQ		5		X	X	X	X	X	×		NA	
	Tag.			A TOTAL		Ž		-1, 1			17.5						
				. */*					1	10/10							
Chain	Chain of Custody Signatures		F	io en		T/I	TAT Requested:	nested:		Normal:	R	Rush:		Specify:	y:	(Subject to Surcharge)	
Relinquished By (Signed) Print Name Date	e Received by (signed)	1	Print Name	Date	4.57	Fax Re	Fax Results: [ ] Yes	] Yes	N[X]	No No	A.v.						Г
1 MWW John Myer (Stantec) 2/3/23	3 In Chin	Patel	1	, s	3-23	Select I	Select Deliverable: [ ] C of A [ ] QC Summary	ble: [ ]	C of A	[]	C Sun	ımary		] level 1	[X] Level 2	2 [ ] Level 3 [ ] Level 4	
2	2 Krak	200	213	(23	1355	-	Additional Remarks.	narks:									
3	3 ( )	7			,	For Lab Receiving Use Only: Custody Seal Intact? [	b Recei	ving U	se Only	: Cust	ody Sea	ıl Inta		] Yes	[ ] No C	Cooler Temp: °C	
> For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)	e Receipt & Review form	(SRR.)	78		Samp	Sample Collection Time Zone : [ $X$ ] Eastern	n Time	Zone:	[X]	Eastern		[ ] Pacific		[ ] Central	al [ ] Mountain	untain [ ] Other:	П
1.) Chain of Custody Number = Client Determined Samula (Contraction Samula (Contra	olicate FR = Equipment Blank	MS = Matrix Sr	olike Samule	MSD = MSD	riv Snike Dunl	elume Samule		ا	mosite								
s.) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.	sample was field filtered or - N -	for sample was	not field fil	tered.	•	•											
.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Mise Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal	face Water, WW=Waste Water,	W=Water, ML	=Misc Liqui	d, SO=Soil,	SD=Sediment,	SL=Sludge, S	S=Solid	Vaste, O=	=Oil, F=I	ilter, P=	Wipe, U	=Urine,	F=Fecal	, N=Na	sal		
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).	50B, 6010B/7470A) and number (	of containers pr	ovided for e	ach (i.e. 826	0B - 3, 6010B/	74704 - 1).				-		-					
Preservative Lype: HA = Hydrochloric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, HA = Ascorbic Acid, HA = Hexane, SL = Sodium Linosulfate, If no preservative is added = leave field blank.	d, SH = Sodium Hydroxide, SA = Suin	iric Acid, AA = Ascort	Ascorbic A	cid, HX = H	exane, SI = Sc	msoull minbo	rate, it no	preserva	tive is ac	el = pep	ive neid	Diank			all Sharps de Sylv Are.		
] s <sub>lt</sub>	Characteristic frazarius FL = Flammable/Ignitable CO = Corrosive RE = Reactive TSCA Regulated PCB = Polychlorinated hishowole	Listed waste  LW= Listed W  (F.K.P and U-1)  Waste code(s):	Listed waste LW= Listed Waste (F,K,P and U-listea Waste code(s):	Listed waste  LW= Listed Waste  (F.K.P and U-listed wastes.)  Waste code(s):		OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)  Description:	Other / Unknown (i.e.: High/low pH, asbestt misc. health hazards, etc.)  Description:	nknowr pH, asł zards, e	n bestos, etc.)	beryllii	um, irri	tants,	other		below regar concerns. ( of site colle	reuse provae any avantonal aveans below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)	sal
- Found	orprientitis		1 (19)														

GEL	Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: (3 PCC - ARK			SD	G/AR/COC/Work Order: , 604 413					
Received By:				Date Received: 2/3/23.					
Carrier and Tracking Number				Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other					
Suspected Hazard Information	Yes	Š	*[f]	Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.					
A)Shipped as a DOT Hazardous?		X	225.5	ard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? YesNo					
B) Did the client designate the samples are to be received as radioactive?		X	CO	notation or radioactive stickers on containers equal client designation.					
C) Did the RSO classify the samples as radioactive?		Х		eximum Net Counts Observed* (Observed Counts - Area Background Counts):CPM mR/Hr Classified as: Rad 1					
D) Did the client designate samples are hazardous?		X	CO If D	OC notation or lazzard labels on containers equal client designation.  D or E is yes, select Hazards below.  PCB's Flammable Foreign Soil RCRA Asbestos Bervilium Other					
E) Did the RSO identify possible hazards?	89		<u></u>	Total Association Delyman Ones.					
Sample Receipt Criteria  Shipping containers received intact and	Yes	NA.	ž	Comments/Qualifiers (Required for Non-Conforming Items)  Circle Applicable: Seals broken Damaged container Leaking container Other (describe)					
sealed?	レ								
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)?*	V			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 #:					
5 Sample containers intact and sealed?	V			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)					
6 Samples requiring chemical preservation at proper pH?	V			Sample ID's and Containers Affected:  If Preservation added, Lot#:					
7 Do any samples require Volatile Analysis?			V	If Yes, are Encores or Soil Kits present for solids? YesNoNA(If yes, take to VOA Freezer)  Do liquid VOA vials contain acid preservation? YesNoNA(If unknown, select No)  Are liquid VOA vials free of headspace? YesNoNA  Sample ID's and containers affected:					
8 Samples received within holding time?	$\checkmark$			ID's and tests affected:					
9 Sample ID's on COC match ID's on bottles?	V			ID's and containers affected:					
Date & time on COC match date & time on bottles?			V	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)  ARK-ARAMW-3@1230 , 1235 & COC .  Circle Applicable: No container count on COC Other (describe)					
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?	V			Circle Applicable Manager 1 and 1 an					
COC form is properly signed in relinquished/received sections?  Comments (Use Continuation Form if needed):	<b>V</b> ]	* }		Circle Applicable: Not relinquished Other (describe)					
PM (or PMA	.) rev	riew	Initia	als AM Date 2 7 23 Page of					

### List of current GEL Certifications as of 17 February 2023

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	SC000122023-4
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



a member of The GEL Group INC



2040 Savage Road Charleston, SC 29407





P 843.556.8171 F 843.766.1178

gel.com

March 01, 2023

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

Re: Arkwright CCR Groundwater Compliance AP1

Work Order: 609415

Dear Joju Abraham:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 03, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

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,

Anna Johnson for Erin Trent Project Manager

Purchase Order: GPC82177-0005

Enclosures



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# Certificate of Analysis Report for

GPCC001 Georgia Power Company Client SDG: 609415 GEL Work Order: 609415

#### 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.

	Cuna Johnson	
Reviewed by		

Page 2 of 29 SDG: 609415

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

GPCC00100 GPCC001 Client Sample ID: ARK-AP1-FB-02 Project: Client ID:

Sample ID: Matrix: 609415001 WO

Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proportional Counting  GFPC Ra228, Liquid "As Received"												
Radium-228	U	-0.514	+/-0.952	1.97	+/-0.952	3.00	pCi/L		JE1	02/28/23 0844	2378772	1
Radium-226+Radium-228 Calculation "See Parent Products"												
Radium-226+228 Sum	U	0.987	+/-1.03	1.97	+/-1.06		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Liquid "As Received"												
Radium-226		0.987	+/-0.394	0.291	+/-0.458	1.00	pCi/L		LXP1	02/27/23 0747	2378760	3

The following Analytical Methods were performed

Method	Description			
1	EPA 904.0/SW846 9320 Modified			
2	Calculation			

EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	64.4	(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 Mtd.: Method DL: Detection Limit PF: Prep Factor **RL**: Reporting Limit Lc/LC: Critical Level

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

Page 3 of 29 SDG: 609415

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1GWA-1 Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415002

Matrix: WG Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proportion GFPC Ra228, Liquid		0										
Radium-228	U	0.440	+/-1.34	2.38	+/-1.34	3.00	pCi/L		JE1	02/28/23 0844	2378772	1
Radium-226+Radium-	228 Calculat	ion "See Pa	rent Product	s"								
Radium-226+228 Sum	U	1.12	+/-1.41	2.38	+/-1.42		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Liq	quid "As Rece	eived"										
Radium-226		0.677	+/-0.439	0.609	+/-0.456	1.00	pCi/L		LXP1	02/27/23 0747	2378760	3

The following Analytical Methods were performed Description

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	75.6	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

ARK-AP1-EB-02 Client Sample ID: Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415003 Matrix:

WQ Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proporti GFPC Ra228, Liquid		0										
Radium-228	U	-0.377	+/-1.31	2.45	+/-1.31	3.00	pCi/L		JE1	02/28/23 0842	2378772	1
Radium-226+Radium-	-228 Calcular	tion "See Pa	arent Product	s"								
Radium-226+228 Sum	U	0.436	+/-1.34	2.45	+/-1.34		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Lie	quid "As Rece	eived"										
Radium-226		0.436	+/-0.301	0.413	+/-0.308	1.00	pCi/L		LXP1	02/27/23 0747	2378760	3

The following Analytical Methods were performed 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"	2378772	79.2	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

GPCC00100

GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-1 Project: Sample ID: Client ID: 609415004 Matrix: WG

Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch 1	Mtd.
Rad Gas Flow Proporti GFPC Ra228, Liquid		0										
Radium-228	U	1.71	+/-1.29	2.01	+/-1.36	3.00	pCi/L		JE1	02/28/23 0844	2378772	1
Radium-226+Radium-	-228 Calcular	tion "See Pa	rent Product	s"								
Radium-226+228 Sum		2.69	+/-1.34	2.01	+/-1.42		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Lie	quid "As Rece	eived"										
Radium-226		0.977	+/-0.368	0.258	+/-0.399	1.00	pCi/L		LXP1	02/27/23 0747	2378760	3

The following Analytical Methods were performed Description

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	61.9	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1GWA-2 Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415005

Matrix: WG Collect Date: 01-FEB-23 Receive Date:

03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	<b>Batch</b>	Mtd.
Rad Gas Flow Proporti GFPC Ra228, Liquid		0										
Radium-228	U	0.899	+/-1.13	1.92	+/-1.15	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium-	-228 Calcula	tion "See Pa	irent Product	s"								
Radium-226+228 Sum	U	1.46	+/-1.17	1.92	+/-1.20		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Lic	quid "As Rec	eived"										
Radium-226		0.563	+/-0.324	0.389	+/-0.334	1.00	pCi/L		LXP1	02/27/23 0747	2378760	3

The following Analytical Methods were performed 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"	2378772	60.8	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

ARK-AP1-FD-01 Client Sample ID: Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415006 Matrix: WG

Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proport GFPC Ra228, Liquid		0										
Radium-228		2.24	+/-1.36	2.07	+/-1.48	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium	n-228 Calculat	ion "See Pa	rent Product	s"								
Radium-226+228 Sum		2.60	+/-1.38	2.07	+/-1.50		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, L	iquid "As Rece	eived"										
Radium-226		0.364	+/-0.223	0.232	+/-0.235	1.00	pCi/L		LXP1	02/27/23 0747	2378760	3

The following Analytical Methods were performed Description

	_		 
3		EPA 903.1 Modified	
2		Calculation	
1		EPA 904.0/SW846 9320 Modified	

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	69	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FD-02 Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415007 Matrix:

WG Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch 1	Mtd.
Rad Gas Flow Proportion GFPC Ra228, Liquid		0										
Radium-228	U	1.02	+/-1.16	1.94	+/-1.19	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium-	-228 Calcula	tion "See Pa	rent Product	ts"								
Radium-226+228 Sum	U	1.37	+/-1.18	1.94	+/-1.21		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Lic	quid "As Rec	eived"										
Radium-226		0.346	+/-0.250	0.294	+/-0.258	1.00	pCi/L		LXP1	02/27/23 0836	2378760	3

The following Analytical Methods were performed Description

Surrogate/Trace	r Recovery Test	Batch ID	Recovery%	Acceptab
3	EPA 903.1 Modified			
2	Calculation			
1	EPA 904.0/SW846 9320 Modified			

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	61	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

GPCC00100

GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-2 Project: Sample ID: Client ID: 609415008 Matrix: WG

Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proportion  GFPC Ra228, Liquid		U										
Radium-228	U	1.94	+/-1.30	1.97	+/-1.39	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium-	228 Calculat	tion "See Pa	rent Product	's"								
Radium-226+228 Sum		2.17	+/-1.33	1.97	+/-1.42		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Lia	quid "As Rece	eived"										
Radium-226	U	0.230	+/-0.281	0.473	+/-0.285	1.00	pCi/L		LXP1	02/27/23 0836	2378760	3

The following Analytical Methods were performed Description

1 EPA 904.0/SW846 9320 Modified 2 Calculation EPA 903.1 Modified 3

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	58.3	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-6 Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415009 Matrix: WG

Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proporti GFPC Ra228, Liquid		U										
Radium-228	U	1.79	+/-1.29	1.98	+/-1.36	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium	-228 Calcula	tion "See Pa	rent Produc	ts"								
Radium-226+228 Sum		2.12	+/-1.32	1.98	+/-1.40		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Li	quid "As Rec	eived"										
Radium-226	U	0.322	+/-0.282	0.431	+/-0.291	1.00	pCi/L		LXP1	02/27/23 0836	2378760	3

The following Analytical Methods were performed Description

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	58.5	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-10 Project: GPCC00100 Sample ID: 609415010 Client ID: GPCC001

Matrix: WG

Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proportion GFPC Ra228, Liquid		0										
Radium-228	U	0.386	+/-1.28	2.30	+/-1.29	3.00	pCi/L		JE1	02/28/23 0842	2378772	1
Radium-226+Radium-	228 Calcular	tion "See Pa	rent Product	's"								
Radium-226+228 Sum	U	0.990	+/-1.33	2.30	+/-1.34		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Lie	quid "As Rece	eived"										
Radium-226		0.604	+/-0.361	0.445	+/-0.379	1.00	pCi/L		LXP1	02/27/23 0836	2378760	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 RecoveryTestBatch IDRecovery%Acceptable LimitsBarium-133 TracerGFPC Ra228, Liquid "As Received"237877272.5(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 FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

GPCC00100 GPCC001 Client Sample ID: ARK-AP1PZ-4 Project: Sample ID: Matrix: 609415011 Client ID:

WG

Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analy	st Date Time	Batch	Mtd.
Rad Gas Flow Proporti GFPC Ra228, Liquid		0										
Radium-228		2.40	+/-1.38	1.98	+/-1.51	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium	-228 Calculat	tion "See Pa	rent Produci	ts"								
Radium-226+228 Sum		2.85	+/-1.41	1.98	+/-1.54		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Li	quid "As Rece	eived"										
Radium-226	U	0.452	+/-0.313	0.457	+/-0.323	1.00	pCi/L		LXP1	02/27/23 0836	2378760	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation

EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	56.7	(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 Mtd.: Method DL: Detection Limit PF: Prep Factor **RL**: Reporting Limit Lc/LC: Critical Level

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-11 Project: GPCC00100
Sample ID: 609415012 Client ID: GPCC001
Matrix: WG

Matrix: WG
Collect Date: 01-FEB-23
Receive Date: 03-FFB-23

Receive Date: 03-FEB-23
Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Tim	e Batch	Mtd.
Rad Gas Flow Proporti GFPC Ra228, Liquid		0										
Radium-228	U	0.599	+/-1.23	2.16	+/-1.24	3.00	pCi/L		JE1	02/28/23 0845	2378772	. 1
Radium-226+Radium	-228 Calcular	tion "See Pa	irent Produci	<i>'s''</i>								
Radium-226+228 Sum	U	1.21	+/-1.27	2.16	+/-1.29		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Li	quid "As Reco	eived"										
Radium-226		0.609	+/-0.325	0.374	+/-0.345	1.00	pCi/L		LXP1	02/27/23 0836	2378760	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation

EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	70.6	(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 FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-7 Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415013 Matrix: WG

Collect Date: 01-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proport GFPC Ra228, Liquid		U										
Radium-228		3.37	+/-1.44	1.99	+/-1.67	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium	1-228 Calculo	ation "See Pa	rent Produc	ts"								
Radium-226+228 Sum		3.75	+/-1.49	1.99	+/-1.71		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, L	iquid "As Rec	ceived"										
Radium-226	U	0.380	+/-0.365	0.582	+/-0.370	1.00	pCi/L		LXP1	02/27/23 0836	2378760	3

The following Analytical Methods were performed Description

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	68	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-8 Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415014

Matrix: WG

Collect Date: 02-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch 1	Mtd.
Rad Gas Flow Proportion GFPC Ra228, Liquid		0										
Radium-228	U	0.582	+/-1.01	1.78	+/-1.02	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium-	228 Calculo	ation "See Pa	rent Produci	's"								
Radium-226+228 Sum	U	0.723	+/-1.03	1.78	+/-1.04		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Lie	quid "As Rec	ceived"										
Radium-226	U	0.141	+/-0.239	0.434	+/-0.240	1.00	pCi/L		LXP1	02/27/23 0836	2378760	3

The following Analytical Methods were performed Description

	<u> </u>
1	EPA 904.0/SW846 9320 Modified
2	Calculation
•	TD 1 000 1 3 5 11 7 1

EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	54.8	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-9 Project: GPCC00100 Sample ID: Client ID: GPCC001 609415015

Matrix: WG

Collect Date: 02-FEB-23 Receive Date: 03-FEB-23 Collector: Client

<b>Parameter</b>	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch I	Mtd.
Rad Gas Flow Proportion GFPC Ra228, Liquid "A		0										
Radium-228	U	1.09	+/-1.12	1.85	+/-1.16	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium-2	28 Calcular	tion "See Pa	rent Products	s"								
Radium-226+228 Sum	U	1.48	+/-1.16	1.85	+/-1.19		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Liqu	uid "As Rece	eived"										
Radium-226		0.391	+/-0.270	0.341	+/-0.277	1.00	pCi/L		LXP1	02/27/23 0925	2378760	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" 2378772 56.5 (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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

ARK-AP1-FB-01 Client Sample ID: Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415016

Matrix: WQ

Collect Date: 02-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proport GFPC Ra228, Liquid		U										
Radium-228	U	-0.329	+/-1.22	2.31	+/-1.22	3.00	pCi/L		JE1	02/28/23 0845	2378772	1
Radium-226+Radium	ı-228 Calcula	tion "See Pa	rent Product.	s"								
Radium-226+228 Sum	U	0.0993	+/-1.24	2.31	+/-1.24		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226												
Lucas Cell, Ra226, Li	iquid "As Rec	eived"										
Radium-226	U	0.0993	+/-0.234	0.444	+/-0.234	1.00	pCi/L		LXP1	02/27/23 0925	2378760	3

The following Analytical Methods were performed **Description** 

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	75.5	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-5 Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415017

Matrix: WG

Collect Date: 02-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch 1	Mtd.
Rad Gas Flow Proporti GFPC Ra228, Liquid		0										
Radium-228	U	1.92	+/-1.29	1.94	+/-1.38	3.00	pCi/L		JE1	02/28/23 0846	2378772	1
Radium-226+Radium-	-228 Calcular	tion "See Pa	rent Produci	's"								
Radium-226+228 Sum		2.36	+/-1.32	1.94	+/-1.41		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Lie	quid "As Rece	eived"										
Radium-226		0.438	+/-0.302	0.414	+/-0.310	1.00	pCi/L		LXP1	02/27/23 0925	2378760	3

The following Analytical Methods were performed **Description** 

	•
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Surrogate/Tracer Recovery Test		Recovery%	<b>Acceptable Limits</b>	
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	61.5	(15%-125%)	

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: March 1, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

ARK-AP1-EB-01 Client Sample ID: Project: GPCC00100 Sample ID: GPCC001 Client ID: 609415018

Matrix: WQ

Collect Date: 02-FEB-23 Receive Date: 03-FEB-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC_	TPU	RL	Units	PF	DF Analys	t Date Time	Batch 1	Mtd.
Rad Gas Flow Proportion GFPC Ra228, Liquid		0										
Radium-228	U	1.40	+/-1.26	2.05	+/-1.31	3.00	pCi/L		JE1	02/28/23 0846	2378772	1
Radium-226+Radium-	228 Calculo	ation "See Pa	rent Produc	ts"								
Radium-226+228 Sum	U	1.72	+/-1.31	2.05	+/-1.36		pCi/L		NXL1	03/01/23 0821	2378773	2
Rad Radium-226 Lucas Cell, Ra226, Lid	quid "As Red	ceived"										
Radium-226	U	0.323	+/-0.354	0.581	+/-0.359	1.00	pCi/L		LXP1	02/27/23 0925	2378760	3

The following Analytical Methods were performed Description

1	EPA 904.0/SW846 9320 Modified
2	Calculation

EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2378772	68.3	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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# Radiochemistry Technical Case Narrative Georgia Power Company SDG #: 609415

**Product:** Radium-226+Radium-228 Calculation

**Analytical Method:** Calculation

Analytical Procedure: GL-RAD-D-003 REV# 45

**Analytical Batch:** 2378773

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

<b>GEL Sample ID#</b>	<b>Client Sample Identification</b>
609415001	ARK-AP1-FB-02
609415002	ARK-AP1GWA-1
609415003	ARK-AP1-EB-02
609415004	ARK-AP1PZ-1
609415005	ARK-AP1GWA-2
609415006	ARK-AP1-FD-01
609415007	ARK-AP1-FD-02
609415008	ARK-AP1PZ-2
609415009	ARK-AP1PZ-6
609415010	ARK-AP1PZ-10
609415011	ARK-AP1PZ-4
609415012	ARK-AP1PZ-11
609415013	ARK-AP1PZ-7
609415014	ARK-AP1PZ-8
609415015	ARK-AP1PZ-9
609415016	ARK-AP1-FB-01
609415017	ARK-AP1PZ-5
609415018	ARK-AP1-EB-01

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:** GFPC Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2378772

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

GEL Sample ID# Client Sample Identification

609415001 ARK-AP1-FB-02

609415002	ARK-AP1GWA-1
609415003	ARK-AP1-EB-02
609415004	ARK-AP1PZ-1
609415005	ARK-AP1GWA-2
609415006	ARK-AP1-FD-01
609415007	ARK-AP1-FD-02
609415008	ARK-AP1PZ-2
609415009	ARK-AP1PZ-6
609415010	ARK-AP1PZ-10
609415011	ARK-AP1PZ-4
609415012	ARK-AP1PZ-11
609415013	ARK-AP1PZ-7
609415014	ARK-AP1PZ-8
609415015	ARK-AP1PZ-9
609415016	ARK-AP1-FB-01
609415017	ARK-AP1PZ-5
609415018	ARK-AP1-EB-01
1205311811	Method Blank (MB)
1205311812	609213001(NonSDG) Sample Duplicate (DUP)
1205311813	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
1205311812 (Non SDG 609213001DUP)	Radium-228	RPD 123* (0.0%-100.0%) RER 2.48 (0-3)

<u>Product:</u> Lucas Cell, Ra226, Liquid <u>Analytical Method:</u> EPA 903.1 Modified

**Analytical Procedure:** GL-RAD-A-008 REV# 15

**Analytical Batch:** 2378760

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

GEL Sample ID#	Client Sample Identification
609415001	ARK-AP1-FB-02
609415002	ARK-AP1GWA-1
609415003	ARK-AP1-EB-02

609415004	ARK-AP1PZ-1
609415005	ARK-AP1GWA-2
609415006	ARK-AP1-FD-01
609415007	ARK-AP1-FD-02
609415008	ARK-AP1PZ-2
609415009	ARK-AP1PZ-6
609415010	ARK-AP1PZ-10
609415011	ARK-AP1PZ-4
609415012	ARK-AP1PZ-11
609415013	ARK-AP1PZ-7
609415014	ARK-AP1PZ-8
609415015	ARK-AP1PZ-9
609415016	ARK-AP1-FB-01
609415017	ARK-AP1PZ-5
609415018	ARK-AP1-EB-01
1205311785	Method Blank (MB)
1205311786	609213001(NonSDG) Sample Duplicate (DUP)
1205311787	609213001(NonSDG) Matrix Spike (MS)
1205311788	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, 1205311787 (Non SDG 609213001MS), 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.

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Report Date: March 1, 2023

Page 1 of 2

**QC** Summary

Client: Georgia Power Company, Southern Company

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia

Contact: Joju Abraham

Workorder: 609415

Parmname		NOM	Sample (	Qual	QC	Units	RPD%	REC%	Range A	nlst	Date Time
Rad Gas Flow											
Batch	2378772 -										
QC1205311812	609213001 DUP										
Radium-228			3.77	U	0.898	pCi/L	123*		(0% - 100%)	JE1	02/28/2308:44
		Uncert:	+/-1.52		+/-1.37						
		TPU:	+/-1.79		+/-1.39						
QC1205311813	LCS										
Radium-228		62.8			62.1	pCi/L		98.9	(75%-125%)	JE1	02/28/2308:44
		Uncert:			+/-4.48						
		TPU:			+/-16.4						
QC1205311811	MB				0.744	C) I				TT: 1	02/20/2200 44
Radium-228		<b>T</b> T 4		U	-0.511	pCi/L				JE1	02/28/2308:44
		Uncert:			+/-1.04						
Rad Ra-226		TPU:			+/-1.04						
Batch	2378760 -										
•	609213001 DUP		0.00		0.700	C) I	40.5		(00/ 1000/)	T 77D1	00/05/0000 05
Radium-226		<b>T</b> T 4	0.386		0.583	pCi/L	40.7		(0% - 100%)	LXPI	02/27/2309:25
		Uncert:	+/-0.283		+/-0.336						
QC1205311788	LCS	TPU:	+/-0.289		+/-0.352						
Radium-226	LCS	26.5			25.4	pCi/L		95.6	(75%-125%)	I VD1	02/27/2309:25
Kaululli-220		20.5 Uncert:			+/-1.76	pCI/L		93.0	(7370-12370)	LAII	02/21/2309.23
		TPU:			+/-5.48						
QC1205311785	MB	110.			17 3.10						
Radium-226				U	0.231	pCi/L				LXP1	02/27/2309:25
		Uncert:			+/-0.251	F					
		TPU:			+/-0.256						
QC1205311787	609213001 MS										
Radium-226		130	0.386		105	pCi/L		81	(75%-125%)	LXP1	02/27/2309:25
		Uncert:	+/-0.283		+/-8.58	_					
		TPU:	+/-0.289		+/-25.5						

#### **Notes:**

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- H Analytical holding time was exceeded
- < Result is less than value reported
- > Result is greater than value reported

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## **QC** Summary

Workorder: 609415 Page 2 of 2 **Parmname** NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time UI Gamma Spectroscopy--Uncertain identification BDResults are either below the MDC or tracer recovery is low Preparation or preservation holding time was exceeded h R Sample results are rejected RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry. N/A RPD or %Recovery limits do not apply. Analyte concentration is not detected above the detection limit ND M M if above MDC and less than LLD Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier NJ FA Failed analysis.

- UJ Gamma Spectroscopy--Uncertain identification
- One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- UL Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- N1 See case narrative
- Y Other specific qualifiers were required to properly define the results. Consult case narrative.
- \*\* Analyte is a Tracer compound
- M REMP Result > MDC/CL and < RDL
- J See case narrative for an explanation

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.

Page 25 of 29 SDG: 609415

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Project # 175569434		Till Co		aho	ratc	aboratories	0						207	to Sav	2040 Savage Road	ad sad	
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OC Number (1):	602412	Chain		nstod	y and	of Custody and Analytical Request	al Requ	lest					Pho	one: (8	43) 55	Phone: (843) 556-8171	
O Number:	GEL Work Order Number:	er:		GEL	roject	GEL Project Manager: Erin Irent	Erin Ir	ent				111111111111111111111111111111111111111	Fax	c: (843	Fax: (843) 766-1178	1178	
Olient Name: Georgia Power		Phone # (937	37-344-6533)	533)			Sa	Sample Analysis Requested (5)	nalysis	Reque	sted (5)		in the	quinu	er of c	ontainers fo	(Fill in the number of containers for each test)
Droject/Site Name: Plant Arkwright Ash Pond AP-1	1	Fax:				Should this	this	IN s.	IN				IN IN	IN	IN		< Preservative Type (6)
Adress: 241 Ralph McGill Blvd SE, Atlanta, GA 30308	30308					sample be considered:	be red:			0.0		٤6			'Sy	(ਬ0	
Collected By: Emily Scheiben; John Myer; Ackson Bankston; Bryan Pennell	Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com	outhernco.com ar.smith@stanto	EDD@sta	intec.com		H)	ırds			90٤) ر 1.	(D0	61 1.2.	(B)		I' K' I		Comments
Sample ID  * For composites - indicate start and stop date/time	*Date Collected	*Time Collected (Military)	QC Code (2)	Field Filtered <sup>(3)</sup>	Sample Matrix (4)	Radioactive yes, please sup isotopic info.)	10 nwonM (7) szsH əldiszoq	Total number (App. 1	Metals App.	Alkalinit SA	TDS (SM 2540	Anions (Cl, (300.0 Rev Astals A		Mercury	A slateM	Na, Fc, M	ASSMT-2023S1)
ARK-AP1-FB-02		0930	FB	z	WQ			S	×		×	×	X	X			NA
ARK-APIGWA-1	02-01-23	1010	z	z	9W			5	×		X	X	$\mathbf{x} \mid \mathbf{x}$	X			pH: 5.55
ARK-AP1-EB-02	02-01-23	1045	EB	Z	WQ			5	X		X	X	X	X			NA
ARK-APIPZ-1	02-01-23	1150	z	Z	DM			5	X		×	×	X	×			pH: 6.45
ARK-AP1GWA-2	02-01-23	1155	Z	N	DM			5	X		×	X	X	X			pH: 6.08
ARK-AP1-FD-01	02-01-23	NA	FD	Z	WQ			5	X		×	×	×	×			NA
ARK-API-FD-02	02-01-23	NA	ED	Z	WQ			5	×		×	×	X	×	1		NA
ARK-AP1PZ-2	02-01-23	1345	z	z	MG			5	X		×	×	X	X			pH: 6.28
ARK-AP1PZ-6	02-01-23	1355	z	Z	MG			5	×		×	×	×	×			pH: 5.45
ARK-APIPZ-10	02-01-23	1428	z	Z	9W			5	×		×	X	×	×			pH: 6.38
10	Chain of Custody Signatures	es					TA	TAT Requested:	sted:	Normal:		Rush:		Specify:	ify:		(Subject to Surcharge)
Relinquished By (Signed) Print Name	Date Received by (signed)		Print Name		Date		Fax Results:		] Yes [	[X]No							
1 odny Jan John Myer (Stantec)	2/3/23	Perte	1		2-3	23	Select Deliverable: [ ] C of A	eliverable	s:[]C		[ ] QC Summary	umms		[ ] level 1		[X] Level 2	[ ] Level 3 [ ] Level 4
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3	) «	8	)				For Lab Receiving Use Only: Custody Seal Intact? [	Receivin	ig Use	Only: (	ustody	Seal In	tact?	[ ] Yes		[ ] No Cook	Cooler Temp: °C
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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	eld Duplicate, <b>EB</b> = Equipment Blaı	ık, MS = Matrix	Spike Sam	ole, MSD	= Matrix S <sub>J</sub>	oike Duplicate	Sample, G	= Grab, C	= Compo	site							
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.	yes the sample was field filtered or .	. N - for sample w	as not field	filtered.													
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipc, U=Urine, F=Fecal, N=Nasal	W=Surface Water, WW=Waste Wa	ter, W=Water, M	L=Misc Li	quid, SO=	Soil, SD=S	ediment, SL=5	Sludge, SS	=Solid Was	ste, 0=0i	I, F=Filte	, P=Wip	s, U=Uri	ne, F=Fe	cal, N=	Nasal		
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B	i.e. 8260B, 6010B/7470A) and num	ber of containers	provided fo	or each (i.e	. 8260B -	-3, 6010B/7470A -1).	A -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	cid, SH = Sodium Hydroxide, SA =	Sulfuric Acid, AA	= Ascorbi	c Acid, H)	( = Hexane	, ST = Sodiun	Thiosulfa	te, If no pr	eservative	is added	= leave f	eld blan	_				
7.) KNOWN OR POSSIBLE HAZARDS	Characteristic Hazards FL = Flammable/Ignitable	Listed LW=	Listed Waste  LW=Listed Waste	aste	100	× And	Other  OT=Other/Unknown  (2 - Highlan PH askestos herellinm irritants other	ier / Unk	nown T ashar		Milliam	irritan	te othe	ŀ	Plea	ase provide ow regardin cerns. (i.e.)	Please provide any additional defauls below regarding handling and/or disposal concerns. (i.e.: Orioin of sample(s), type
As = Arsenic Hg = Mercury  Do = Doming Se Seleming	RE = Reactive	Waste	Waste code(s):	naise wa	/.cə.		misc. health hazards, etc.)	on:	rds, etc	, (m)					s fo	ite collected	of site collected from, odd matrices, etc.)
H	TSCA Regulated						diame		7.					I			
Cr = Chromium MR = Misc. RCRA metals Ph = 1 ead	PCB = Polychlorinated binhenvls					1								1			
			2.0														

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(1).		Cha	Chain of C	ustody	and A	<b>Custody and Analytical Request</b>	al Req	uest						Phone	: (843)	Phone: (843) 556-8171		
PO Number:	GEL Work Order Number:	;•		GEL P	roject N	GEL Project Manager: Erin Trent	Erin T	rent						Fax: (	843) 76	Fax: (843) 766-1178		
Client Name: Georgia Power		Phone # (937-344-6533)	37-344-6	533)			Sa	mple	Analy	sis Re	Sample Analysis Requested (5)		ill in	he nu	nber o	f contain	(Fill in the number of containers for each test)	
Project/Site Name: Plant Arkwright Ash Pond AP-1		Fax:				Should this		S.	IN	IN			IN	IN	IN	IN	< Preservative Type (6)	
Address: 241 Ralph McGill Blvd SE, Atlanta, GA 30308	0308					sample be considered:	le be ered:	tainer	(B0)					pqı				Ι
Collected By: Emily Scheiben; John Myer; Jackson Bankston; Bryan Pennell	Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com	thernco.com smith@stantc	ЕDD@sta	intec.com				nos lo r	709) (1		(I. dtsM I	FI, Sulfa	√I .qqΑ	228 Cm			Comments	
e ID start and stop date/	*Date Collected ime (mm-dd-yy)	*Time Collected (Military) (thmm)	QC Code (2)	Field Filtered <sup>(3)</sup>	Sample Matrix (4)	Radioactive yes, please suj isotopic info.)	10 nwonX (7) san saldiseoq	Total numbe	I .qqA) gA	Metals App. Alkalinit	TDS (SM	Anions (Cl, V300:0 Rev	v slataM (602	E∀D 550-	Mercury Metals A	Na, Fe, Mi	( task_code: AKR-CCR ASSMT-2023S1 )	
ARK-AP1PZ-4	02-01-23	1540	Z	Z	MG			5		×	×	×	×	X	×		pH: 6.47	
ARK-AP1PZ-11	02-01-23	1548	Z	N	DM			5		×	X	×	×	×	×		pH: 6.83	
ARK-AP1PZ-7	02-01-23	1600	Z	N	WG	5.		5		×	×	×	×	×	×		pH: 6.51	
ARK-AP1PZ-8	02-02-23	1010	Z	N	WG			5		X	×	×	X	X	×		pH: 6.60	
ARK-AP1PZ-9	02-02-23	1013	Z	N	MG			5		×	×	X	X	X	×		pH: 4.62	
ARK-AP1-FB-01	02-02-23	1045	FB	N	WQ			5		X	×	×	×	X	X		NA	
ARK-AP1PZ-5	02-02-23	1233	Z	N	DM			5		×	×	×	×	X	×		pH: 6.12	
ARK-AP1-EB-01	02-02-23	1310	EB	z	δM			. ~		×	×	×	×	×	×		NA	I
2			200															
																		I
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	3	,					For Lab Receiving Use Only: Custody Seal Intact? [ ] Yes	Recei	ving U.	se Only	: Custe	dy Sea	l Intac	t? [ ]	Yes [	] No	Cooler Temp: °C	
For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)	mple Receipt & Review form	(SRR.)				Sample Collection Time Zone: [X] Eastern	Ollection	ı Time	Zone	[x]	Eastern		[ ] Pacific	- 1	[ ] Central	- 1	[ ] 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	d Duplicate, $\mathbf{E}\mathbf{B}=\mathrm{Equipment}$ Blank,	MS = Matrix 8	pike Sam	ele, MSD =	Matrix Spil	ke Duplicate	Sample, C	3 = Grab	°C = C	nposite								
<ol> <li>Fried Fritered: For liquid matrices, indicate with a - Y - for yes the sample was field fritered of - tw - for sample was not field fritered.</li> <li>Matrix Codes: DW=Drinking Water, GW=Groundwater, SW—Surface Water, WW=Waste Water, W=Water, MI_=Mise Liquid, SO</li> </ol>	es the sample was held hitered of - in =Surface Water, WW=Waste Water,	<ul> <li>ror sample w</li> <li>W=Water, MI</li> </ul>	s not neid ,=Misc Li	niterea. juid, SO=So	oil, SD=Sec	end muerea. Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipc, U=Urinc, F=Fecal, N=Nasal	Sludge, SS	V biloS=	/aste, O	=Oil, F=]	ilter, P=	Vipe, U=	Urine, I	=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).	2. 8260B, 6010B/7470A) and number	of containers p	rovided fo	r each (i.e.	8260B -3,	6010B/7470	74 - 1).											
Nitric Aci	1, SH = Sodium Hydroxide, SA = Sul	furic Acid, AA	= Ascorbi	Acid, HX	= Hexane,	ST = Sodiur	n Thiosulfa	ate, If no	preserva	tive is ac	ded = lea	e field l	lank		Ì			
7.) KNOWN OR POSSIBLE HAZARDS	Characteristic Hazards FL = Flammable/Ignitable	Listed Waste	Waste	e Waste			Other OT= Other / Unknown	her / U	ıknowı	٦					P	lease pro	Please provide any additional details below regarding handling and/or disposal	7
RCRA Metals  As = Arenic Ha= Mercury	CO = Corrosive RF = Reactive	(F,K,P	(F,K,P and U-li	(F,K,P and U-listed wastes.)	(es.)		(i.e.: High/low pH, asbestos, beryllium, irritants, other miss booth horands ato)	th/low	PH, as	sestos,	beryllii	m, irri	tants, c	ther	<u>5</u> 6	ncerns.	concerns. (i.e.: Origin of sample(s), type	
Se= Selenium			(e)ano				Description:	ion:	, and a second						5		coted from our manners, etc.)	
Cd = Cadmium $Ag= SilverCr = Chromium$ $MR= Misc.$ $RCRA$ metals	TSCA Regulated PCB = Polychlorinated		1															
	biphenyls																	
																		¥ 7.9

SAMPLE RECEIPT & REVIEW FORM Client: 609 4 15 SDG/AR/COC/Work Order: Received By: Date Received: Circle Applicable: FedEx Express FedEx Ground UPS Field Service Courier Other Carrier and Tracking Number \*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation. Suspected Hazard Information ŝ Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes\_ A)Shipped as a DOT Hazardous? COC notation or radioactive stickers on containers equal client designation. B) Did the client designate the samples are to be received as radioactive? Maximum Net Counts Observed\* (Observed Counts - Area Background Counts): C) Did the RSO classify the samples as Classified as: Rad 1 Rad 2 Rad 3 radioactive? COC notation or hazard labels on containers equal client designation D) Did the client designate samples are hazardous? If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium E) Did the RSO identify possible hazards? Sample Receipt Criteria S X Es Comments/Qualifiers (Required for Non-Conforming Items) Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Shipping containers received intact and 1 Chain of custody documents included. Circle Applicable: Client contacted and provided COC COC created upon receipt 2 with shipment? Preservation Method: Wet Ice Ice Packs Dry ice None Other: Samples requiring cold preservation \*all temperatures are recorded in Celsius TEMP: within  $(0 \le 6 \text{ deg. C})$ ?\* Temperature Device Serial #: Daily check performed and passed on IR Secondary Temperature Device Serial # (If Applicable): temperature gun? Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Sample containers intact and sealed? Sample ID's and Containers Affected: Samples requiring chemical preservation 6 at proper pH? If Preservation added, Lot#: 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) Do any samples require Volatile 7 Are liquid VOA vials free of headspace? Yes\_\_\_No\_\_\_NA Analysis? Sample ID's and containers affected: ID's and tests affected: Samples received within holding time? ID's and containers affected: Sample ID's on COC match ID's on bottles? Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) Date & time on COC match date & time AFK-AFAMW-3@1230, 1235 50 COC Circle Applicable: No container count on COC Other (describe) on bottles? Number of containers received match 11 number indicated on COC? Are sample containers identifiable as GEL provided by use of GEL labels? COC form is properly signed in Circle Applicable: Not relinquished Other (describe) relinquished/received sections? Comments (Use Continuation Form if needed):

PM (or PMA) review; Initials \_\_\_

List of current GEL Certifications as of 01 March 2023

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
Kansas NELAI  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
	9976
Michigan	9976 SC00012
Mississippi Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP New Mexico	SC002
	SC00012
New York NELAP  North Carolina	11501
North Carolina SDWA	233
	45709
North Dakota	R-158
Oklahoma  Danasakasais NELAR	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





February 22, 2023

Jessica Ware ARCADIS - Atlanta 2839 Paces Ferry Rd STE 900 Atlanta, GA 30339

RE: Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

#### Dear Jessica Ware:

Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services Asheville
- Pace Analytical Services Peachtree Corners, GA

Rev. 1 - This replaces the February 20, 2023 final report, see Project Narrative.

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

Sincerely,

Maiya Parks

maiya.parks@pacelabs.com (770)734-4200

Maiya tacks

Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR Ben Hodges, Georgia Power-CCR Warren Johnson, ARCADIS - Atlanta Laura Midkiff, Georgia Power Tina Sullivan, ERM





#### **CERTIFICATIONS**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

**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 Certification #: 99030001 Virginia/VELAP Certification #: 460222

South Carolina Laboratory ID: 99030

**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



#### **SAMPLE SUMMARY**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92651543001	ARK-BC-0.3	Water	02/08/23 16:35	02/09/23 15:53
92651543002	ARK-BC-0.1	Water	02/08/23 16:25	02/09/23 15:53
92651543003	ARK-OR-0.8	Water	02/09/23 10:58	02/09/23 15:53
92651543004	ARK-OR-0.1	Water	02/09/23 12:10	02/09/23 15:53
92651543005	ARK-OR-0.3	Water	02/09/23 11:30	02/09/23 15:53
92651543006	ARK-OR+0.25	Water	02/09/23 12:45	02/09/23 15:53



#### **SAMPLE ANALYTE COUNT**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92651543001	ARK-BC-0.3	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	13	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		SM 2540C-2015	DL1	1	PASI-GA
		SM 2320B-2011	SMS	2	PASI-A
		EPA 9056A	CDC	3	PASI-A
92651543002	ARK-BC-0.1	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	13	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		SM 2540C-2015	DL1	1	PASI-GA
		SM 2320B-2011	SMS	2	PASI-A
		EPA 9056A	CDC	3	PASI-A
2651543003	ARK-OR-0.8	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	13	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		SM 2540C-2015	DL1	1	PASI-GA
		SM 2320B-2011	SMS	2	PASI-A
		EPA 9056A	CDC	3	PASI-A
2651543004	ARK-OR-0.1	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	13	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		SM 2540C-2015	DL1	1	PASI-GA
		SM 2320B-2011	SMS	2	PASI-A
		EPA 9056A	CDC	3	PASI-A
2651543005	ARK-OR-0.3	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	13	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		SM 2540C-2015	DL1	1	PASI-GA
		SM 2320B-2011	SMS	2	PASI-A
		EPA 9056A	CDC	3	PASI-A
2651543006	ARK-OR+0.25	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	13	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		SM 2540C-2015	DL1	1	PASI-GA
		SM 2320B-2011	SMS	2	PASI-A
		EPA 9056A	CDC	3	PASI-A



#### **SAMPLE ANALYTE COUNT**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Lab ID Sample ID Method Analysts Reported Laboratory

PASI-A = Pace Analytical Services - Asheville PASI-GA = Pace Analytical Services - Peachtree Corners, GA



#### **PROJECT NARRATIVE**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: February 22, 2023

Georgia Power EQuIS Database Manager requested Pace Project Manager correct each matrix code from WG to WS and the task\_code from ARK-CCR-ASSMT-2023S2 to ARK-CSURF-ASSMT-2023S1.

These updates ensure the sample nomenclature is followed on final PDF and EDD for successful upload of laboratory data into the Georgia Power EQuIS database.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

Sample: ARK-BC-0.3	Lab ID: 926	51543001	Collected: 02/08/2	23 16:35	Received: 02	2/09/23 15:53 N	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua	
6010D ATL ICP	Analytical Meth	nod: EPA 60	010D Preparation Me	ethod: E	PA 3010A				
	Pace Analytica	l Services -	Peachtree Corners,	GA					
Potassium	1.9	mg/L	0.20	1	02/14/23 12:35	02/15/23 20:44	7440-09-7		
Sodium	6.7	mg/L	1.0	1	02/14/23 12:35	02/15/23 20:44	7440-23-5		
Calcium	6.8	mg/L	1.0	1	02/14/23 12:35	02/15/23 20:44	7440-70-2		
Magnesium	3.3	mg/L	0.050	1	02/14/23 12:35	02/15/23 20:44	7439-95-4		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
	Pace Analytica	I Services -	Peachtree Corners,	GA					
Antimony	ND	mg/L	0.0030	1	02/17/23 11:15	02/18/23 22:34	7440-36-0		
Arsenic	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:34	7440-38-2		
Barium	0.032	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:34	7440-39-3		
Beryllium	ND	mg/L	0.00050	1		02/18/23 22:34			
Boron	ND	mg/L	0.040	1		02/18/23 22:34			
Cadmium	ND	mg/L	0.00050	1		02/18/23 22:34			
Chromium	ND	mg/L	0.0050	1		02/18/23 22:34			
Cobalt	ND	mg/L	0.0050	1		02/18/23 22:34			
_ead	ND	mg/L	0.0010	1		02/18/23 22:34			
_ithium	ND	mg/L	0.030	1		02/18/23 22:34			
Molybdenum	ND	mg/L	0.010	1		02/18/23 22:34			
Selenium	ND	mg/L	0.0050	1		02/18/23 22:34			
Thallium	ND	mg/L	0.0010	1	02/17/23 11:15	02/18/23 22:34	7440-28-0		
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
	Pace Analytica	l Services -	Peachtree Corners,	GA					
Mercury	ND	mg/L	0.00020	1	02/14/23 08:15	02/14/23 12:18	7439-97-6		
2540C Total Dissolved Solids	Analytical Meth	nod: SM 254	40C-2015						
	•		Peachtree Corners,	GA					
Total Dissolved Solids	61.0	mg/L	25.0	1		02/13/23 16:46			
2320B Alkalinity	Analytical Meth	nnd: SM 23	20B-2011						
2020B Alkallinty	Pace Analytica								
Alkalinity,Bicarbonate (CaCO3)	32.5	mg/L	5.0	1		02/15/23 12:54			
Alkalinity, Total as CaCO3	32.5	mg/L	5.0	1		02/15/23 12:54			
9056 IC anions 28 Days	Analytical Meth	nod: EPA 90	)56A						
	Pace Analytical Services - Asheville								
Chloride	6.3		1.0	1		02/12/23 04:46	16887 00 6		
Fluoride	<b>6.3</b> ND	mg/L	0.10	1		02/12/23 04:46			
		mg/L		1					
Sulfate	7.0	mg/L	1.0	1		02/12/23 04:46	14000-79-8		



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

Sample: ARK-BC-0.1	Lab ID: 926	51543002	Collected: 02/08/2	23 16:25	Received: 02	2/09/23 15:53	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua		
6010D ATL ICP	Analytical Meth	nod: EPA 60	010D Preparation Me	ethod: El	PA 3010A					
	Pace Analytica	l Services -	Peachtree Corners,	GA						
Potassium	2.0	mg/L	0.20	1	02/14/23 12:35	02/15/23 20:49	9 7440-09-7			
Sodium	6.8	mg/L	1.0	1	02/14/23 12:35	02/15/23 20:49	9 7440-23-5			
Calcium	7.0	mg/L	1.0	1	02/14/23 12:35	02/15/23 20:49	9 7440-70-2			
Magnesium	3.4	mg/L	0.050	1	02/14/23 12:35	02/15/23 20:49	9 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	02/17/23 11:15	02/18/23 22:40	7440-36-0			
Arsenic	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:40	7440-38-2			
Barium	0.033	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:40	7440-39-3			
Beryllium	ND	mg/L	0.00050	1	02/17/23 11:15	02/18/23 22:40	7440-41-7			
Boron	ND	mg/L	0.040	1	02/17/23 11:15	02/18/23 22:40	7440-42-8			
Cadmium	ND	mg/L	0.00050	1	02/17/23 11:15	02/18/23 22:40	7440-43-9			
Chromium	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:40	7440-47-3			
Cobalt	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:40	7440-48-4			
Lead	ND	mg/L	0.0010	1	02/17/23 11:15	02/18/23 22:40	7439-92-1			
Lithium	ND	mg/L	0.030	1	02/17/23 11:15	02/18/23 22:40	7439-93-2			
Molybdenum	ND	mg/L	0.010	1	02/17/23 11:15	02/18/23 22:40	7439-98-7			
Selenium	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:40	7782-49-2			
Thallium	ND	mg/L	0.0010	1	02/17/23 11:15	02/18/23 22:40	7440-28-0			
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
•	Pace Analytica	l Services -	Peachtree Corners,	GA						
Mercury	ND	mg/L	0.00020	1	02/14/23 08:15	02/14/23 12:20	7439-97-6			
2540C Total Dissolved Solids	Analytical Meth	nod: SM 254	40C-2015							
			Peachtree Corners,	GA						
Total Dissolved Solids	82.0	mg/L	25.0	1		02/13/23 16:4	7			
2320B Alkalinity	Analytical Meth	nod: SM 233	20B-2011							
20202 / Maining	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	32.7	mg/L	5.0	1		02/15/23 13:0	)			
Alkalinity, Total as CaCO3	32.7	mg/L	5.0	1		02/15/23 13:00				
	Analytical Meth	nod: EPA 90	056A							
9056 IC anions 28 Days	Pace Analytical Services - Asheville									
9056 IC anions 28 Days	Pace Analytica	COLVIOCO								
9056 IC anions 28 Days Chloride	·		1.0	1		02/12/23 05:0	1 16887-00-6			
·	Pace Analytica  6.4  ND	mg/L mg/L		1 1		02/12/23 05:0 <sup></sup> 02/12/23 05:0 <sup></sup>				



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

					Received: 02	2/09/23 15:53 N	/latrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua	
6010D ATL ICP	Analytical Meth	od: EPA 60	10D Preparation Me	thod: E	PA 3010A				
	Pace Analytical	Services -	Peachtree Corners,	GA					
Potassium	2.5	mg/L	0.20	1	02/14/23 12:35	02/15/23 20:54	7440-09-7		
Sodium	5.3	mg/L	1.0	1	02/14/23 12:35	02/15/23 20:54	7440-23-5		
Calcium	5.2	mg/L	1.0	1	02/14/23 12:35	02/15/23 20:54	7440-70-2		
Magnesium	1.6	mg/L	0.050	1	02/14/23 12:35	02/15/23 20:54	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	02/17/23 11:15	02/18/23 22:46	7440-36-0		
Arsenic	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:46	7440-38-2		
Barium	0.026	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:46	7440-39-3		
Beryllium	ND	mg/L	0.00050	1	02/17/23 11:15	02/18/23 22:46	7440-41-7		
Boron	ND	mg/L	0.040	1	02/17/23 11:15	02/18/23 22:46	7440-42-8		
Cadmium	ND	mg/L	0.00050	1	02/17/23 11:15	02/18/23 22:46	7440-43-9		
Chromium	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:46	7440-47-3		
Cobalt	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:46	7440-48-4		
₋ead	ND	mg/L	0.0010	1		02/18/23 22:46			
∟ithium	ND	mg/L	0.030	1		02/18/23 22:46			
Molybdenum	ND	mg/L	0.010	1		02/18/23 22:46			
Selenium	ND	mg/L	0.0050	1		02/18/23 22:46			
Γhallium	ND	mg/L	0.0010	1	02/17/23 11:15	02/18/23 22:46	7440-28-0		
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
	Pace Analytical	Services -	Peachtree Corners,	GA					
Mercury	ND	mg/L	0.00020	1	02/14/23 08:15	02/14/23 12:23	7439-97-6		
2540C Total Dissolved Solids	Analytical Meth	od: SM 254	IOC-2015						
	•		Peachtree Corners,	GA					
Total Dissolved Solids	64.0	mg/L	25.0	1		02/15/23 11:53			
2320B Alkalinity	Analytical Meth	nd: SM 232	20R-2011						
1020D Antalinity	Pace Analytical								
Alkalinity,Bicarbonate (CaCO3)	20.5	mg/L	5.0	1		02/15/23 13:06			
Alkalinity, Total as CaCO3	20.5	mg/L	5.0	1		02/15/23 13:06			
9056 IC anions 28 Days	Analytical Meth	od: EPA 90	56A						
	Pace Analytical Services - Asheville								
Chloride	5.5	mg/L	1.0	1		02/12/23 05:15	16887-00-6		
Fluoride	ND	mg/L	0.10	1		02/12/23 05:15			
Sulfate	4.6	mg/L	1.0	1		02/12/23 05:15			



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

Sample: ARK-OR-0.1	Lab ID: 926	51543004	Collected: 02/09/2	3 12:10	Received: 02	2/09/23 15:53	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua	
6010D ATL ICP	Analytical Meth	nod: EPA 60	10D Preparation Me	thod: E	PA 3010A				
	Pace Analytica	l Services -	Peachtree Corners,	GA					
Potassium	2.4	mg/L	0.20	1	02/14/23 12:35	02/15/23 20:58	3 7440-09-7		
Sodium	5.4	mg/L	1.0	1	02/14/23 12:35	02/15/23 20:58	3 7440-23-5		
Calcium	5.1	mg/L	1.0	1	02/14/23 12:35	02/15/23 20:58	3 7440-70-2		
Magnesium	1.6	mg/L	0.050	1	02/14/23 12:35	02/15/23 20:58	3 7439-95-4		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
	Pace Analytica	l Services -	Peachtree Corners,	GA					
Antimony	ND	mg/L	0.0030	1	02/17/23 11:15	02/18/23 22:52	2 7440-36-0		
Arsenic	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:52	2 7440-38-2		
Barium	0.025	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:52	2 7440-39-3		
Beryllium	ND	mg/L	0.00050	1	02/17/23 11:15	02/18/23 22:52	2 7440-41-7		
Boron	ND	mg/L	0.040	1	02/17/23 11:15	02/18/23 22:52	2 7440-42-8		
Cadmium	ND	mg/L	0.00050	1	02/17/23 11:15	02/18/23 22:52	2 7440-43-9		
Chromium	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:52	2 7440-47-3		
Cobalt	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:52	2 7440-48-4		
Lead	ND	mg/L	0.0010	1	02/17/23 11:15	02/18/23 22:52	2 7439-92-1		
_ithium	ND	mg/L	0.030	1	02/17/23 11:15	02/18/23 22:52	2 7439-93-2		
Molybdenum	ND	mg/L	0.010	1	02/17/23 11:15	02/18/23 22:52	2 7439-98-7		
Selenium	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 22:52	2 7782-49-2		
Thallium	ND	mg/L	0.0010	1	02/17/23 11:15	02/18/23 22:52	2 7440-28-0		
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
	Pace Analytica	l Services -	Peachtree Corners,	GA					
Mercury	ND	mg/L	0.00020	1	02/14/23 08:15	02/14/23 12:20	6 7439-97-6		
2540C Total Dissolved Solids	Analytical Meth	nod: SM 254	10C-2015						
	•		Peachtree Corners,	GA					
Total Dissolved Solids	112	mg/L	25.0	1		02/15/23 11:56	5		
2320B Alkalinity	Analytical Meth	nod: SM 232	20B-2011						
2020D Amailinity	Pace Analytica								
Alkalinity, Bicarbonate (CaCO3)	20.4	mg/L	5.0	1		02/15/23 13:1:	2		
Alkalinity, Total as CaCO3	20.4	mg/L	5.0	1		02/15/23 13:12			
9056 IC anions 28 Days	Analytical Method: EPA 9056A								
	Pace Analytical Services - Asheville								
Chloride	5.5	mg/L	1.0	1		02/12/23 05:29	9 16887-00-6		
Fluoride	ND	mg/L	0.10	1		02/12/23 05:29			
FILIOTIOE									



### **ANALYTICAL RESULTS**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

Sample: ARK-OR-0.3	Lab ID: 926	51543005	Collected: 02/09/2	3 11:30	Received: 02	2/09/23 15:53	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua			
6010D ATL ICP	Analytical Meth	nod: EPA 60	10D Preparation Me	thod: E	PA 3010A						
	Pace Analytica	l Services -	Peachtree Corners,	GA							
Potassium	2.3	mg/L	0.20	1	02/14/23 12:35	02/15/23 21:03	3 7440-09-7				
Sodium	5.3	mg/L	1.0	1	02/14/23 12:35	02/15/23 21:03	3 7440-23-5				
Calcium	5.1	mg/L	1.0	1	02/14/23 12:35	02/15/23 21:03	3 7440-70-2				
Magnesium	1.6	mg/L	0.050	1	02/14/23 12:35	02/15/23 21:03	3 7439-95-4				
6020 MET ICPMS	Analytical Meth	nod: EPA 60	20B Preparation Me	thod: El	PA 3005A						
	Pace Analytica	l Services -	Peachtree Corners,	GA							
Antimony	ND	mg/L	0.0030	1	02/17/23 11:15	02/18/23 23:10	7440-36-0				
Arsenic	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 23:10	7440-38-2				
Barium	0.026	mg/L	0.0050	1	02/17/23 11:15	02/18/23 23:10	7440-39-3				
Beryllium	ND	mg/L	0.00050	1	02/17/23 11:15	02/18/23 23:10	7440-41-7				
Boron	ND	mg/L	0.040	1	02/17/23 11:15	02/18/23 23:10	7440-42-8				
Cadmium	ND	mg/L	0.00050	1		02/18/23 23:10					
Chromium	ND	mg/L	0.0050	1		02/18/23 23:10					
Cobalt	ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 23:10	7440-48-4				
_ead	ND	mg/L	0.0010	1		02/18/23 23:10					
Lithium	ND	mg/L	0.030	1		02/18/23 23:10					
Molybdenum	ND	mg/L	0.010	1	02/17/23 11:15						
Selenium	ND	mg/L	0.0050	1		02/18/23 23:10					
Thallium	ND	mg/L	0.0010	1	02/17/23 11:15	02/18/23 23:10	0 7440-28-0				
7470 Mercury	Analytical Meth	nod: EPA 74	70A Preparation Me	thod: El	PA 7470A						
	Pace Analytica	l Services -	Peachtree Corners,	GA							
Mercury	ND	mg/L	0.00020	1	02/14/23 08:15	02/14/23 12:28	3 7439-97-6				
2540C Total Dissolved Solids	Analytical Meth	nod: SM 254	10C-2015								
	Pace Analytica	l Services -	Peachtree Corners,	GA							
Total Dissolved Solids	54.0	mg/L	25.0	1		02/15/23 11:57	7				
2320B Alkalinity	Analytical Meth	nod: SM 232	20B-2011								
•	Pace Analytica										
Alkalinity, Bicarbonate (CaCO3)	20.9	mg/L	5.0	1		02/15/23 13:18	3				
Alkalinity, Total as CaCO3	20.9	mg/L	5.0	1		02/15/23 13:18					
9056 IC anions 28 Days	Analytical Meth	nod: EPA 90	56A								
- · · ·	Pace Analytical Services - Asheville										
Chloride	5.5	mg/L	1.0	1		02/12/23 05:4	4 16887-00-6				
Fluoride	ND	mg/L	0.10	1		02/12/23 05:4					



### **ANALYTICAL RESULTS**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

Lab ID: 926	51543006	Collected: 02/09/2	23 12:45	Received: 02	2/09/23 15:53 N	Matrix: Water				
Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua			
Analytical Meth	nod: EPA 60	10D Preparation Me	ethod: E	PA 3010A						
Pace Analytica	l Services -	Peachtree Corners,	GA							
2.3	mg/L	0.20	1	02/14/23 12:35	02/15/23 21:08	7440-09-7				
5.2	mg/L	1.0	1	02/14/23 12:35	02/15/23 21:08	7440-23-5				
5.1	mg/L	1.0	1	02/14/23 12:35	02/15/23 21:08	7440-70-2				
1.6	mg/L	0.050	1	02/14/23 12:35	02/15/23 21:08	7439-95-4				
•		•		PA 3005A						
Pace Analytica	l Services -	Peachtree Corners,	GA							
ND	mg/L	0.0030	1	02/17/23 11:15	02/18/23 23:16	7440-36-0				
ND	mg/L	0.0050	1	02/17/23 11:15	02/18/23 23:16	7440-38-2				
0.025	mg/L	0.0050	1	02/17/23 11:15	02/18/23 23:16	7440-39-3				
ND	mg/L	0.00050	1							
ND	mg/L		1	02/17/23 11:15	02/18/23 23:16	7440-42-8				
ND	mg/L		1							
	mg/L									
	ū		-							
	Ū									
	•									
	Ū									
	Ū									
ND	mg/L	0.0010	1	02/17/23 11:15	02/18/23 23:16	7440-28-0				
Analytical Meth	nod: EPA 74	70A Preparation Me	thod: El	PA 7470A						
Pace Analytica	I Services -	Peachtree Corners,	GA							
ND	mg/L	0.00020	1	02/14/23 08:15	02/14/23 12:31	7439-97-6				
Analytical Meth	nod: SM 254	IOC-2015								
Pace Analytica	l Services -	Peachtree Corners,	GA							
39.0	mg/L	25.0	1		02/15/23 11:57					
Analytical Meth	nod: SM 232	20R-2011								
•										
20.4	ma/L	5.0	1		02/15/23 13:24					
20.4	mg/L	5.0	1							
Analytical Meth	nod: EPA 90	56A								
·										
-			1		02/12/23 05·59	16887-00-6				
	•									
ND	mg/L	0.10	1		02/12/23 05:58	16984-48-8				
	Analytical Meth Pace Analytical  2.3 5.2 5.1 1.6 Analytical Meth Pace Analytical  ND	Analytical Method: EPA 60 Pace Analytical Services -  2.3 mg/L 5.2 mg/L 5.1 mg/L 1.6 mg/L  Analytical Method: EPA 60 Pace Analytical Services -  ND mg/L Analytical Method: EPA 74 Pace Analytical Services -  ND mg/L Analytical Method: SM 254 Pace Analytical Services -  20.4 mg/L Analytical Method: EPA 90 Pace Analytical Services -	Results	Results	Results         Units         Report Limit         DF         Prepared           Analytical Method: EPA 6010D         Preparation Method: EPA 3010A           Pace Analytical Services - Peachtree Corners, GA           2.3         mg/L         0.20         1         02/14/23 12:35           5.1         mg/L         1.0         1         02/14/23 12:35           5.1         mg/L         1.0         1         02/14/23 12:35           1.6         mg/L         0.050         1         02/14/23 12:35           Analytical Method: EPA 6020B         Preparation Method: EPA 3005A           Pace Analytical Services - Peachtree Corners, GA           ND         mg/L         0.0030         1         02/17/23 11:15           ND         mg/L         0.0050         1         02/17/23 11:15           ND         mg/L         0.0050         1         02/17/23 11:15           ND         mg/L         0.00050         1         02/17/23 11:15           ND         mg/L         0.00050         1         02/17/23 11:15           ND         mg/L         0.0050         1         02/17/23 11:15           ND         mg/L         0.0050         1         02/17/23 11:15	Results	Results			



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

QC Batch: 755753 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D ATL

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

METHOD BLANK: 3926444 Matrix: Water

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	02/15/23 19:37	
Magnesium	mg/L	ND	0.050	02/15/23 19:37	
Potassium	mg/L	ND	0.20	02/15/23 19:37	
Sodium	mg/L	ND	1.0	02/15/23 19:37	

LABORATORY CONTROL SAMPLE:	3926445					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Calcium	mg/L	1	1.0	104	80-120	
Magnesium	mg/L	1	1.0	104	80-120	
Potassium	mg/L	1	0.93	93	80-120	
Sodium	mg/L	1	1.0	104	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 3926	446		3926447							
Parameter	Q Units	92651062003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	3360 ug/L	1	1	4.3	4.3	91	96	75-125	1	20	
Magnesium	mg/L	4150 ug/L	1	1	5.0	5.1	89	94	75-125	1	20	
Potassium	mg/L	3980 ug/L	1	1	4.8	4.9	83	91	75-125	2	20	
Sodium	mg/L	11500 ug/l	1	1	12.3	12.2	75	72	75-125	0	20 1	<b>V</b> 11

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.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

QC Batch: 756602 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

METHOD BLANK: 3930860 Matrix: Water

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
	Office			Allalyzeu	
Antimony	mg/L	ND	0.0030	02/18/23 20:47	
Arsenic	mg/L	ND	0.0050	02/18/23 20:47	
Barium	mg/L	ND	0.0050	02/18/23 20:47	
Beryllium	mg/L	ND	0.00050	02/18/23 20:47	
Boron	mg/L	ND	0.040	02/18/23 20:47	
Cadmium	mg/L	ND	0.00050	02/18/23 20:47	
Chromium	mg/L	ND	0.0050	02/18/23 20:47	
Cobalt	mg/L	ND	0.0050	02/18/23 20:47	
Lead	mg/L	ND	0.0010	02/18/23 20:47	
Lithium	mg/L	ND	0.030	02/18/23 20:47	
Molybdenum	mg/L	ND	0.010	02/18/23 20:47	
Selenium	mg/L	ND	0.0050	02/18/23 20:47	
Thallium	mg/L	ND	0.0010	02/18/23 20:47	

LABORATORY CONTROL SAMPLE:	3930861					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.10	101	80-120	
Arsenic	mg/L	0.1	0.092	92	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.094	94	80-120	
Boron	mg/L	1	0.97	97	80-120	
Cadmium	mg/L	0.1	0.094	94	80-120	
Chromium	mg/L	0.1	0.093	93	80-120	
Cobalt	mg/L	0.1	0.092	92	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	
Molybdenum	mg/L	0.1	0.093	93	80-120	
Selenium	mg/L	0.1	0.095	95	80-120	
Thallium	mg/L	0.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX S	SPIKE DUPL	ICATE: 3930	862		3930863	l						
		92651537002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	101	103	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.092	0.095	92	95	75-125	3	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.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

MATRIX SPIKE & MATRIX	SFIRE DUFFIC	CATE: 3930			3930863							
Parameter	9 Units	2651537002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.023	0.1	0.1	0.12	0.13	98	104	75-125	 5	20	
Beryllium	mg/L	ND	0.1	0.1	0.089	0.091	89	91	75-125	3	20	
Boron	mg/L	0.082	1	1	0.95	1.0	87	92	75-125	4	20	
Cadmium	mg/L	ND	0.1	0.1	0.094	0.095	94	95	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.092	0.094	92	94	75-125	2	20	
Cobalt	mg/L	0.0072	0.1	0.1	0.099	0.10	92	95	75-125	3	20	
Lead	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.094	0.097	93	96	75-125	3	20	
Molybdenum	mg/L	ND	0.1	0.1	0.094	0.096	93	96	75-125	3	20	
Selenium	mg/L	ND	0.1	0.1	0.094	0.096	94	96	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	101	102	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.



Plant Arkwright-CCR Ash Pond-Revised Report Project:

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

QC Batch: 755636 Analysis Method: EPA 7470A QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury

> Laboratory: Pace Analytical Services - Peachtree Corners, GA

> > Qualifiers

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

METHOD BLANK: Matrix: Water

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

> Blank Reporting Parameter Units Result Limit Analyzed

Mercury ND 0.00020 02/14/23 11:36 mg/L

LABORATORY CONTROL SAMPLE: 3925966

Spike LCS LCS % Rec Result % Rec Limits Qualifiers Parameter Units Conc. mg/L Mercury 0.0025 0.0025 100 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3925967 3925968

MSD MS

92649377013 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result **RPD** RPD Qual Result Conc. Conc. Result % Rec % Rec Limits Mercury mg/L ND 0.0025 0.0025 0.0023 0.0024 93 95 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.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

QC Batch: 755473 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: 92651543001, 92651543002

METHOD BLANK: 3925080 Matrix: Water

Associated Lab Samples: 92651543001, 92651543002

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Total Dissolved Solids mg/L ND 25.0 02/13/23 16:22

LABORATORY CONTROL SAMPLE: 3925081

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units **Total Dissolved Solids** mg/L 400 397 99 80-120

SAMPLE DUPLICATE: 3925082

92651537006 Dup Max Parameter Units Result Result **RPD RPD** Qualifiers 116 **Total Dissolved Solids** mg/L 31 10 D6 85.0

SAMPLE DUPLICATE: 3925083

Date: 02/22/2023 12:14 PM

92651580003 Dup Max RPD RPD Parameter Units Result Result Qualifiers Total Dissolved Solids 822 2 mg/L 839 10

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.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

QC Batch: 755982 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: 92651543003, 92651543004, 92651543005, 92651543006

METHOD BLANK: 3927602 Matrix: Water

Associated Lab Samples: 92651543003, 92651543004, 92651543005, 92651543006

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Total Dissolved Solids mg/L ND 25.0 02/15/23 11:50

LABORATORY CONTROL SAMPLE: 3927603

Spike LCS LCS % Rec
Parameter Units Conc. Result % Rec Limits Qualifiers

Total Dissolved Solids mg/L 400 377 94 80-120

SAMPLE DUPLICATE: 3927604

92651771004 Dup Max Parameter Units Result Result **RPD RPD** Qualifiers 31.0 **Total Dissolved Solids** mg/L 7 29.0 10

SAMPLE DUPLICATE: 3927605

Date: 02/22/2023 12:14 PM

92650184006 Dup Max RPD RPD Parameter Units Result Result Qualifiers Total Dissolved Solids 619 623 mg/L 1 10

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.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

QC Batch: 755731 Analysis Method: SM 2320B-2011
QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

METHOD BLANK: 3926334 Matrix: Water

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

Blank Reporting Qualifiers Parameter Units Result Limit Analyzed Alkalinity, Total as CaCO3 ND 5.0 02/15/23 11:15 mg/L Alkalinity, Bicarbonate (CaCO3) mg/L ND 5.0 02/15/23 11:15

LABORATORY CONTROL SAMPLE: 3926335

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 99 80-120 mg/L 50 49.4

LABORATORY CONTROL SAMPLE: 3926336

Date: 02/22/2023 12:14 PM

LCS Spike LCS % Rec Conc. Limits Qualifiers Parameter Units Result % Rec 105 Alkalinity, Total as CaCO3 mg/L 50 52.3 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3926337 3926338

MS MSD 92651307004 MS MSD MS MSD Spike Spike % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual 50 50 Alkalinity, Total as CaCO3 34.1 85.9 85.3 104 102 80-120 25 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3926339 3926340

MSD MS 92651475009 Spike Spike MS MSD MS MSD % Rec Max Result Parameter Units Conc. Conc. Result Result % Rec % Rec **RPD** RPD Limits Qual Alkalinity, Total as CaCO3 mg/L 11.5 50 50 27.0 26.9 31 31 80-120 25 M1

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.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

LABORATORY CONTROL SAMPLE: 2024664

Date: 02/22/2023 12:14 PM

QC Batch: 755331 Analysis Method: EPA 9056A

QC Batch Method: EPA 9056A Analysis Description: 9056 IC anions 28 Days

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

METHOD BLANK: 3924650 Matrix: Water

Associated Lab Samples: 92651543001, 92651543002, 92651543003, 92651543004, 92651543005, 92651543006

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Chloride	mg/L	ND ND	1.0	02/13/23 22:59	
Fluoride	mg/L	ND	0.10	02/13/23 22:59	
Sulfate	mg/L	ND	1.0	02/13/23 22:59	

LABORATORY CONTROL SAMPLE.	3924651					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Chloride	mg/L	50	53.5	107	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	54.0	108	90-110	

MATRIX SPIKE & MATRIX SP	IKE DUPLI	CATE: 3924		3924653								
	,	20054507004	MS	MSD	140	MOD		MOD	0/ D			
	,	92651537001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride	mg/L	3.5	50	50	55.2	56.6	104	106	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.7	102	105	90-110	3	10	
Sulfate	mg/L	2.1	50	50	54.0	55.3	104	106	90-110	2	10	

MATRIX SPIKE & MATRIX SI	PIKE DUPL	.ICATE: 3924	654		3924655							
			MS	MSD								
		92651539005	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride	mg/L	6.3	50	50	59.9	58.4	107	104	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.7	2.6	106	103	90-110	3	10	
Sulfate	mg/L	6.6	50	50	60.6	59.5	108	106	90-110	2	10	

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.



### **QUALIFIERS**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

### **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**

Date: 02/22/2023 12:14 PM

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651543

Date: 02/22/2023 12:14 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
92651543001	ARK-BC-0.3	EPA 3010A	755753	EPA 6010D	755809
92651543002	ARK-BC-0.1	EPA 3010A	755753	EPA 6010D	755809
92651543003	ARK-OR-0.8	EPA 3010A	755753	EPA 6010D	755809
92651543004	ARK-OR-0.1	EPA 3010A	755753	EPA 6010D	755809
92651543005	ARK-OR-0.3	EPA 3010A	755753	EPA 6010D	755809
92651543006	ARK-OR+0.25	EPA 3010A	755753	EPA 6010D	755809
2651543001	ARK-BC-0.3	EPA 3005A	756602	EPA 6020B	756701
2651543002	ARK-BC-0.1	EPA 3005A	756602	EPA 6020B	756701
2651543003	ARK-OR-0.8	EPA 3005A	756602	EPA 6020B	756701
92651543004	ARK-OR-0.1	EPA 3005A	756602	EPA 6020B	756701
92651543005	ARK-OR-0.3	EPA 3005A	756602	EPA 6020B	756701
92651543006	ARK-OR+0.25	EPA 3005A	756602	EPA 6020B	756701
92651543001	ARK-BC-0.3	EPA 7470A	755636	EPA 7470A	755687
2651543002	ARK-BC-0.1	EPA 7470A	755636	EPA 7470A	755687
2651543003	ARK-OR-0.8	EPA 7470A	755636	EPA 7470A	755687
2651543004	ARK-OR-0.1	EPA 7470A	755636	EPA 7470A	755687
2651543005	ARK-OR-0.3	EPA 7470A	755636	EPA 7470A	755687
2651543006	ARK-OR+0.25	EPA 7470A	755636	EPA 7470A	755687
2651543001	ARK-BC-0.3	SM 2540C-2015	755473		
92651543002	ARK-BC-0.1	SM 2540C-2015	755473		
2651543003	ARK-OR-0.8	SM 2540C-2015	755982		
92651543004	ARK-OR-0.1	SM 2540C-2015	755982		
92651543005	ARK-OR-0.3	SM 2540C-2015	755982		
92651543006	ARK-OR+0.25	SM 2540C-2015	755982		
2651543001	ARK-BC-0.3	SM 2320B-2011	755731		
2651543002	ARK-BC-0.1	SM 2320B-2011	755731		
2651543003	ARK-OR-0.8	SM 2320B-2011	755731		
92651543004	ARK-OR-0.1	SM 2320B-2011	755731		
92651543005	ARK-OR-0.3	SM 2320B-2011	755731		
92651543006	ARK-OR+0.25	SM 2320B-2011	755731		
2651543001	ARK-BC-0.3	EPA 9056A	755331		
2651543002	ARK-BC-0.1	EPA 9056A	755331		
92651543003	ARK-OR-0.8	EPA 9056A	755331		
92651543004	ARK-OR-0.1	EPA 9056A	755331		
2651543005	ARK-OR-0.3	EPA 9056A	755331		
92651543006	ARK-OR+0.25	EPA 9056A	755331		

# CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

			ARK-CCP	App. IV	野社	12	1 0	<b>6</b>	7	•	5	4	3	N	1	ITEM#		Reques	Phone	Email:	Address:	Compa	Section A Required
	W0#:92651543	ARCOARK	ARK-CCR-A89MT-202352	App. IV - Sb, As, Ba, Ba, Cd, Cr, Co, Pb, Ll, Mo, Se, Ti + Hg	доритомах сомивнутв				AND COURT O	ARK-OR+0.25	ARK-OR-0.3	ARK-OR-0.1	ARK-OR-0.8	ARK-BC-0.1	ARK-BC-0.3	SAMPLE ID Source Character per box. (A-Z, 0-9 /, -) Sample ids must be unique That	awa Dah	requested the pare:	(770)384-6584 Fax	mail: kelley sharpa@arcadis.com	2839 Paces Ferry Rd	Company: ARCADIS - Atlanta	d Client Information:
	543			1												Whate Water WW Product P Sulfond SL OI OI OI Other OT Tis		Project #:	Project Name:	Purchase Order #	Сору То:	Report To: Kelley Sharpe, W.	Section 6 Required Pr
		Ш		200	RETINON				WGG	WGG	WG.	WG G	₩Ğ	WG G	٧G	MATRIX CODE (see valid o	odes to left)	11	1	er #	8		oject
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		1		1/2					1	3	1	1/2	1/1/2	1/4		DATE		Ш	3	SPC8	es, Jo	Pe.	natio
	8	al .		A	BYTAFFILLATION		$\vdash$		1	_		+-		11	3			Н	Plant Arkwright/CCR-Ash Pond Closure	GPC82474-0003	Ben Hodges, Joju Abraham	Kelley Sharpe, Warren Johnson	2
8	PRINT Name of SAMPLER:			Acced	TATE OF					Shal	1130	0121	1058	1625	35	TIME	COLLECTED	П	Ŗ	803	aham	힑	
SIGNATURE of SAMPLER:	PRINT Name of SAMPLER:			3	Ž				$\top$	$\top$	Ť				Γ,	<b>S</b>		Ш	8		L	<b>§</b>	
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				ીંગ્ર	THE				×	×	×	×	×	×	×	Unpreserved	1	Pace Profile #:	Pace Project Manager	Pace Quote:	Company Name:	Attention	Section C Invoice Information:
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1					188				×	×	<u> </u>	×	×	×	×	HNO3	Pre	ш	Mana	8	8	П	Tantio
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1.	Z	t		2	ED BY J APPELIATION						T					Other	1	Ш	uiya.parks@pacelabs.com			П	
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DATE Signed:	<b>b</b> 3			1	3	_	$\vdash$	-	×	×	×	×	×	_	×	CI, F, SO4 TDS	+	20	š	9			
ğ	200				-3	_		$\vdash$	×	×	×	×	×	×	×	App. III Metals - B, Ca		E E	П			П	
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92851543

/	Pace	DC#_Title: ENV-F	RM-HUN1-0083	v02_Sa	mple Con	dition Upon Receipt	
E.	MANATICAL SERVICES	Effective Date: 11/14	/2022	Ÿ.	<u> </u>		1
	oratory recesheville	eiving samples:  Eden Greenwo	od Huntersvi	lle 🗌	Raleigh 🗌	Mechanicsville Atlant	ta Kernersville
	Upon Receipt		AUIS		Proj	ect #: WO#: 926	<u>51543</u>
	urier:   Commercial	☐Fed Ex ☐Pace	UPS USPS Othe		Client	PM: MP D CLIENT: GR-Arcad	Due Date: 02/17/23
Cu	stody Seal Pres	sent? Ves \_No	Seals Intact?	□Tes	□No	Date/Initials Person Examin	ing Contents: <u>2-9-23</u> A.
	cking Material: ermometer:	112	☐Bubble Bags	None	Other	□Yes □ <b>n</b> o	sue Frozen?
Со	oler Temp: oler Temp Corr	Correct Add/S	Type of Ic tion Factor: ubtract (°C) 0.0		Vet □Blue	□None  Temp should be above freezing of the should be above freezing of the should be above freezing.  Samples out of temp criteria.	
		iginate in a quarantine zone		s: CA, NY, o	or SC	Did samples originate from a foreign including Hawaii and Puerto Rico)?	□Yes □No
	Chain of Custo	ody Present?	山 Yes		□N/A 1.	Comments/Disc	repancy:
		ved within Hold Time?			□N/A 2.		
		me Analysis (<72 hr.)?	□Yes	□No/	□N/A 3.		
		ound Time Requested?	□Yes		□N/A 4.		
	Sufficient Vol		☐Yes/		□N/A 5.		
	Correct Conta	ainers Used? tainers Used?	□Yes □Yes	□No □No	□n/a 6. □n/a	•	
	Containers In	tact?	₽Yes	□No	□N/A 7.		
	Dissolved ana	lysis: Samples Field Filtered	? □Yes	Νο	<b>□</b> N/A 8.		
		s Match COC?	rrix: W	□No	□N/A 9.	٨	
		Date/Time/ID/Analysis Mat		_	1/		
	Headspace in Trip Blank Pre	VOA Vials (>5-6mm)? esent?	☐Yes ☐Yes	No	□N/A 1		~
	Trip Blank Cus	stody Seals Present?	∐Yes	□No	□N/A		[9
ON	MMENTS/SAMPLE	E DISCREPANCY	·			Field Data Ro	equired? Yes No
					Lot I	D of split containers:	
JEI	IT NOTIFICATION	N/RESOLUTION					
Pei	son contacted:		45		Date/Time:	3	
	Project Manage	er SCURF Review:				Date:	
	Project Manag	er SRF Review:				Date:	

Page 24 of 28



DC#\_Title: ENV-FRM-HUN1-0083 v02\_Sample Condition Upon Receipt

Effective Date: 11/14/2022

\*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 #

WO#: 92651543

PM: MP

Due Date: 02/17/23

CLIENT: GA-ArcadAtl

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 H25O4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP42-125 ml. Plastic ZN Acetate & NaOH (>9)	<b>BP4B-</b> 125 mL Plastic NaOH (pH > 12) (CI-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	<b>AG1H-1</b> liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	AG15-1 liter Amber H2SO4 (pH < 2)	AG35-250 mt Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCI (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mt VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)	AGOU-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mt Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1				4		Y																						
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	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.

### RK-CCR-A88MT-202382 hpp. IV - Sb, As, Ba, Be, Cd, Cr, Co, Pb, Ll, Mo, Se, Tl + Hg Company: ARCADIS - Atlanta Address: 2839 Pages Ferry Rd (equested Due Date: ITEM # enta, GA 30339 quired Client Information: kelley, sharpe@arcadis.com (770)384-6584 ARK-OR+0.25 ARK-OR-0.8 ARK-OR-03 ARK-OR-0.1 ARE BEST D SK-BC-0.1 ARK-BC-0.3 Sample ids must be unique One Character per box. **SAMPLE ID** ARC 4 ARK W0#:92651552 (A.Z. 0-9/, -) SUMBINGS TANGLISMS P MATRIX Drinking Weler Water Water Weler Product Soll/Solid Oil Wipe Air Other Tissue Required Project Information: Report To: Kalley Sharps, Warren Johnson Copy To: Ben Hodges, Joju Abraham Purchase Order #: GPC82474-0003 oject Name: \$\$\$\$₽₽**₽**₹\$\$6 now MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP) Plant Arkwright/CCR-Ash Pond Closure 77/13 1210 79/13 1058 1/1/15 17/13 1130 START 1625 Shall S Accedio I M M AMPLERINAME AND SIGNATURE COLLECTED SIGNATURE of SAMPLER: PRINT Name of SAMPLER: DATE 8 2/1/23 Ħ DATE SAMPLE TEMP AT COLLECTION Attention: Company Name: Address # OF CONTAINERS Pace Quote: Pace Project Manager. Pace Profile #: 55 Sega. Unpreserved H2SO4 HN03 Preservatives 15836 HCI NaOH maiya.parks@pacelabs.com Na2S2O3 ACCEPTED BY VEHILATION Methanol Other 3 YAN Analyses Test Total/Bicarb Alkalinity DATE Signed: CI, F, SO4 TDS App. III Metals - B, Cs App. IV Metals (Client List) Metals - Mg, Na, K 27.2 DATE Redium 226/228 1853 Page: TEMP in C Residual Chlorine (Y/N) Received on валина сонопом (Y/N) Not Q Sealed Cooler (Y/N) Samples Intect

(Y/N)

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

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical www.recuss.com

1 000	-			W	
AMALYTICAL SERVICES	Effective Date: 11/14/2022				
horatory rece	eiving samples:				
Asheville		Huntersville 🗍 🗀	Raleigh 🗌	Mechanicsville Atlan	ta Kernersville
Sample Condi		· _	<u> </u>		54552
Upon Receipt	.0 () ( ( ) 1 ( )	5	Proje	et# W0#:920	01/03/23 Due Date: 03/03/23
Courier:	Fed Ex UPS	USPS	Client		
Commercial	Pace	Other:		CLIENT: GA-Arcad	
Custody Seal Pres	sent? Yes No Seals	Intact? Tes	□No		04271
	_/			Date/Initials Person Examir	ing Contents: 1-1-63 H
Packing Material	l: Bubble Wrap Bub	ble Bags None	Other		Jusue Frozen?
Thermometer:	012		/	☐Yes ☐ <b>N</b> o	n/A
☐ IR Gu	in ID:	Type of Ice:	et Blue	□None	
l	12 4 Correction Factor	~ / / /		To some the could be a change from the	
Cooler Temp:	Add/Subtract (°C	1 —		Temp should be above freezing  Samples out of temp criteria	. Samples on ice, cooling process
Cooler Temp Cor		, 		has begun	
	<b>Soil</b> ( N/A, water sample) riginate in a quarantine zone within the	United States: CA. NY. or	rSC	Did samples originate from a foreig	zn source (internationally,
	Yes No			including Hawaii and Puerto Rico)?	Yes No
				Comments/Dis	crepancy:
	stody Present?	<u>I</u> Yes □No	□N/A 1.		
1	ived within Hold Time?	☐Yes ☐No	□N/A 2.		
1	Time Analysis (<72 hr.)?				
Rush Turn A	round Time Requested?	☐Yes ☐No	□N/A 4.	<u></u>	
Sufficient Vo	olume?	☐Yes/ ☐No	□N/A 5.		
4	tainers Used?	Yes No	□n/a 6. □n/a _	<u> </u>	
Containers I	ntainers Used?	Yes No	□N/A 7.		
1	nalysis: Samples Field Filtered?	☐Yes ☐Ño	□N/A 8.		
[4]	els Match COC?	, Pres No	□N/A 9.		
	: Date/Time/ID/Analysis Matrix:	J			
	oute, time, to, monysis months.				
Headspace i	in VOA Vials (>5-6mm)?	Yes □No	□N/A 1	1.	
COLUMN SENITE /CARAD	Custody Seals Present?	☐Yes ☐No	ØN/A		Required? Yes No
Rad	ls not Tresent Pa	m BC-0.	3 t	BC-0.1	÷ķ.
			Lot	ID of split containers:	1
LIENT NOTIFICATIO	ON/RESOLUTION				
Person contacte	d:		Date/Time:		
	ager SCURF Review:			Date:	F-9
r roject mane	-0			<del>_</del> -	<del></del>
Project Mana	ager SRF Review:		30		<u> </u>

DC#\_Title: ENV-FRM-HUN1-0083 v02\_Sample Condition Upon Receipt

Page 27 of 28



DC#\_Title: ENV-FRM-HUN1-0083 v02\_Sample Condition Upon Receipt

**Effective Date: 11/14/2022** 

\*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

Project #

Due Date: 03/03/23

CLIENT: GA-ArcadAtl

\*\*Bottom half of box is to list number of bottles

\*\*\*Check <u>all</u> unpreserved Nitrates for chlorine

tem#	BP4U-125 mL Plastic Unpreserved (N/A) {CI-)	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)	BPAZ-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) (CI-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	AG15-1 liter Amber H2SO4 (pH < 2)	AG35-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCI (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)	AGOU-100 mL Amber Unpreserved (N/A) (CI-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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2				4		K																					
3				7		X																					
4				4		14													111								
5				1		X	$\searrow$																				
6				4		1																					
7																											
8																											
9												FBI															
10																											
11																											
12																			:			<u> </u>					

	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 #									
<del> </del>	-														

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.





March 02, 2023

Jessica Ware Arcadis - Atlanta 2839 Paces Ferry Rd STE 900 Atlanta, GA 30339

RE: Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

### Dear Jessica Ware:

Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

Pace Analytical Services - Greensburg

Rev. 1 - This replaces the February 28, 2023 final report, see Project Narrative.

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

Sincerely,

Maiya Parks

Maiya

maiya.parks@pacelabs.com

(770)734-4200

Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR Ben Hodges, Georgia Power-CCR Warren Johnson, ARCADIS - Atlanta Laura Midkiff, Georgia Power

Tina Sullivan, ERM



(770)734-4200



**CERTIFICATIONS** 

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590 Arizona Certification #: AZ0734

**Arkansas Certification** 

California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694

Delaware Certification EPA Region 4 DW Rad

Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET

Guam Certification Hawaii Certification Idaho Certification Illinois Certification

Indiana Certification Iowa Certification #: 391

Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020 Maryland Certification #: 308

Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991 Missouri Certification #: 235

Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 460198 Washington Certification #: C868 West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



### **SAMPLE SUMMARY**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92651552003	ARK-OR-0.8	Water	02/09/23 10:58	02/09/23 18:38
92651552004	ARK-OR-0.1	Water	02/09/23 12:10	02/09/23 18:38
92651552005	ARK-OR-0.3	Water	02/09/23 11:30	02/09/23 18:38
92651552006	ARK-OR+0.25	Water	02/09/23 12:45	02/09/23 18:38



### **SAMPLE ANALYTE COUNT**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92651552003	ARK-OR-0.8	EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	JGH	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92651552004	ARK-OR-0.1	EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	JGH	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92651552005	ARK-OR-0.3	EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	JGH	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92651552006	ARK-OR+0.25	EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	JGH	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg



### **PROJECT NARRATIVE**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

**Date:** March 02, 2023

Georgia Power EQuIS Database Manager requested Pace Project Manager correct each matrix code from WG to WS and the task\_code from ARK-CCR-ASSMT-2023S2 to ARK-CSURF-ASSMT-2023S1.

These updates ensure the sample nomenclature is followed on final PDF and EDD for successful upload of laboratory data into the Georgia Power EQuIS database.



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

Sample: ARK-OR-0.8 PWS:	<b>Lab ID: 9265155</b> Site ID:	<b>Collected:</b> 02/09/23 10:58 Sample Type:	Received:	02/09/23 18:38	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	rvices - Greensburg			_	
Radium-226	EPA 903.1	0.000 ± 0.401 (0.899) C:NA T:100%	pCi/L	02/24/23 15:29	13982-63-3	
	Pace Analytical Ser	rvices - Greensburg				
Radium-228	EPA 904.0	0.457 ± 0.308 (0.579) C:87% T:87%	pCi/L	02/23/23 14:53	3 15262-20-1	
	Pace Analytical Ser	rvices - Greensburg				
Total Radium	Total Radium Calculation	0.457 ± 0.709 (1.48)	pCi/L	02/28/23 14:36	7440-14-4	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

Sample: ARK-OR-0.1 PWS:	<b>Lab ID: 9265155</b> Site ID:	2004 Collected: 02/09/23 12:10 Sample Type:	Received:	02/09/23 18:38	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 903.1	-0.313 ± 0.378 (1.03) C:NA T:98%	pCi/L	02/24/23 15:29	13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 904.0	0.409 ± 0.339 (0.678) C:93% T:81%	pCi/L	02/23/23 14:53	3 15262-20-1	
	Pace Analytical Ser	vices - Greensburg				
Total Radium	Total Radium Calculation	0.409 ± 0.717 (1.71)	pCi/L	02/28/23 14:36	7440-14-4	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

Sample: ARK-OR-0.3 PWS:	Lab ID: 9265 Site ID:	<b>1552005</b> Collected: 02/09/23 11:30 Sample Type:	Received:	02/09/23 18:38	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 903.1	-0.423 ± 0.500 (1.27) C:NA T:88%	pCi/L	02/24/23 15:29	9 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.467 ± 0.421 (0.854) C:83% T:68%	pCi/L	02/23/23 14:53	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.467 ± 0.921 (2.12)	pCi/L	02/28/23 14:36	6 7440-14-4	



Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

Sample: ARK-OR+0.25 PWS:	<b>Lab ID: 9265</b> 1 Site ID:	<b>552006</b> Collected: 02/09/23 12:45 Sample Type:	Received:	02/09/23 18:38	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 903.1	0.000 ± 0.588 (1.20) C:NA T:93%	pCi/L	02/24/23 15:29	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.192 ± 0.301 (0.652) C:84% T:86%	pCi/L	02/23/23 14:53	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.192 ± 0.889 (1.85)	pCi/L	02/28/23 14:36	7440-14-4	



### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

QC Batch: 567675 Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92651552003, 92651552004, 92651552005, 92651552006

METHOD BLANK: 2757330 Matrix: Water

Associated Lab Samples: 92651552003, 92651552004, 92651552005, 92651552006

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.587 ± 0.283 (0.473) C:94% T:97%
 pCi/L
 02/23/23 14:53

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.



### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

QC Batch: 567674 Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92651552003, 92651552004, 92651552005, 92651552006

METHOD BLANK: 2757328 Matrix: Water

Associated Lab Samples: 92651552003, 92651552004, 92651552005, 92651552006

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.0592 ± 0.270 (0.436) C:NA T:97% pCi/L 02/24/23 15:29

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.



### **QUALIFIERS**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

### **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.

Act - Activity

Date: 03/02/2023 01:44 PM

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.



### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Plant Arkwright-CCR Ash Pond-Revised Report

Pace Project No.: 92651552

Date: 03/02/2023 01:44 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92651552003	ARK-OR-0.8	EPA 903.1	567674		
92651552004	ARK-OR-0.1	EPA 903.1	567674		
92651552005	ARK-OR-0.3	EPA 903.1	567674		
92651552006	ARK-OR+0.25	EPA 903.1	567674		
92651552003	ARK-OR-0.8	EPA 904.0	567675		
92651552004	ARK-OR-0.1	EPA 904.0	567675		
92651552005	ARK-OR-0.3	EPA 904.0	567675		
92651552006	ARK-OR+0.25	EPA 904.0	567675		
92651552003	ARK-OR-0.8	Total Radium Calculation	570475		
92651552004	ARK-OR-0.1	Total Radium Calculation	570475		
92651552005	ARK-OR-0.3	Total Radium Calculation	570475		
92651552006	ARK-OR+0.25	Total Radium Calculation	570475		

Pace Analytical www.pacecass.com

## **CHAIN-OF-CUSTODY / Analytical Request Document**

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

ARK-CCR-ASSMT-2023S2 App. IV - Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl + Hg Atlanta, GA 30339 1 12 Required Client Information: 8 2 ITEM# ddress: equested Due Date: kelley.sharpe@arcadis.com (770)384-6584 ARK-OR-0.3 ARK-OR-0.1 ARK-0R+0.25 ARK-OR-0.8 ARK-BC-0.1 ARK-BC-0.3 RE-OK+1.0 2839 Paces Ferry Rd ARCADIS - Atlanta Sample ids must be unique One Character per box. **SAMPLE ID** ようしょうなべ ADDITIONAL COMMENTS (A-Z, 0-9 / , -) 0# 92651552 Day 141 MATRIX
Dirinking Water
Water
Water
Water
Waste Water
Product
Sol/Solid
Oil
Wipe
Air
Other
Tissue Project #: Report To: Kelley Sharpe, Warren Johnson
Copy To: Ben Hodges, Joju Abraham Required Project Information: Purchase Order# Project Name: 3 G X X 2 C E P W M D C C rowll RELINQUISHED BY I AFFILIATION MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP) Plant Arkwright/CCR-Ash Pond Closure 79/13 GPC82474-0003 79/13 19/13 /8/c3 /<del>8</del>/25 /1/13 1130 START 1058 1710 1625 Acced & 5421 1635 SAMPLER NAME AND SIGNATURE TIME COLLECTED SIGNATURE of SAMPLER: PRINT Name of SAMPLER: DATE END 49/13 DATE SAMPLE TEMP AT COLLECTION Company Name: # OF CONTAINERS Pace Profile #: 15836 Pace Project Manager: Attention: Invoice Information: Pace Quote: Address: S TIME Unpreserved V H2SO4 ниоз HCI NaOH ACCEPTED BY A AFFILIATION maiya.parks@pacelabs.com Na2S2O3 Methanol Other 2 Analyses Test Y/N Total/Bicarb Alkalinity DATE Signed: CI, F, SO4 TDS App. III Metals - B, Ca App. IV Metals (Client List) Metals - Mg, Na, K チャンと DATE -9-73 Radium 226/228 1853 TIME Page : Regulatory Agency TEMP in State / Location Residual Chlorine (Y/N) Receive SAMPLE CONDITIONS ice (Y/N) Not Custody Sealed 잋 Cooler Sampled (Y/N) Sample (Y/N)

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rdition Upon Receipt	nple Con	ns2_50	v £800	-tNUH-MAT-VN1-	DC#_Title: E	<b>93P</b> Page 15 of 18

## 943 91 aged DC#\_Title: ENV-FRM-HUN1-0083 v02\_Sample Condition Upon Receipt

Effective Date: 11/14/2022

Due Date: 03/03/23 79319976: #OM

CLIENT: GR-Arcadati

Project #

within the acceptance range for preservation samples. \*Check mark top half of box if pH and/or dechlorination is verified and

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

\*\*\*Check all unpreserved Nitrates for chlorine \*\*Bottom half of box is to list number of bottles

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<b>U</b> -40 m	J-20 m	J-100	BP3R-250 mL P		-250 n	-125 n	V/GK (3 vials p	J-50 m	<b>√-</b> 40 m	J-40 m	7-40 m	<b>1</b> -40 m	1-40 m	AG3S-250 mL A	-1 lite	J-250	+1 lite	J-1 lite	WGFU-Wide-m	-125 n	BP4Z-125 mL PI	1-250 r	-125 n	I-1 lite	BP2U-500 mL P	1-250 r	<b>BP4U-</b> 125 mL P	#
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preser	VSGU-20 mL Scintillation vials (N/A)	nprese	lastic (NH2)2SO4 (9.3-9.7)		SP2T-250 mL Sterile Plastic (N/A – lab)	SP5T-125 mL Sterile Plastic (N/A – lab)	er kit)-VPH/Gas kit (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	V/A)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	mber H2SO4 (pH < 2)	AG1S-1 liter Amber H2SO4 (pH < 2)	nprese	AG1H-1 liter Amber HCl (pH < 2)	presen	Slass ja	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	Aceta	BP3N-250 mL plastic HNO3 (pH < 2)	BP4S-125 mL Plastic H2SO4 (pH < 2) (CI-)	BP1U-1 liter Plastic Unpreserved (N/A)	lastic Unpreserved (N/A)	BP3U-250 mL Plastic Unpreserved (N/A)	presei	
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DG9U-40 mL Amber Unpreserved vials (N/A)		AGOU-100 mL Amber Unpreserved (N/A) (Cl-)	(-9.7)		5)	5	(A)	A)		ے ا						AG3U-250 mL Amber Unpreserved (N/A) (Cl-)		AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	outhed Glass jar Unpreserved	(CI-)	astic ZN Acetate & NaOH (>9)		(CI-)	Š	Ä	(A)	lastic Unpreserved (N/A) (CI-)	
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Out of hold, incorrect preservative, out of temp, incorrect containers. 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.





March 08, 2023

Jessica Ware Arcadis - Atlanta 2839 Paces Ferry Rd STE 900 Atlanta, GA 30339

RE: Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

### Dear Jessica Ware:

Enclosed are the analytical results for sample(s) received by the laboratory on February 14, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

Pace Analytical Services - Greensburg

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

Sincerely,

Maiya Parks

maiya.parks@pacelabs.com

Maiya Tacks

(770)734-4200

Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR Ben Hodges, Georgia Power-CCR Warren Johnson, ARCADIS - Atlanta Laura Midkiff, Georgia Power Tina Sullivan, ERM



(770)734-4200



### **CERTIFICATIONS**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

### Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590 Arizona Certification #: AZ0734

**Arkansas Certification** 

California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694

Delaware Certification EPA Region 4 DW Rad

Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET

Guam Certification Hawaii Certification Idaho Certification Illinois Certification Indiana Certification Iowa Certification #: 391

Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020 Maryland Certification #: 308

Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991 Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 460198 Washington Certification #: C868 West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L





#### **SAMPLE SUMMARY**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92652193001	ARK-BC-0.3	Water	02/14/23 11:10	02/14/23 15:38
92652193002	ARK-BC-0.1	Water	02/14/23 11:00	02/14/23 15:38



## **SAMPLE ANALYTE COUNT**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92652193001	ARK-BC-0.3	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92652193002	ARK-BC-0.1	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg



#### **ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

Sample: ARK-BC-0.3 PWS:	<b>Lab ID: 9265219</b> Site ID:	3001 Collected: 02/14/23 11:10 Sample Type:	Received:	02/14/23 15:38	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 903.1	0.226 ± 0.532 (0.986) C:NA T:80%	pCi/L	03/06/23 16:59	13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 904.0	0.119 ± 0.494 (1.13) C:49% T:85%	pCi/L	03/03/23 11:37	15262-20-1	
	Pace Analytical Serv	vices - Greensburg				
Total Radium	Total Radium Calculation	0.345 ± 1.03 (2.12)	pCi/L	03/08/23 14:21	7440-14-4	



#### **ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

Sample: ARK-BC-0.1 PWS:	<b>Lab ID: 92652</b> Site ID:	<b>193002</b> Collected: 02/14/23 11:00 Sample Type:	Received:	02/14/23 15:38 I	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg		•		
Radium-226	EPA 903.1	0.297 ± 0.583 (1.05) C:NA T:82%	pCi/L	03/06/23 16:59	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.403 ± 0.418 (0.865) C:70% T:81%	pCi/L	03/03/23 11:38	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.700 ± 1.00 (1.92)	pCi/L	03/08/23 14:21	7440-14-4	



#### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

QC Batch: 568435 Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92652193001, 92652193002

METHOD BLANK: 2760528 Matrix: Water

Associated Lab Samples: 92652193001, 92652193002

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 0.110 ± 0.405 (0.778) C:NA T:87%
 pCi/L
 03/06/23 16:44

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.



#### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

QC Batch: 568436 Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92652193001, 92652193002

METHOD BLANK: 2760529 Matrix: Water

Associated Lab Samples: 92652193001, 92652193002

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.616 ± 0.440 (0.844) C:62% T:83%
 pCi/L
 03/03/23 11:36

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.



#### **QUALIFIERS**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

#### **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.

Act - Activity

Date: 03/08/2023 03:00 PM

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Plant Arkwright-CCR Ash Pond

Pace Project No.: 92652193

Date: 03/08/2023 03:00 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92652193001	ARK-BC-0.3	EPA 903.1	568435		
92652193002	ARK-BC-0.1	EPA 903.1	568435		
92652193001	ARK-BC-0.3	EPA 904.0	568436		
92652193002	ARK-BC-0.1	EPA 904.0	568436		
92652193001	ARK-BC-0.3	Total Radium Calculation	572420		
92652193002	ARK-BC-0.1	Total Radium Calculation	572420		



Required Client Information:

Required Project Information:

Invoice Information:

Page:

Q

ີ Page 11 **∂**f 13

Section C

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Address: Appendix IV\* - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, CCR Appendix III1-B, Ca, CI, F, Sulfate, Total Dissolved Solids (TDS) Requested Due Date: Company: lajor tons² - Mg. Na, K, total atkelingy, bicarbonate alkalinib = 5 . 0 N ITEM# O warren.johnson@arcadis.com ARK-BC-0.3 ARK-BC-0.1 Atlanta, GA 30339 678.485.5298 ARCADIS - Atlanta 2839 Paces Ferry Rd Sample ids must be unique One Character per box. **SAMPLE ID** (A-Z, 0-9/, -) VODELIONYT COM 5 day TAT Fax MATRIX
Drinking Weler
Whater
Waste Water
Product
Soll/Solid
Oil
Wipe
Air
Other
Tissue Report To: Joju Abraham, Ben Hodges
Copy To: Warren Johnson Project #: Purchase Order #: SCS10382775 ws ws MATRIX CODE (see valid codes to left) Plant Arkwright AP1 S 1 1 2 ြ SAMPLE TYPE (G=GRAB C=COMP) 2/14/23 START 25. g, T MA COLLECTED AMPLER HAME AND BIGHATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: 2/14 2/4 DATE S 2/11/23 8:17 |-|-|-DATE 7 SAMPLE TEMP AT COLLECTION Address: Company Name: GPC Attention: Joju Abrehem # OF CONTAINERS Pace Profile #: Pace Quote: Pace Project Manager: 538 Garcet 1 Unpreserved H2SO4 HNO3 Preservatives 2239 HCI Grabows Ki NaOH Mayla.Parks@pacelabs.com Na2S2O3 CCEPTED BY / AFFILIATION Methanol Other **Analyses Test** YIN CCR Appendix III DATE Signed: × Major Ions<sup>2</sup> Radium 226/228 × WO#:92652193 Ē H12155 DATE 538 CHEFFE Regulatory Agency TEMP in C Residual Chlorine Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)

Pace.	DC#_Title: ENV-FRM-HU	N1-0083 v02_Sample	Condition ———	Upon Receipt
INTRICAL SERVICES	Effective Date: 11/14/2022			141
	eiving samples:	Huntersville Ralei	rh⊟ Mer	chanicsville Atlanta Kernersville
eville	Eden Greenwood G	Huntersville Kalei	til inser	710# · 02652193
imple Cond Jpon Receip	0 1: 10	11	Project #:	WUH - 52052150
0	HICACIS H	Menta		PM: MP Due Date: 03/08/23
i <b>er:</b> Commercial	□Fed Ex □UPS □Pace	USPS Other:	Client	CLIENT: GA-ArcadAtl
ody Seal Pr	esent? Yes No Seal	s Intact? Yes I	lo	Date/Initials Person Examining Contents:
ing Materia	al: Bubble Wrap Bu	ubble Bags None	Other	Biological Tissue Frozen?
mometer:	162			☐Yes ☐No —☐N/A
☐ IR G		177-1111	_Blue	None
ler Temp:	Correction Fact Add/Subtract (		Теп	np should be above freezing to 6°C  Samples out of temp criteria. Samples on ice, cooling proces
ler Temp Co	orrected (°C):			has begun
A Regulate	<b>d Soil</b> (	e United States: CA, NY, or SC	Did	samples originate from a foreign source (internationally,
check maps	)? Yes No		incl	uding Hawaii and Puerto Rico)? Yes No  Comments/Discrepancy:
		Yes No N/	1.	
	ustody Present?	Dyes DNo DN/	13	
	rrived within Hold Time? I Time Analysis (<72 hr.)?	□Yes □No □N/		
	Around Time Requested?	□Yes □No □N/	A 4.	
	- i))	□Yes □No □N	A 5.	·
Sufficient		Yes No N		
	ontainers Used? Containers Used?	DYES NO N	1	
Container		No □N	/A 7.	
	analysis: Samples Field Filtered?	YesNoN		
	abels Match COC?	DXes DNo DN	/A 9.	
-Includ	es Date/Time/ID/Analysis Matrix:	W		#A W 80
Headspac	e in VOA Vials (>5-6mm)?	YesNo		
Trip Blan	k Present?	□Yes □No □	7A 11.	
Trip Blan	k Custody Seals Present?	Yes No	HA	Field Data Required? Yes No
DALY	BIIN FOR RO	de present	fold	analysis
				selit containers
			LOT ID OF	split containers:
NT NOTIFICA	TION/RESOLUTION			

Person contacted:

A. altano 1D+ 6064.4

Project Manager SCURF Review:

Project Manager SRF Review:

Page 12 of 13

Date: \_\_\_\_\_



DC#\_Title: ENV-FRM-HUN1-0083 v02\_Sample Condition Upon Receipt

**Effective Date: 11/14/2022** 

\*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

Project #

WO#:92652193

PM: MP

Due Date: 03/08/23

CLIENT: GA-ArcadAtl

\*\*Bottom half of box is to list number of bottles

\*\*\*Check <u>all</u> unpreserved Nitrates for chlorine

$\perp$																								 			
Item#	BP4U-125 mL Plastic Unpreserved (N/A) (CI-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP19/1 liter Plastic Lipproceduce(199/A)	BP45-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP48-125 mL Plastic NaOH (pH > 12) (CI-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	<b>AG1H-1</b> liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	<b>AG1S-1</b> liter Amber H2SO4 (pH < 2)	AG35-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCI (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mt. VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (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)	AGOU-100 mL Amber Unpreserved (N/A) (CI-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1				2																							
2				7																							
3																											
4																											
5											$\setminus$																
6																	:										
7														$\setminus$													
8	/																										
9	1																										
10	/																										
11	1																									+	
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.



a member of The GEL Group INC



2040 Savage Road Charleston, SC 29407





P 843.556.8171 F 843.766.1178

gel.com

June 30, 2023

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

Re: Arkwright CCR Groundwater Compliance AP1 Work Order: 625988

Dear Joju Abraham:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 14, 2023. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. Georgia Power EQuIS Database Manager requested for the correction of the sample IDs by removing the dates. These updates ensure the sample nomenclature is consistent on final PDF & EDD.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

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,

Anna Johnson for Erin Trent Project Manager

Purchase Order: GPC82177-0005

Enclosures



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

# Certificate of Analysis Report for

GPCC001 Georgia Power Company Client SDG: 625988 GEL Work Order: 625988

#### 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
- B Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
- J Value is estimated

N/A RPD or %Recovery limits do not apply.

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

Page 2 of 26 SDG: 625988 Rev1

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

# Certificate of Analysis

Report Date: June 30, 2023

GPCC00100

2444297

1250

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-3 Sample ID: 625988001

Matrix: WG

Collect Date: 13-JUN-23 13:08 Receive Date: 14-JUN-23 Collector: Client

625988001 Client ID: GPCC001

Project:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Field Data												
Client collected Field pl	H "As Receiv	ved"										
Field pH		5.57			SU			EOS1	06/13/23	1308	2443855	1
Ion Chromatography												
EPA 300.0 Anions Liqu	iid "As Recei	ved"										
Sulfate		1330	13.3	40.0	mg/L		100	JLD1	06/15/23	0812	2444191	2
Chloride		4.91	0.335	1.00	mg/L		5	JLD1	06/14/23	2303	2444191	3
Fluoride	U	ND	0.165	0.500	mg/L		5					
Mercury Analysis-CVA	ιA											
7470 Cold Vapor Mercu	ary, Liquid "A	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	06/16/23	1040	2444300	4
Metals Analysis-ICP-M	S											
SW846 3005A/6020B "	As Received	"										
Boron		1.50	0.104	0.300	mg/L	1.00	20	PRB	06/17/23	1838	2443950	5
Calcium		363	1.60	4.00	mg/L	1.00	20					
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	06/17/23	1736	2443950	6
Arsenic	U	ND	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0215	0.000670	0.00400	mg/L		1					
Beryllium	U	ND	0.000200	0.000500	mg/L	1.00	1					
Cadmium		0.00361	0.000300	0.00100	mg/L		1					
Chromium	U	ND	0.00300	0.0100	mg/L		1					
Cobalt		0.0515	0.000300	0.00100	mg/L		1					
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium		0.0625	0.00300	0.0100	mg/L	1.00	1					
Molybdenum	J	0.000306	0.000200	0.00100	mg/L	1.00	1					
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved So	olids "As Rec	eived"										
Total Dissolved Solids		2000	4.76	20.0	mg/L			CH6	06/15/23	1400	2444265	7
The following Prep Met	thods were pe	erformed:										
Method					D .	-			D 1			
	Description	n		Analyst	Date	1	Γime	Pr	ep Batch			

EK1

06/15/23

Page 3 of 26 SDG: 625988 Rev1

EPA 7470A Mercury Prep Liquid

SW846 7470A Prep

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

Certificate of Analysis

Report Date: June 30, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1PZ-3 Project: GPCC00100 Sample ID: 625988001 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description					Analys	t Comments		
1	SM 4500-H B	/SW846 9040C, SM 2550B							
2	EPA 300.0								
3	EPA 300.0								
4	SW846 7470A	A							
5	SW846 3005A	A/6020B							
6	SW846 3005A	A/6020B							
7	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

Page 4 of 26 SDG: 625988 Rev1

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

# Certificate of Analysis

Report Date: June 30, 2023

GPCC00100

GPCC001

Project:

Client ID:

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-EB-01

Sample ID: 625988002

Matrix: WQ

Collect Date: 13-JUN-23 14:05
Receive Date: 14-JUN-23
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time	e Batch	Method
Ion Chromatography	y											
EPA 300.0 Anions I	Liquid "As Recei	ived"										
Chloride	J	0.0934	0.0670	0.200	mg/L		1	JLD1	06/15/23	0843	2444191	1
Fluoride	U	ND	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Mercury Analysis-C	CVAA											
7470 Cold Vapor M	ercury, Liquid ".	As Received"										
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	06/16/23	1045	2444300	2
Metals Analysis-ICl	P-MS											
SW846 3005A/6020	OB "As Received	["										
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	06/17/23	1754	2443950	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					
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	U	ND	0.000300	0.00100	mg/L	1.00						
Lead	U	ND	0.000500	0.00200	mg/L	1.00	1					
Lithium	U	ND	0.00300	0.0100	mg/L	1.00						
Molybdenum	U	ND	0.000200	0.00100	mg/L	1.00						
Selenium	U	ND	0.00150	0.00500	mg/L	1.00	1					
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1					
Boron	U	ND	0.00520	0.0150	mg/L	1.00	1	PRB	06/17/23	1918	2443950	4
Calcium	U	ND	0.0800	0.200	mg/L	1.00	1					
Solids Analysis												
SM2540C Dissolved	d Solids "As Rec	ceived"										
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	06/15/23	1400	2444265	5
The following Prep	Methods were p	erformed:										
Method	Description	n		Analyzat	Data	,	Tim	. D	ran Ratch			

Method Date Prep Batch Description Analyst Time SW846 3005A ICP-MS 3005A PREP JD2 06/15/23 0720 2443949 SW846 7470A Prep EPA 7470A Mercury Prep Liquid EK1 06/15/23 1250 2444297

Page 5 of 26 SDG: 625988 Rev1

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

Certificate of Analysis

Report Date: June 30, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-EB-01 Project: GPCC00100 Sample ID: 625988002 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description	L				Analys	st Comments		
1	EPA 300.0								
2	SW846 7470A	A							
3	SW846 3005A	A/6020B							
4	SW846 3005A	A/6020B							
5	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

Page 6 of 26 SDG: 625988 Rev1

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

# Certificate of Analysis

Report Date: June 30, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FB-01

Sample ID: 625988003

Matrix: WQ

Collect Date: 13-JUN-23 14:20 Receive Date: 14-JUN-23 Collector: Client Project: GPCC00100 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	yst Date	Time Batch	Method
Ion Chromatography											
EPA 300.0 Anions Lie	quid "As Recei	ived"									
Chloride	J	0.0938	0.0670	0.200	mg/L		1	JLD1	06/15/23	0915 2444191	1
Fluoride	U	ND	0.0330	0.100	mg/L		1				
Sulfate	U	ND	0.133	0.400	mg/L		1				
Mercury Analysis-CV	AA										
7470 Cold Vapor Mer	cury, Liquid ".	As Received"									
Mercury	U	ND	0.0000670	0.000200	mg/L	1.00	1	JP2	06/16/23	1047 2444300	2
Metals Analysis-ICP-l	MS				C						
SW846 3005A/6020B		"									
Antimony	U	ND	0.00100	0.00300	mg/L	1.00	1	PRB	06/17/23	1757 2443950	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				
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	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				
Thallium	U	ND	0.000600	0.00200	mg/L	1.00	1				
Boron	U	ND	0.00520	0.0150	mg/L	1.00	1	PRB	06/17/23	1853 2443950	4
Calcium	U	ND	0.0800	0.200	mg/L	1.00	1				
Solids Analysis											
SM2540C Dissolved S	Solids "As Rec	eived"									
Total Dissolved Solids	U	ND	2.38	10.0	mg/L			CH6	06/15/23	1400 2444265	5
The following Prep M	ethods were po	erformed:									
Method	Description	n		Analyst	Date	,	Tim	e Pı	rep Batch		
				-							

 Method
 Description
 Analyst
 Date
 Time
 Prep Batch

 SW846 3005A
 ICP-MS 3005A PREP
 JD2
 06/15/23
 0720
 2443949

 SW846 7470A Prep
 EPA 7470A Mercury Prep Liquid
 EK1
 06/15/23
 1250
 2444297

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Certificate of Analysis

Report Date: June 30, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FB-01 Project: GPCC00100 Sample ID: 625988003 Client ID: GPCC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description	1				Analys	st Comments		
1	EPA 300.0								
2	SW846 7470A								
3	SW846 3005A/6020B								
4	SW846 3005A/6020B								
5	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

Project:

Client ID:

Report Date: June 30, 2023

GPCC00100

GPCC001

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FD-01

Sample ID: 625988004

Matrix: WG

Collect Date: 13-JUN-23 12:00
Receive Date: 14-JUN-23
Collector: Client

RL Parameter **Oualifier** DL Units PF DF Analyst Date Time Batch Method Result Ion Chromatography EPA 300.0 Anions Liquid "As Received" Chloride 4.94 0.335 1.00 mg/L 5 JLD1 06/15/23 0143 2444191 1 Fluoride 0.500 U ND 0.165 mg/L Sulfate 1350 13.3 40.0 mg/L 100 JLD1 06/15/23 0947 2444191 Mercury Analysis-CVAA 7470 Cold Vapor Mercury, Liquid "As Received" Mercury ND 0.0000670 0.000200 mg/L 1.00 1 JP2 06/16/23 1048 2444300 3 Metals Analysis-ICP-MS SW846 3005A/6020B "As Received" 0.104 0.300 20 PRB 06/17/23 1900 2443950 Boron 1.87 mg/L 1.00 Calcium 374 1.60 4.00 mg/L 1.00 20 0.00300 Antimony U ND 0.00100mg/L 1.00 1 PRB 06/17/23 1801 2443950 5 0.00200 0.00500 mg/L 1.00 Arsenic J 0.002001 0.00400 Barium 0.0212 0.000670 mg/L1.00 1 mg/L Bervllium U 0.000200 0.000500 1.00 1 ND Cadmium 0.00367 0.000300 0.00100mg/L 1.00 1 U 0.00300 0.0100 1.00 Chromium ND mg/L Cobalt 0.0522 0.000300 0.00100mg/L1.00 U 0.00200 Lead ND 0.000500 mg/L 1.00 1 0.0663 Lithium 0.0100 1.00 0.00300 mg/L 1 0.000266 0.000200 0.00100 mg/L1.00 Molybdenum J 1 Selenium U ND 0.00150 0.00500 mg/L 1.00 1 U ND 0.000600 0.00200 Thallium mg/L 1.00 Solids Analysis SM2540C Dissolved Solids "As Received" Total Dissolved Solids 4.76 20.0 CH6 06/15/23 1400 2444265 mg/L 6

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	EK1	06/15/23	1250	2444297
SW846 3005A	ICP-MS 3005A PREP	JD2	06/15/23	0720	2443949

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Certificate of Analysis

Report Date: June 30, 2023

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

Atlanta, Georgia 30308

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FD-01 Project: GPCC00100 Sample ID: 625988004 Client ID: GPCC001

Parameter	Qualifier Result	DL	RL	Units PF	DF Analyst Date	Time Batch Method	
The following Ana	llytical Methods were performed:						
Method	Description			Anal	yst Comments		
1	EPA 300.0						
2	EPA 300.0						
3	SW846 7470A	SW846 7470A					
4	SW846 3005A/6020B	SW846 3005A/6020B					
5	SW846 3005A/6020B	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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# QC Summary

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

Atlanta, Georgia Joju Abraham

Workorder: 625988

**Contact:** 

Report Date: June 30, 2023

Page 1 of 8

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Ion Chromatography Batch 2444191								
QC1205433470 625884001 DUP Chloride		2.67	2.70	mg/L	1.22		(0%-20%) JLD1	06/15/23 03:18
Fluoride	J	0.0909 J	0.0803	mg/L	12.4 ^		(+/-0.100)	
Sulfate		88.1	89.8	mg/L	1.91		(0%-20%)	06/15/23 07:01
QC1205433469 LCS Chloride	5.00		4.85	mg/L		97.1	(90%-110%)	06/15/23 02:46
Fluoride	2.50		2.49	mg/L		99.5	(90%-110%)	
Sulfate	10.0		9.93	mg/L		99.3	(90%-110%)	
QC1205433468 MB Chloride		U	ND	mg/L				06/15/23 02:15
Fluoride		U	ND	mg/L				
Sulfate		U	ND	mg/L				
QC1205433471 625884001 PS Chloride	5.00	2.67	7.39	mg/L		94.4	(90%-110%)	06/15/23 03:50
Fluoride	2.50 J	0.0909	2.38	mg/L		91.8	(90%-110%)	
Sulfate	10.0	8.81	18.9	mg/L		101	(90%-110%)	06/15/23 07:33

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# QC Summary

Page 2 of 8 Sample Qual Date Time Parmname **NOM** QC Units RPD% REC% Range Anlst Metals Analysis - ICPMS 2443950 Batch QC1205433062 LCS 0.0494 0.0500 mg/L 98.8 (80%-120%) PRB 06/17/23 17:32 Antimony Arsenic 0.0500 0.0492 mg/L 98.4 (80% - 120%)0.0500 0.0509 102 Barium mg/L (80%-120%) 0.0556 Beryllium 0.0500 mg/L 111 (80%-120%) 06/17/23 19:15 0.100 0.113 113 Boron mg/L(80%-120%) Cadmium 0.0500 0.0509 mg/L 102 (80% - 120%)06/17/23 17:32 2.03 Calcium 2.00 mg/L 101 (80%-120%) 06/17/23 19:15 Chromium 0.0500 0.0476 06/17/23 17:32 mg/L 95.2 (80%-120%) Cobalt 0.0500 0.0482 mg/L96.3 (80%-120%) 0.0502 0.0500 mg/L 100 (80%-120%) Lead Lithium 0.0500 0.0515 103 mg/L (80%-120%) 0.0509 102 Molybdenum 0.0500 mg/L (80%-120%) Selenium 0.0500 0.0487 mg/L 97.5 (80%-120%) Thallium 0.0500 0.0481 96.1 (80%-120%) mg/L QC1205433061 MB U ND 06/17/23 17:28 Antimony mg/L

Workorder:

625988

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# QC Summary

Workorder: 625988 Page 3 of 8 NOM QC RPD% REC% Range Parmname Sample Qual Units Anlst Date Time Metals Analysis - ICPMS Batch 2443950 Arsenic U ND mg/L PRB 06/17/23 17:28 Barium U ND mg/L Beryllium U ND mg/LU ND 06/17/23 19:11 Boron mg/L06/17/23 17:28 Cadmium U ND mg/L U ND Calcium mg/L06/17/23 19:11 U ND 06/17/23 17:28 Chromium mg/LU ND Cobalt mg/LU ND mg/L Lead Lithium U ND mg/LU ND Molybdenum mg/L Selenium U ND mg/L U ND Thallium mg/LQC1205433063 625988001 MS 0.0500 U ND 0.0506 101 (75%-125%) 06/17/23 17:39 Antimony mg/L Arsenic 0.0500 U ND 0.0548 mg/L106 (75% - 125%)

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# **QC** Summary

Workorder: 625988 Page 4 of 8 Sample Qual **Parmname NOM** QC Units RPD% REC% Range Anlst Date Time Metals Analysis - ICPMS 2443950 Batch Barium 0.0500 0.0215 0.0714 mg/L 99.8 (75%-125%) PRB 06/17/23 17:39 Beryllium 0.0500 U ND 0.0590 118 (75%-125%) mg/L Boron 0.100 1.50 1.67 mg/L N/A (75%-125%) 06/17/23 18:42 0.0500 0.00361 0.0548 Cadmium mg/L 102 (75%-125%) 06/17/23 17:39 Calcium 2.00 363 389 mg/L N/A (75%-125%) 06/17/23 18:42 0.0500 U ND 0.0491 mg/L (75% - 125%)Chromium 97.7 06/17/23 17:39 0.0500 0.0515 0.100 97.9 Cobalt mg/L (75% - 125%)Lead 0.0500 U ND 0.0485 97.1 (75% - 125%)mg/L 0.0500 0.0625 0.124Lithium mg/L 123 (75%-125%) 0.0500 J 0.000306 0.0540 107 Molybdenum (75% - 125%)mg/L Selenium 0.0500 U ND 0.0557 110 (75%-125%) mg/L Thallium 0.0500 U ND 0.0473 94.4 mg/L (75% - 125%)QC1205433064 625988001 MSD 0.0500 U ND 0.0508 0.351 101 (0%-20%)06/17/23 17:43 Antimony mg/L ND 0.0540 0.0500 U 105 mg/L 1.41 (0%-20%)Arsenic Barium 0.0500 0.0215 0.0701 mg/L 1.88 97.2 (0%-20%)

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# **QC** Summary

625988 Page 5 of 8 **Parmname NOM** Sample Qual QC Units RPD% REC% Range Anlst Date Time Metals Analysis - ICPMS 2443950 Batch Beryllium 0.0500 U ND 0.0589 mg/L 0.115 118 (0%-20%)PRB 06/17/23 17:43 0.100 1.50 1.65 1.3 N/A(0%-20%)06/17/23 18:46 Boron mg/L Cadmium 0.0500 0.00361 0.0548 mg/L 0.0128 102 (0%-20%)06/17/23 17:43 Calcium 2.00 363 381 mg/L 2.15 N/A(0%-20%)06/17/23 18:46 Chromium 0.0500 U ND 0.0492 mg/L 0.183 97.9 (0%-20%)06/17/23 17:43 0.0500 0.0515 0.102 mg/L 102 Cobalt 1.96 (0%-20%)0.0500 U ND 0.0488 97.7 Lead mg/L 0.622 (0%-20%)Lithium 0.0500 0.0625 0.124 123 (0%-20%)mg/L 0.189 0.000306 0.0537 107 Molybdenum 0.0500 J mg/L 0.44 (0%-20%)0.0500 U ND 0.0561 Selenium mg/L0.693 111 (0%-20%)Thallium 0.0500 U ND 0.0482 1.91 96.3 (0%-20%)mg/L QC1205433065 625988001 SDILT U ND U ND 06/17/23 17:50 Antimony ug/L N/A (0%-20%)Arsenic U ND U ND N/A (0% - 20%)ug/L 21.5 J 4.00 Barium ug/L 7.07 (0%-20%)Beryllium U ND U ND ug/L N/A (0%-20%)

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Workorder:

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# **QC** Summary

625988 Page 6 of 8 Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time Metals Analysis - ICPMS 2443950 Batch Boron 75.1 17.0 ug/L 13.4 (0%-20%)PRB 06/17/23 18:49 Cadmium 3.61 J 0.707 ug/L 2.02 (0%-20%)06/17/23 17:50 ug/L Calcium 18100 3540 2.42 (0%-20%)06/17/23 18:49 U ND U ND Chromium ug/L N/A (0%-20%)06/17/23 17:50 Cobalt 51.5 10.7 ug/L 4.04 (0%-20%)U ND ND U (0%-20%)ug/L N/A Lead 62.5 Lithium 11.8 ug/L 5.19 (0%-20%)J Molybdenum 0.306 U ND N/A (0%-20%)ug/L U ND U ND Selenium ug/L N/A (0%-20%)Thallium U ND U ND N/A (0%-20%)ug/L **Metals Analysis-Mercury** 2444300 Batch QC1205433645 625831006 DUP U ND U ND JP2 06/16/23 10:06 Mercury mg/L N/A LCS QC1205433644 0.00200 0.00210 105 (80%-120%) 06/16/23 09:48 Mercury mg/L QC1205433643 MB U Mercury ND 06/16/23 09:46 mg/L

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Workorder:

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# QC Summary

Workorder: 625988 Page 7 of 8 Units **Parmname** NOM Sample Qual QC RPD% REC% Range Anlst Date Time Metals Analysis-Mercury Batch 2444300 QC1205433646 625831006 MS ND 0.00183 mg/L 89.3 0.00200 U (75% - 125%)JP2 06/16/23 10:08 QC1205433647 625831006 SDILT U ND Mercury ND U ug/L N/A (0%-10%)06/16/23 10:09 **Solids Analysis** Batch 2444265 QC1205433571 625877002 DUP U Total Dissolved Solids ND U ND mg/L N/A CH6 06/15/23 14:00 QC1205433567 LCS Total Dissolved Solids 300 302 mg/L 101 (95%-105%) 06/15/23 14:00 QC1205433566 MB ND U **Total Dissolved Solids** mg/L 06/15/23 14:00

#### **Notes:**

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- N Metals--The Matrix spike sample recovery is not within specified control limits
- H Analytical holding time was exceeded
- < Result is less than value reported
- > Result is greater than value reported
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria

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# **QC** Summary

Workorder: 625988

Parmname

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

- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- 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
- N1 See case narrative
- Y Other specific qualifiers were required to properly define the results. Consult case narrative.
- 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.
- B The target analyte was detected in the associated blank.
- 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
- J See case narrative for an explanation

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 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.
- \* 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.

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## Technical Case Narrative Georgia Power Company SDG #: 625988

# **Metals**

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

**Analytical Batch:** 2443950

**Preparation Method:** SW846 3005A

**Preparation Procedure:** GL-MA-E-006 REV# 14

**Preparation Batch:** 2443949

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

<b>GEL Sample ID#</b>	Client Sample Identification
625988001	ARK-AP1PZ-3
625988002	ARK-AP1-EB-01
625988003	ARK-AP1-FB-01
625988004	ARK-AP1-FD-01
1205433061	Method Blank (MB)ICP-MS
1205433062	Laboratory Control Sample (LCS)
1205433065	625988001(ARK-AP1PZ-3L) Serial Dilution (SD)
1205433063	625988001(ARK-AP1PZ-3S) Matrix Spike (MS)
1205433064	625988001(ARK-AP1PZ-3SD) 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 625988001 (ARK-AP1PZ-3) and 625988004 (ARK-AP1-FD-01) were diluted to ensure that the analyte concentrations were within the linear calibration range of the instrument.

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A 1	625988				
Analyte	001	004			
Boron	20X	20X			
Calcium	20X	20X			

**Product:** Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

**Analytical Method:** SW846 7470A

**Analytical Procedure:** GL-MA-E-010 REV# 39

**Analytical Batch:** 2444300

**Preparation Method:** SW846 7470A Prep

**Preparation Procedure:** GL-MA-E-010 REV# 39

**Preparation Batch:** 2444297

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

GEL Sample ID#	<b>Client Sample Identification</b>
625988001	ARK-AP1PZ-3
625988002	ARK-AP1-EB-01
625988003	ARK-AP1-FB-01
625988004	ARK-AP1-FD-01
1205433643	Method Blank (MB)CVAA
1205433644	Laboratory Control Sample (LCS)
1205433647	625831006(NonSDGL) Serial Dilution (SD)
1205433645	625831006(NonSDGD) Sample Duplicate (DUP)
1205433646	625831006(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# 31

**Analytical Batch:** 2444191

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

GEL Sample ID#	Client Sample Identification
625988001	ARK-AP1PZ-3
625988002	ARK-AP1-EB-01
625988003	ARK-AP1-FB-01
625988004	ARK-AP1-FD-01

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1205433468	Method Blank (MB)
1205433469	Laboratory Control Sample (LCS)
1205433470	625884001(NonSDG) Sample Duplicate (DUP)
1205433471	625884001(NonSDG) 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 1205433470 (Non SDG 625884001DUP), 1205433471 (Non SDG 625884001PS), 625988001 (ARK-AP1PZ-3) and 625988004 (ARK-AP1-FD-01) were diluted because target analyte concentrations exceeded the calibration range. Samples 625988001 (ARK-AP1PZ-3), 625988002 (ARK-AP1-EB-01), 625988003 (ARK-AP1-FB-01) and 625988004 (ARK-AP1-FD-01) were diluted to minimize matrix effects on instrument performance. Samples 625988001 (ARK-AP1PZ-3), 625988002 (ARK-AP1-EB-01), 625988003 (ARK-AP1-FB-01) and 625988004 (ARK-AP1-FD-01) were diluted based on historical data. 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.

A a last a	625988				
Analyte	001	004			
Chloride	5X	5X			
Fluoride	5X	5X			
Sulfate	100X	100X			

**Product:** Solids, Total Dissolved **Analytical Method:** SM 2540C

**Analytical Procedure:** GL-GC-E-001 REV# 20

**Analytical Batch:** 2444265

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

GEL Sample ID#	Client Sample Identification
625988001	ARK-AP1PZ-3
625988002	ARK-AP1-EB-01
625988003	ARK-AP1-FB-01
625988004	ARK-AP1-FD-01
1205433566	Method Blank (MB)
1205433567	Laboratory Control Sample (LCS)
1205433571	625877002(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.

## **Miscellaneous Information**

#### **Additional Comments**

Sample filtration took > 10 minutes; therefore as prescribed in the method, a reduced aliquot was used. 625988001 (ARK-AP1PZ-3) and 625988004 (ARK-AP1-FD-01). A reduced aliquot was used due to limited volume. The client did not provide an entire 1 liter aliquot. 1205433571 (Non SDG 625877002DUP).

#### **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 22 of 26 SDG: 625988 Rev1

Regject # 175569434		2 III	Lab	Oratc   Radiocher	Laboratories LLC Chemistry   Radiochemistry   Radiophoassay   Specialty Analytics   100 Sq 88	LC	Specialty A	)	30	125988 125986	2000		2040 S Charle	2040 Savage Road Charleston, SC 294	2040 Savage Road Charleston, SC 29407	-		<del></del>
COC Number (1).			of Custo	dy and	Chain of Custody and Analytical Request	al Requ	est		8	-	)		Phone	(843)	Phone: (843) 556-8171	71		
P@Number:	GEL Work Order Number:		GEI	L Project !	GEL Project Manager: Erin Trent	Erin Tre	nt						Fax: (8	43) 76	Fax: (843) 766-1178			
(Hent Name: Georgia Power		Phone # (937-34	44-6533)			San	Sample Ans	lysis	Reque	Analysis Requested (5)	100000	II in th	ne nur	nber o	fconta	iners fc	(Fill in the number of containers for each test)	
Poject/Site Name: Plant Arkwright Ash Pond 1		Fax:			Should this	1	IN	IN				IN	IN	IN	IN		< Preservative Type (6)	(9)
Address: 241 Ralph McGill Blvd SE, Atlanta, GA 30308	4 30308				sample be	e pe		(BI			3		pc	1 5	No see			
Collected By: Bryan Pennell	Send Results To: jabraham@southernco.com EDD@stantec.com brian.steele@stantec.com edgar.smith@stantec.com	hernco.com EDD mith@stantec.con	@stantec.cc	шо	A GOOD ST	rds		111 (6020	(1	(D(	2.1 199		.28 Cm				Comments	
Sample ID  * For composites - indicate start and stop date/time	*Date Collected (nm-dd-yy)	*Time Collected (Military) (hhmm) Code	QC Field Code (2) Filtered (3)	J Sample J (3) Matrix (4)	Radioactive yes, please sur isotopic info.)	(7) Known or possible Haza	Total number	Metals App.	Alkalinity R2.	TDS (SM 2540	Anions (Cl, I (300.0 Rev.	A slataM )202)	KVD 559-5	Mercury ( Metals Al	Ма, Fe, Мп	<u>.</u>	( task_code: ARK-CCR- ASSMT-2023S1 )	CCR-
ARK-AP1PZ-3-20230613	6/13/2023	1308 N	Z	GW	z	OT	9	×		×	×	×	×	×		pH:	5.57	
ARK-AP1-EB-01-20230613	6/13/2023	1405 EB	z	W	z	OT	9	×						×		12.00		
ARK-AP1-FB-01-20230613	6/13/2023	1420 FB	z	×	z	OT	9	×						×				
ARK-AP1-FD-01-20230613	6/13/2023	FD	z	GW	z	OT	9	×						×				
				•														
			A		1													
			2	Y'														
				5.			+											
					25/6/20					1	T	1						
															1	S PAGE		
C	Chain of Custody Signatures					TAT	TAT Requested:		Normal:		Rush		X_S	Specify:			(Subject to Surcharge)	ge)
Relinquished By (Signed) Print Name	Date Received by (signed)	ned) Print Name	Vame 7 7 7	Date	H	Fax Results: [ ] Yes	S: [ ] Ye					1 1		1 1			1	
		110	3	12	Ş	Select Deliverable: [	verable:		C of A	[ ] QC Summary	Sumn	02	[ ] level 1		[X] Level 2	el 2	] Level 3 [ ] Level 4	914
	2 2				4,	Additional Remarks	Remarks						- 1	- 1			-	
5 For cample chiming and delivery defails see Sample Descript 2. Desires from (SDD)	Cample Descript & Daview form	(das)			Samule Collection Time Zone : [X] Hastern	For Lab Receiving Use Only: Custody Seal Intact?	eceiving	Use O	nly: C	ustody	Seal Intac	Intact	_	] Yes [	$\neg$	No Cooler	Cooler Temp: °C	
.) 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 Dielered: For Iquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.	rield Duplicate, <b>EB</b> = Equipment Blank, Ir wes the sample was field filtered or - N	MS = Matrix Spike S for sample was not	Sample, MSE	O = Matrix Spi	ike Duplicate S	Sample, G =	Grab, C=	composi	9									
.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, WL=Wise Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filler, 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).	SW=Surface Water, WW=Waste Water, i.e. 8260B, 6010B/7470A) and number	W=Water, ML=Miss of containers provide	c Liquid, SO	=Soil, <b>SD</b> =Se	diment, <b>SL</b> =Sl, 6010B/7470A	ludge, SS=S	olid Waste,	0=0il,	F=Filter	P=Wip	ie, U=U	rine, F=	Fecal, N	(=Nasal				
Tress valve 1 pc. na = nyucchionic Acid, ni = nutre Acid, sn = sodium rydroxide, sn = sulture Acid, na = Ascorbic Acid, na = heave field blank    KNOWN OR POSSIBLE HAZARDS	Characteristic Hazards	Listed Waste	orbic Acid, F	1X = Hexane,	SI = Sodium	m Thiosulfate,	It no prese	vative ii	s added	= leave i	ield bla	k k		PI	lease pr	ovide a	Please provide any additional details	S
CCRA Metals  Is = Arsenic Hg= Mercury  Ba = Barium Se= Selenium  Ag= Silver	FL = Flammable/Ignitable CO = Corrosive RE = Reactive TSCA Regulated	LW= Listed Waste (F,K,P and U-listed wastes.) Waste code(s):	Waste U-listed w s):	astes.)		OT= Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:	r / Unkno Iow pH, e h hazard: n:	sbestc , etc.)	ss, ber	ıllium,	irrita	nts, ot	her	be of	low reg	arding (i.e.: Ulected)	below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)	sposal type etc.)
r = Chromium MK= Misc. RCRA metals h = Lead	PCB = Polychlorinated biphenyls																	

Laboratories LLC SAMPLE RECEIPT & REVIEW FORM SDG/AR/COC/Work Order; (025988 / 625920 Received By: SNS Date Received: FedEx Express FedEx Ground UPS Field Services Courier Other Carrier and Tracking Number 399598403522-10 3511-1c \*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation. Yes ŝ Suspected Hazard Information UN#: Hazard Class Shipped: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes\_\_\_No\_\_\_ A)Shipped as a DOT Hazardous? COC notation or radioactive stickers on containers equal client designation. B) Did the client designate the samples are to be received as radioactive? CPMy mR/Hr Maximum Net Counts Observed\* (Observed Counts - Area Background Counts): C) Did the RSO classify the samples as Classified as: Rad 1 Rad 2 Rad 3 radioactive? COC notation or hazard labels on containers equal client designation. D) Did the client designate samples are hazardous? If D or E is yes, select Hazards below. Foreign Soil RCRA Asbestos Beryllium Flammable PCB's E) Did the RSO identify possible hazards? Comments/Qualifiers (Required for Non-Conforming Items) Xes ž Sample Receipt Criteria Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Shipping containers received intact and 1 sealed? Circle Applicable: Client contacted and provided COC COC created upon receipt Chain of custody documents included 2 with shipment? Preservation Method. Wet Ice Ice Packs Dry ice None Other: TEMP: \*all temperatures are recorded in Celsius Samples requiring cold preservation 3 within  $(0 \le 6 \text{ deg. C})$ ?\* Temperature Device Serial #: R1-23 Daily check performed and passed on IR Secondary Temperature Device Serial # (If Applicable): temperature gun? Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Sample containers intact and sealed? Sample ID's and Containers Affected: Samples requiring chemical preservation 6 at proper pH? If Preservation added, Lot#: 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) Do any samples require Volatile Are liquid VOA vials free of headspace? Yes No NA 7 Analysis? Sample ID's and containers affected: ID's and tests affected: Samples received within holding time? ID's and containers affected: Sample ID's on COC match ID's on 9 bottles? Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) Date & time on COC match date & time 10 on bottles? Circle Applicable: No container count on COC Other (describe) Number of containers received match 11 number indicated on COC? Are sample containers identifiable as 12 GEL provided by use of GEL labels? Circle Applicable: Not relinquished Other (describe) COC form is properly signed in relinquished/received sections? Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials Mag Date Coll S 23 Page of

List of current GEL Certifications as of 30 June 2023

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 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	SC000122023-4
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



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

July 12, 2023

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

Re: Arkwright CCR Groundwater Compliance AP1 Work Order: 625989

Dear Joju Abraham:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 14, 2023. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. Georgia Power EQuIS Database Manager requested GEL Project Manager correct the sample IDs by removing the dates. These updates ensure the sample nomenclature is consistent on final PDF & EDD and successful upload to database,

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

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.

Erin & Tuent

Erin Trent Project Manager

Purchase Order: GPC82177-0005

Enclosures



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## Certificate of Analysis Report for

GPCC001 Georgia Power Company Client SDG: 625989 GEL Work Order: 625989

## 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 Erin S. Juent

Page 2 of 14 SDG: 625989 Rev1

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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: July 12, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

GPCC00100 GPCC001 Client Sample ID: ARK-AP1PZ-3 Project: Sample ID: Matrix: 625989001 Client ID:

WG

Collect Date: 13-JUN-23 Receive Date: 14-JUN-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF	Analys	Date 1	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting  GFPC Ra228, Liquid "As Received"														
Radium-228	U	0.0108	+/-0.698	1.37	+/-0.698	3.00	pCi/L			JE1	06/23/23	1509	2445900	1
Radium-226+Radium	-228 Calcular	tion "See Pa	rent Produci	<i>'s''</i>										
Radium-226+228 Sum		1.53	+/-0.981	1.37	+/-1.04		pCi/L		1	LXB3	07/06/23	1001	2448609	2
Rad Radium-226 Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		1.52	+/-0.690	0.533	+/-0.771	1.00	pCi/L			LXP1	06/27/23	0810	2445887	3

The following Analytical Methods were performed Description

1 EPA 904.0/SW846 9320 Modified Calculation

EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2445900	76.5	(15%-125%)

#### **Notes:**

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor **RL**: Reporting Limit Lc/LC: Critical Level

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

Page 3 of 14 SDG: 625989 Rev1

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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: July 12, 2023

GPCC00100

GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

ARK-AP1-EB-01 Client Sample ID: Project: Sample ID: Client ID: 625989002 Matrix: WQ

Collect Date: 13-JUN-23 Receive Date: 14-JUN-23 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	<b>Batch</b>	Mtd.
Rad Gas Flow Proport GFPC Ra228, Liquid		0										
Radium-228	U	0.605	+/-1.44	2.53	+/-1.45	3.00	pCi/L		JE1	06/23/23 1509	2445900	1
Radium-226+Radium	ı-228 Calculai	tion "See Pa	rent Produc	ts"								
Radium-226+228 Sum	U	0.766	+/-1.48	2.53	+/-1.49		pCi/L		1 LXB3	07/06/23 1001	2448609	2
Rad Radium-226  Lucas Cell, Ra226, Liquid "As Received"												
Radium-226	U	0.160	+/-0.352	0.698	+/-0.354	1.00	pCi/L		LXP1	06/27/23 0810	2445887	3

The following Analytical Methods were performed **Description** 

	•
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2445900	78.6	(15%-125%)

#### Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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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: July 12, 2023

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FB-01 Project: GPCC00100 Sample ID: GPCC001 Client ID: 625989003 Matrix: WQ

Collect Date: 13-JUN-23 Receive Date: 14-JUN-23 Collector: Client

Parameter	Qualifier	Result Un	certainty	MDC	TPU	RL	Units	PF	DF Analys	st Date Time	Batch	Mtd.
Rad Gas Flow Proports GFPC Ra228, Liquid		U										
Radium-228	U	1.66	+/-1.26	2.00	+/-1.33	3.00	pCi/L		JE1	06/23/23 1509	2445900	) 1
Radium-226+Radium	-228 Calculat	tion "See Par	rent Produci	ts"								
Radium-226+228 Sum		5.04	+/-1.65	2.00	+/-1.78		pCi/L		1 LXB3	07/06/23 1001	2448609	2
Rad Radium-226 Lucas Cell, Ra226, Li	iquid "As Rece	eived"										
Radium-226		3.39	+/-1.07	0.663	+/-1.19	1.00	pCi/L		LXP1	06/27/23 0848	2445887	3

The following Analytical Methods were performed **Description** 

1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	FPA 903 1 Modified	

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2445900	76.4	(15%-125%)

## Notes:

Method

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 Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

Page 5 of 14 SDG: 625989 Rev1

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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: July 12, 2023

Project:

Client ID:

GPCC00100

GPCC001

Contact: Joju Abraham

Project: Arkwright CCR Groundwater ComplianceAP1

Client Sample ID: ARK-AP1-FD-01
Sample ID: 625989004
Matrix: WG
Collect Date: 13-JUN-23

Receive Date: 13-3-014-23 Collector: 14-JUN-23 Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Ana	yst Date Tir	ne Batch	Mtd.
Rad Gas Flow Proportion GFPC Ra228, Liquid		0										
Radium-228		1.90	+/-1.02	1.46	+/-1.13	3.00	pCi/L		JE1	06/23/23 150	9 2445900	0 1
Radium-226+Radium-	228 Calculat	tion "See Pa	rent Product	s"								
Radium-226+228 Sum		2.44	+/-1.10	1.46	+/-1.20		pCi/L		1 LXE	3 07/06/23 100	1 2448609	9 2
Rad Radium-226 Lucas Cell, Ra226, Lie	quid "As Rece	eived"										
Radium-226		0.540	+/-0.408	0.475	+/-0.419	1.00	pCi/L		LXI	1 06/27/23 084	8 244588	7 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%	<b>Acceptable Limits</b>
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2445900	80.4	(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 FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Report Date: July 12, 2023

Page 1 of 2

**QC** Summary

Client: Georgia Power Company, Southern Company

241 Ralph McGill Blvd NE, Bin 10160

Atlanta, Georgia

Contact: Joju Abraham

Workorder: 625989

Parmname		NOM	Sample (	Juol	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow		NOM	Sample	Juai	<u> </u>	Units	KPD%	KEC 70	Kange Amst	Date Time
Batch	2445900 —									
QC1205436474	625716001 DUP		0.440			G: A			N/A 151	0 < 100 100 1 5 00
Radium-228		U	0.410	U	1.25	pCi/L	0		N/A JE1	06/23/2315:09
		Uncert:	+/-0.944		+/-1.03 +/-1.08					
QC1205436475	LCS	TPU:	+/-0.950		+/-1.08					
Radium-228	LCS	80.4			88.8	pCi/L		111	(75%-125%) JE1	06/22/2215:00
Radiuiii-228		00.4 Uncert:				pCI/L		111	(75%-125%) JEI	06/23/2315:09
		TPU:			+/-4.70					
QC1205436473	MB	IFU.			+/-23.1					
Radium-228	MD			U	0.213	pCi/L			JE1	06/23/2315:09
Radiani 220		Uncert:		C	+/-0.991	реид			021	00/25/2515.07
		TPU:			+/-0.992					
Rad Ra-226		11.0.								
Batch	2445887 —									
QC1205436429	625648001 DUP									
Radium-226		U	0.580		1.33	pCi/L	78.8		(0% - 100%) LXP1	06/27/2309:24
		Uncert:	+/-0.575		+/-0.739	•			,	
		TPU:	+/-0.582		+/-0.781					
QC1205436431	LCS									
Radium-226		26.4			26.5	pCi/L		100	(75%-125%) LXP1	06/27/2309:24
		Uncert:			+/-2.78					
		TPU:			+/-5.69					
QC1205436428	MB									
Radium-226				U	0.326	pCi/L			LXP1	06/27/2309:24
		Uncert:			+/-0.394					
		TPU:			+/-0.400					
QC1205436430	625648001 MS									
Radium-226		127 U	0.580		117	pCi/L		92.1	(75%-125%) LXP1	06/27/2309:24
		Uncert:	+/-0.575		+/-12.9					
		TPU:	+/-0.582		+/-27.6					

#### **Notes:**

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- H Analytical holding time was exceeded
- < Result is less than value reported
- > Result is greater than value reported

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## **QC** Summary

Workorder: 625989 Page 2 of 2 **Parmname** NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time UI Gamma Spectroscopy--Uncertain identification BDResults are either below the MDC or tracer recovery is low Preparation or preservation holding time was exceeded h R Sample results are rejected RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry. N/A RPD or %Recovery limits do not apply. Analyte concentration is not detected above the detection limit ND M M if above MDC and less than LLD Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier NJ

- FA Failed analysis.
- UJ Gamma Spectroscopy--Uncertain identification
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- UL Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- N1 See case narrative
- Y Other specific qualifiers were required to properly define the results. Consult case narrative.
- \*\* Analyte is a Tracer compound
- M REMP Result > MDC/CL and < RDL
- J See case narrative for an explanation

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.

Page 8 of 14 SDG: 625989 Rev1

# Radiochemistry Technical Case Narrative Georgia Power Company SDG #: 625989

**Product:** Radium-226+Radium-228 Calculation

**Analytical Method:** Calculation

Analytical Procedure: GL-RAD-D-003 REV# 45

**Analytical Batch:** 2448609

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

GEL Sample ID#	<b>Client Sample Identification</b>
625989001	ARK-AP1PZ-3
625989002	ARK-AP1-EB-01
625989003	ARK-AP1-FB-01
625989004	ARK-AP1-FD-01

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:** GFPC Ra228, Liquid

<u>Analytical Method:</u> EPA 904.0/SW846 9320 Modified <u>Analytical Procedure:</u> GL-RAD-A-063 REV# 5

**Analytical Batch:** 2445900

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

GEL Sample ID#	Client Sample Identification
625989001	ARK-AP1PZ-3
625989002	ARK-AP1-EB-01
625989003	ARK-AP1-FB-01
625989004	ARK-AP1-FD-01
1205436473	Method Blank (MB)
1205436474	625716001(NonSDG) Sample Duplicate (DUP)
1205436475	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.

Page 9 of 14 SDG: 625989 Rev1

## **Preparation Information**

#### **Homogenous Matrix**

Sample 1205436474 (Non SDG 625716001DUP) was non-homogenous matrix. particles and debris 1205436474 (Non SDG 625716001DUP).

<u>Product:</u> Lucas Cell, Ra226, Liquid <u>Analytical Method:</u> EPA 903.1 Modified

**Analytical Procedure:** GL-RAD-A-008 REV# 15

**Analytical Batch:** 2445887

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

GEL Sample ID#	Client Sample Identification
625989001	ARK-AP1PZ-3
625989002	ARK-AP1-EB-01
625989003	ARK-AP1-FB-01
625989004	ARK-AP1-FD-01
1205436428	Method Blank (MB)
1205436429	625648001(NonSDG) Sample Duplicate (DUP)
1205436430	625648001(NonSDG) Matrix Spike (MS)
1205436431	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, 1205436430 (Non SDG 625648001MS), 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 10 of 14 SDG: 625989 Rev1

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SAMPLE RECEIPT & REVIEW FORM SDG/AR/COC/Work Order: (025988 / 625 Client: GPCC Received By: SNS Date Received: Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other Carrier and Tracking Number \*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation. Yes ŝ Suspected Hazard Information UN#: Hazard Class Shipped: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes\_\_\_No\_\_\_ A)Shipped as a DOT Hazardous? COC notation or radioactive stickers on containers equal client designation. B) Did the client designate the samples are to be received as radioactive? Maximum Net Counts Observed\* (Observed Counts - Area Background Counts): CPM\ mR/Hr C) Did the RSO classify the samples as Classified as: Rad 1 Rad 2 Rad 3 radioactive? COC notation or hazard labels on containers equal client designation. D) Did the client designate samples are hazardous? If D or E is yes, select Hazards below. RCRA Asbestos Beryllium Foreign Soil PCB's Flammable E) Did the RSO identify possible hazards? Comments/Qualifiers (Required for Non-Conforming Items) Yes ž Sample Receipt Criteria Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Shipping containers received intact and 1 Circle Applicable: Client contacted and provided COC COC created upon receipt Chain of custody documents included 2 with shipment? Preservation Method Wet lee Jee Packs Dry ice None Other: TEMP:\_ Samples requiring cold preservation \*all temperatures are recorded in Celsius within  $(0 \le 6 \text{ deg. C})$ ?\* Temperature Device Serial #: IR1-23 Daily check performed and passed on IR Secondary Temperature Device Serial # (If Applicable): temperature gun? Circle Applicable: Scals broken Damaged container Leaking container Other (describe) Sample containers intact and sealed? Sample ID's and Containers Affected: Samples requiring chemical preservation 6 If Preservation added, Lotif: at proper pH? If Yes, are Encores or Soil Kits present for solids 7 Yes No NA (If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes No NA (If unknown, select No) Do any samples require Volatile Are liquid VOA vials free of headspace? Yes\_\_\_ No\_\_ NA\_ 7 Analysis? Sample ID's and containers affected: ID's and tests affected: Samples received within holding time? 8 ID's and containers affected: Sample ID's on COC match ID's on 9 Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) Date & time on COC match date & time 10 on bottles? Circle Applicable: No container count on COC Other (describe) Number of containers received match 11 number indicated on COC? Are sample containers identifiable as 12 GEL provided by use of GEL labels? Circle Applicable: Not relinquished Other (describe) COC form is properly signed in relinquished/received sections? Comments (Use Continuation Form if needed):

> M(9 Date 6/15/23 Page 1 of 1 PM (or PMA) review: Initials \_\_\_\_\_

List of current GEL Certifications as of 12 July 2023

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
Kansas NELAI  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
	9976
Michigan	9976 SC00012
Mississippi Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP New Mexico	SC002
	SC00012
New York NELAP  North Carolina	11501
North Carolina SDWA	233
	45709
North Dakota	R-158
Oklahoma  Danasakasais NELAR	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

## **C.4 Data Quality Evaluation**

Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 2022

## **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**

<u>Laboratory Method Blanks</u>. No contamination was detected in any of the laboratory method blanks with the following exceptions:

## Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 2022

## 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.

<u>Field Blanks</u>. 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+").

## Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 2022

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.

# Stantec Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 2022

## 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.

Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 2022

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

## Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 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

## Stantec Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 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.

## Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528

September 2022

## Table 3a - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARGWC-16 / DUP- 01 (083122, 591798)	Barium	0.0383	0.0397	-3.59	А
	Potassium	3.71	NA	NC	NQ
	Selenium	0.00287 J	NA	NC	NQ
	Boron	0.101	0.11	-8.53	А
	Calcium	42.4	43.2	-1.87	А
	Magnesium	31.9	NA	NC	NQ
	Manganese	0.327	NA	NC	NQ
	Sodium	15	NA	NC	NQ
	Chloride	5.67	5.74	-1.23	А
	Sulfate	243	242	0.41	А
	TDS	375	373	0.53	А
	Alkalinity	19	NA	NC	NQ
2 DDD = //CD DD\*	Bicarbonate	19	NA	NC	NQ

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

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

# Stantec Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 2022

#### Table 3b - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARAMW-4 / DUP-02 (090222, 592011)	Arsenic	0.00339 J	0.00307 J	NC	A*
	Barium	0.0374	0.0358	4.37	А
	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	А
	Magnesium	128	NA	NC	NQ
	Chloride	4.58	4.64	-1.30	А
	Fluoride	0.0590 J	0.0555 J	NC	A*
3 PDD - ((SD - DD)*	Sulfate	1080	1080	0.00	А

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

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

## Georgia Power – Arkwright (AP-1, AP-2, AP-3) ortical Report Nos 591798-592011 592013-592398 592388-5

## Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 2022

Table 3c - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARGWC-23/ DUP- 01 (090622, 592388)	Barium	0.0939	0.0899	4.35	А
	Cobalt	0.000588 J	0.000587 J	NC	A*
	Lithium	0.0578	0.0573	0.87	А
	Magnesium	11.6	NA	NC	NQ
	Manganese	0.417	NA	NC	NQ
	Molybdenum	0.067	0.0677	1.04	А
	Boron	0.458	0.426	7.24	А
	Calcium	65.2	68.4	4.79	А
	TDS	305	294	3.67	А
	Alkalinity	180	NA	NC	NQ
	Bicarbonate	180	NA	NC	NQ
	Chloride	3.73	3.66	1.89	А
	Fluoride	0.362	0.358	NC	A*
<sup>a</sup> RPD = ((SR - DR)*	Sulfate	65.3	66.9	2.42	А

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

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

## Georgia Power – Arkwright (AP-1, AP-2, AP-3)

## Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 2022

## **Table 3d – Field Precision**

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
AP1PZ-4 / DUP-01 (090622, 592398)	Barium	0.0426	0.043	-0.93	А
	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	А
	Boron	3.72	3.68	1.08	А
	Calcium	370	381	-2.93	А
	TDS	2210	2230	-0.90	А
	Chloride	5.1	5.13	-0.59	А
	Fluoride	0.249	0.243	NC	A*
a DDD = //CD DD\*	Sulfate	1420	1430	-0.70	А

 $<sup>^{</sup>a}$  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

## Stantec Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591798-592011, 592013-592398, 592388-592528 September 2022

#### Table 3e - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
AP1PZ-11/ DUP-02 (090822, 592528)	Barium	0.0221	0.0216	2.29	А
	Molybdenum	0.00136	0.00116	NC	A*
	Boron	0.163	0.158	3.12	А
	Calcium	27.3	26.7	2.22	А
	TDS	198	199	-0.50	А
	Chloride	1.45	1.41	2.80	А
	Fluoride	0.173	0.176	NC	A*
	Sulfate	52.3	52.9	-1.14	А

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

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

Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591802-592012, 592014-592399, 592534-592396 October 2022

## **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**

<u>Laboratory Method Blanks</u>. No contamination was detected in any of the laboratory method blanks.

<u>Field Blanks</u>. Field blanks were analyzed for the full suite of sample analyses and all analytes were not detected with the following exceptions:

SDG 591802 & 592012

## Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591802-592012, 592014-592399, 592534-592396 October 2022

 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.

# Stantec Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591802-592012, 592014-592399, 592534-592396 October 2022

## 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.

Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591802-592012, 592014-592399, 592534-592396 October 2022

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

# Stantec Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591802-592012, 592014-592399, 592534-592396 October 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

## Georgia Power – Arkwright (AP-1, AP-2, AP-3)

## Analytical Report Nos. 591802-592012, 592014-592399, 592534-592396 October 2022

#### Table 3a - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARGWC-16 / DUP- 01 (083122, 591802)		-0.688 U	0.202 U	NC	A*
	Radium 226	0.493	1.8	NC	A*
	Radium 226+228	0.493	2	NC	A*

aRPD = ((SR - DR)\*200)/(SR + DR)

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 <sup>a</sup>	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*

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

NA - Not analyzed

NC - Not calculated

NQ - Not qualified

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.

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.

## Georgia Power – Arkwright (AP-1, AP-2, AP-3)

## Analytical Report Nos. 591802-592012, 592014-592399, 592534-592396

## October 2022

#### Table 3c - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARGWC-23/ DUP- 01 (090622, 592399)		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*

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

- 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 <sup>a</sup>	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*

aRPD = ((SR - DR)\*200)/(SR + DR)

- J Estimated detected.
- NA Not analyzed
- NC Not calculated
- NQ Not qualified

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.

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.

## Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 591802-592012, 592014-592399, 592534-592396

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#### **Table 3e – Field Precision**

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	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*

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

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

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# **DATA USABILITY SUMMARY**

Steven Elliott (Stantec) reviewed three data packages from GEL Laboratories (GEL) for the analysis of water samples collected from January 31 to February 7, 2023, 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 1.4°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**

<u>Laboratory Method Blanks</u>. No contamination was detected in any of the laboratory method blanks with the following exceptions:

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#### SDG 609413

All method blank results were reported as not detected.

#### SDG 609435 & 609153

Molybdenum was detected in the method blank in batch 2378599 at a concentration of 0.000288 mg/L. All associated sample results were reported as detected at concentrations greater than 10 times the blank and therefore no qualification was necessary.

#### SDG 610040 & 609424 & 609518

- Manganese was detected in the method blank in batch 2381090 at a concentration of 0.00113 mg/L. No qualification was required for associated sample results reported as greater than 10 times the blank concentration. Associated sample results reported at concentrations less than 10 times the blank concentration have been qualified as estimated.
- Molybdenum was detected in the method blank in batch 2378519 at a concentration of 0.000221 mg/L. No qualification was required for associated sample results reported as greater than 10 times the blank concentration. Associated sample results reported at concentrations less than 10 times the blank concentration have been qualified as estimated.

<u>Field Blanks</u>. Field blanks were analyzed for the full suite of sample analyses and all analytes were not detected with the following exceptions:

#### SDG 609413

 Sulfate was detected in the equipment blank ARK-AP1-FB-02 (02/01/2023) at a concentration above the laboratory Reporting Limit (RL). No qualification was required for associated sample results reported as greater than 10 times the blank concentration. One sample (ARK-AP1GWA-2) had a reported value less than 10 times the blank concentration and has been qualified as estimated.

#### SDG 609435 & 609153

- Calcium was detected in the field blank ARK-AP2-FB-03 (01/31/2023) 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.
- Chloride was detected in the equipment blank ARK-AP2-EB-03 (01/31/2023) 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.
- Fluoride was detected in the equipment blank ARK-AP2-EB-03 (01/31/2023) at a concentration below the RL. Nine samples (ARK-ARGWC-21, ARK-ARGWA-19, ARK-ARAMW-7, ARK-ARGWC-23, ARK-AP2-FD-03, ARK-ARGWC-22, ARK-ARAMW-2, ARK-ARAMW-1, and ARK-ARAMW-8) had reported values less than 10 times the blank concentration and have been qualified as estimated.

#### SDG 610040 & 609424 & 609518

Chloride was detected in the field blank ARK-AP3-FB-04 (02/02) at a concentration below the RL.
 Associated sample results were reported as detected greater than 10 times the blank concentration
 and therefore no qualification was necessary.

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- Chloride was detected in the field blank ARK-AP3-FB-05 (2/2) 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.
- Chloride was detected in the equipment blank ARK-AP3-EB-04 (2/3) at a concentration below the RL. Associated sample results were reported as detected greater than 10 times the blank concentration and therefore no qualification was necessary.
- Chloride was detected in the equipment blank ARK-AP3-EB-05 (2/3) 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.
- Fluoride was detected in the equipment blank ARK-AP3-EB-05 (2/3) at a concentration below the RL. Three samples (ARK-ARGWA-3, ARK-AP3-FD-04, ARK-ARGWC-15) had reported values less than 10 times the blank concentration and have been qualified as estimated.

# **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 609413

All matrix spike recoveries were with laboratory limits.

#### SDG 609435 & 609153

• All matrix spike recoveries were with laboratory limits.

#### SDG 610040 & 609424 & 609518

• Beryllium had a high percent recovery in the MS and the post spike in sample ARK-ARGWA-3. Beryllium has been qualified as estimated ("J") in this sample.

# **Laboratory Duplicates**

Appropriate analytical duplicates were analyzed and RPDs were within the laboratory acceptance criteria with the following exceptions:

- Fluoride had a high laboratory duplicate RPD in sample ARK-ARAMW-8and has been qualified as estimated ("J") in this sample.
- TDS had a high laboratory duplicate RPD in sample ARK-ARGWC-9 and has been qualified as estimated ("J") in this sample.

#### Field Precision

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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.

# Stantec Georgia Power – Arkwright (AP-1, AP-2, AP-3)

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Table 1 – Cross-Reference between Laboratory and Field Identifications

Field Identification	Laboratory Identification	SDG	Sample Date
ARK-AP1-FB-02	609413001	609413	02/01/2023
ARK-AP1GWA-1	609413002	609413	02/01/2023
ARK-AP1-EB-02	609413003	609413	02/01/2023
ARK-AP1PZ-1	609413004	609413	02/01/2023
ARK-AP1GWA-2	609413005	609413	02/01/2023
ARK-AP1-FD-01	609413006	609413	02/01/2023
ARK-AP1-FD-02	609413007	609413	02/01/2023
ARK-AP1PZ-2	609413008	609413	02/01/2023
ARK-AP1PZ-6	609413009	609413	02/01/2023
ARK-AP1PZ-10	609413010	609413	02/01/2023
ARK-AP1PZ-4	609413011	609413	02/01/2023
ARK-AP1PZ-11	609413012	609413	02/01/2023
ARK-AP1PZ-7	609413013	609413	02/01/2023
ARK-AP1PZ-8	609413014	609413	02/01/2023
ARK-AP1PZ-9	609413015	609413	02/01/2023
ARK-AP1-FB-01	609413016	609413	02/01/2023
ARK-AP1PZ-5	609413017	609413	02/01/2023
ARK-AP1-EB-01	609413018	609413	02/01/2023
ARK-AP2-FB-03	609153001	609153	01/31/2023
ARK-AP2-EB-03	609153002	609153	01/31/2023
ARK-ARGWC-21	609153003	609153	01/31/2023
ARK-ARGWA-19	609153004	609153	01/31/2023
ARK-ARAMW-7	609153005	609153	01/31/2023
ARK-ARGWC-23	609153006	609153	01/31/2023
ARK-AP2-FD-03	609153007	609153	01/31/2023
ARK-ARGWC-22	609153008	609153	01/31/2023
ARK-ARAMW-2	609153009	609153	01/31/2023
ARK-ARAMW-1	609153010	609153	01/31/2023
ARK-ARAMW-8	609153011	609153	01/31/2023
ARK-ARGWA-20	609435001	609435	
ARK-ARAMW-9	609435002	609435	02/01/2023
ARK-ARGWA-20	609435003	609435	02/01/2023
ARK-ARGWC-18	609424001	609424	02/02/2023
ARK-ARGWA-24	609424002	609424	02/02/2023
ARK-ARGWC-8	609424003	609424	02/02/2023
ARK-AP3-FB-04	609424004	609424	02/02/2023
ARK-ARAMW-3	609424005	609424	02/02/2023
ARK-ARGWA-12	609424006	609424	02/02/2023
ARK-AP3-FB-05	609424007	609424	02/02/2023
ARK-ARGWC-7	609424008	609424	02/02/2023
ARK-ARAMW-6	609424009	609424	02/02/2023
ARK-ARGWC-16	609424010	609424	02/02/2023

# Stantec Georgia Power – Arkwright (AP-1, AP-2, AP-3)

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Table 1 – Cross-Reference between Laboratory and Field Identifications

Field Identification	Laboratory Identification	SDG	Sample Date
ARK-ARGWC-9	609424011	609424	02/02/2023
ARK-ARGWC-10	609424012	609424	02/02/2023
ARK-AP3-EB-04	609518001	609518	02/03/2023
ARK-AP3-EB-05	609518002	609518	02/03/2023
ARK-ARGWA-3	609518003	609518	02/03/2023
ARK-AP3-FD-04	609518004	609518	02/03/2023
ARK-ARGWC-15	609518005	609518	02/03/2023
ARK-ARGWC-17	609518006	609518	02/03/2023
ARK-ARGWA-5	609518007	609518	02/03/2023
ARK-ARGWA-13	609518008	609518	02/03/2023
ARK-ARGWA-14	610040001	610040	02/07/2023
ARK-ARAMW-4	610040002	610040	02/07/2023
ARK-AP3-FD-05	610040003	610040	02/07/2023

# Stantec Georgia Power – Arkwright (AP-1, AP-2, AP-3) Analytical Report Nos. 609413, 609435, 609153, 610040, 609424, 609518 February 2023

# **Table 2 – Qualified Analytical Data**

Field Identification	Analyte	Qualification	Reason for Qualification
ARK-ARGWA-14	Manganese	J	Method blank detection
ARK-ARGWC-18	Molybdenum	J	Method blank detection
ARK-ARAMW-3	Molybdenum	J	Method blank detection
ARK-ARGWA-12	Molybdenum	J	Method blank detection
ARK-AP1GWA-2	Sulfate	J	Field blank detection
ARK-ARGWC-21	Fluoride	J	Field blank detection
ARK-ARGWA-19	Fluoride	J	Field blank detection
ARK-ARAMW-7	Fluoride	J	Field blank detection
ARK-ARGWC-23	Fluoride	J	Field blank detection
ARK-AP2-FD-03	Fluoride	J	Field blank detection
ARK-ARGWC-22	Fluoride	J	Field blank detection
ARK-ARAMW-2	Fluoride	J	Field blank detection
ARK-ARAMW-1	Fluoride	J	Field blank detection
ARK-ARAMW-8	Fluoride	J	Field blank detection
ARK-ARGWA-3	Fluoride	J	Field blank detection
ARK-AP3-FD-04	Fluoride	J	Field blank detection
ARK-ARGWC-15	Fluoride	J	Field blank detection
ARK-ARGWA-3	Beryllium	J	High MS and PS %R
ARK-ARAMW-8	Fluoride	J	High LD RPD
ARK-ARGWC-9	TDS	J	High LD RPD

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.

# Georgia Power – Arkwright (AP-1, AP-2, AP-3)

# Analytical Report Nos. 609413, 609435, 609153, 610040, 609424, 609518 February 2023

Table 3a - Field Precision

Field		Sample Result	Duplicate		
Identification	Analyte	(mg/L)	Result (mg/L)	RPD <sup>a</sup>	Qualified
ARK-AP1-FD-01	Sulfate	2380	2410	1.25	Α
/ AP1PZ-6	Chloride	8.13	8.08	0.62	Α
•	Fluoride	0.0718	0.0619	<5*RL, <2*RL	A*
	Boron	7.69	7.66	0.39	Α
	Calcium	494	476	3.71	Α
	Arsenic	0.00249	0.00236	<5*RL, <2*RL	A*
	Barium	0.0225	0.0215	4.55	Α
	Beryllium	0.000829	0.000776	<5*RL, <2*RL	A*
	Cobalt	0.421	0.405	3.87	Α
	Lithium	0.00849	0.00895	<5*RL, <2*RL	A*
	TDS	3800	3120	19.65	А

 $<sup>^{</sup>a}$  RPD = ((SR - DR)\*200)/(SR + DR)

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 <sup>a</sup>	Qualified
ARK-AP1-FD-02	Sulfate	1380	1380	0.00	Α
/ AP1PZ-4	Chloride	5.15	5.07	1.57	А
,	Fluoride	0.143	0.202	<5*RL, <2*RL	A*
	Boron	3.99	4.01	<5*RL, <2*RL	A*
	Calcium	394	394	0.00	А
	Barium	0.0394	0.039	1.02	А
	Cobalt	0.000752	0.000739	<5*RL, <2*RL	A*
	Lithium	0.00621	0.00628	<5*RL, <2*RL	A*
	Molybdenum	0.0036	0.0035	<5*RL, <2*RL	A*
	TDS	2190	2120	3.25	А

 $<sup>^{</sup>a}$  RPD = ((SR - DR)\*200)/(SR + DR)

NA - Not analyzed

NC - Not calculated

NQ – Not qualified

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.

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.

# Georgia Power – Arkwright (AP-1, AP-2, AP-3)

# Analytical Report Nos. 609413, 609435, 609153, 610040, 609424, 609518 February 2023

Table 3c - Field Precision

Field		Sample Result	Duplicate		
Identification	Analyte	(mg/L)	Result (mg/L)	RPD <sup>a</sup>	Qualified
ARK-AP2-FD-03	Sulfate	55.5	55.8	0.54	Α
/ ARGWC-23	Chloride	3.84	3.82	0.52	Α
•	Fluoride	0.551	0.517	6.37	Α
	Boron	0.459	0.468	1.94	Α
	Calcium	69.9	69.6	0.43	Α
	Barium	0.0872	0.0875	0.34	Α
	Cobalt	0.000742	0.000776	<5*RL, <2*RL	A*
	Lithium	0.0499	0.0497	<5*RL, <2*RL	A*
	Molybdenum	0.0671	0.0681	1.48	Α
	TDS	299	284	5.15	Α
	Alkalinity	180	NA	NC	NQ
	Bicarb	180	NA	NC	NQ
	Carbonate	U	NA	NC	NQ

 $<sup>^{</sup>a}$  RPD = ((SR - DR)\*200)/(SR + DR)

NA - Not analyzed

NC - Not calculated

NQ - Not qualified

Table 3d – Field Precision

Field		Sample Result	Duplicate		
Identification	Analyte	(mg/L)	Result (mg/L)	RPD <sup>a</sup>	Qualified
ARK-AP3-FD-04	Sulfate	0.448	0.414	<5*RL, <2*RL	A*
/ ARGWA-3	Chloride	2.67	2.69	0.75	Α
•	Fluoride	0.155	0.16	<5*RL, <2*RL	A*
	Aluminum	0.0833	NA	NC	NQ
	Boron	ND	0.00552	<5*RL, <2*RL	A*
	Calcium	5.79	5.95	2.73	Α
	Manganese	0.00435	NA	NC	NQ
	Potassium	1.04	NA	NC	NQ
	Barium	0.0177	0.0186	4.96	Α
	Chromium	0.0139	0.0125	<5*RL, <2*RL	A*
	Iron	0.162	NA	NC	NQ
	Magnesium	3.92	NA	NC	NQ
	Sodium	8.15	NA	NC	NQ
	Molybdenum	0.000393	0.000288	<5*RL, <2*RL	A*
	TDS	63	65	3.13	Α
	Alkalinity	33	NA	NC	NQ
	Bicarb	33	NA	NC	NQ
	Carbonate	U	NA	NC	NQ

 $<sup>^{</sup>a}$  RPD = ((SR - DR)\*200)/(SR + DR)

NA – Not analyzed

NC - Not calculated

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.

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.

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NQ – Not qualified

Table 3e - Field Precision

Table 3e – Fleid F	Tecision	Comple Besult	Dunlicata		
Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARK-AP3-FD-05	Sulfate	1110	1110	0.00	A
/ ARAMW-4	Chloride	4.85	4.86	0.21	А
	Fluoride	0.038	0.0475	<5*RL, <2*RL	A*
	Aluminum	0.0323 J	NA	NC	NQ
	Boron	0.495	0.487	<5*RL, <2*RL	A*
	Calcium	254	251	1.19	Α
	Manganese	0.771	NA	NC	NQ
	Potassium	11.7	NA	NC	NQ
	Barium	0.0364	0.0369	1.36	Α
	Chromium	ND	NA	NC	NQ
	Cobolt	0.00343	0.00361	<5*RL, <2*RL	A*
	Iron	3.45	NA	NC	NQ
	Lithium	0.0133	0.0133	0.00	A*
	Magnesium	127	NA	NC	NQ
	Sodium	27.5	NA	NC	NQ
	Molybdenum	0.000328	0.00031	<5*RL, <2*RL	A*
	TDS	1690	1680	0.59	Α
	Alkalinity	56.2	NA	NC	NQ
	Bicarb	56.2	NA	NC	NQ
	Carbonate	U	NA	NC	NQ

 $<sup>^{</sup>a}$  RPD =  $((SR - DR)*\frac{1}{200})/(SR + DR)$ 

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

Georgia Power – Arkwright (AP-2, AP-3) Analytical Report Nos. 609439, 609155, 609520, 609431, 610045 March 2023

# **DATA USABILITY SUMMARY**

Steven Elliott (Stantec) reviewed two data packages from GEL Laboratories (GEL) for the analysis of water samples collected from January 31 to February 7, 2023, 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

Fifty (50) groundwater samples, three (3) field blanks, and three (3) equipment 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. Tables 3a through 3c 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  $1.0^{\circ}$ C to  $4.0^{\circ}$ 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

# Stantec Georgia Power – Arkwright (AP-2, AP-3) Analytical Report Nos. 609439, 609155, 609520, 609431, 610045

March 2023

reported as not detected (U) with the following exceptions:

SDG 609439 & 609155

• Radium-228 and Radium 226+228 were detected in the field blank ARK-AP2-FB-03 and equipment blank ARK-AP2-EB-03, both collected 01/31/2023. Associated sample results reported as not detected do not require qualification. Detected sample results with concentrations less than 10 times the blank have been qualified as estimated.

SDG 609520, 609431 & 610045

- Radium-226 was detected in the field blank ARK-AP3-FB-04 collected 02/02/2023. Associated sample results reported as not detected do not require qualification. Detected sample results with concentrations less than 10 times the blank have been qualified as estimated.
- Radium-228 and Radium 226+228 were detected in the field blank ARK-AP3-FB-05 collected 02/02/2023. Associated sample results reported as not detected do not require qualification. Detected sample results with concentrations less than 10 times the blank have been qualified as estimated.
- Radium-226 was detected in the equipment blank ARK-AP3-EB-05 collected 02/03/2023.
   Associated sample results reported as not detected do not require qualification. Detected sample results with concentrations less than 10 times the blank have been qualified as estimated.

#### 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

Field duplicate precision met all project objectives.

# 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.

# Stantec Georgia Power – Arkwright (AP-2, AP-3) Analytical Report Nos. 609439, 609155, 609520, 609431, 610045

March 2023

# 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	SDG	Sample Date
	Identification		
ARK-ARGWA-20	609439001	609439	02/01/2023
ARK-ARAMW-9	609439002	609439	02/01/2023
ARK-AP2-FB-03	609155001	609155	01/31/2023
ARK-AP2-EB-03	609155002	609155	01/31/2023
ARK-ARGWC-21	609155003	609155	01/31/2023
ARK-ARGWA-19	609155004	609155	01/31/2023
ARK-ARAMW-7	609155005	609155	01/31/2023
ARK-ARGWC-23	609155006	609155	01/31/2023
ARK-AP2-FD-03	609155007	609155	01/31/2023
ARK-ARGWC-22	609155008	609155	01/31/2023
ARK-ARAMW-2	609155009	609155	01/31/2023
ARK-ARAMW-1	609155010	609155	01/31/2023
ARK-ARAMW-8	609155011	609155	01/31/2023
ARK-ARGWC-18	609431001	609431	02/02/2023
ARK-ARGWA-24	609431002	609431	02/02/2023
ARK-ARGWC-8	609431003	609431	02/02/2023
ARK-AP3-FB-04	609431004	609431	02/02/2023
ARK-ARAMW-3	609431005	609431	02/02/2023
ARK-ARGWA-12	609431006	609431	02/02/2023
ARK-AP3-FB-05	609431007	609431	02/02/2023
ARK-ARGWC-7	609431008	609431	02/02/2023
ARK-ARAMW-6	609431009	609431	02/02/2023
ARK-ARGWC-16	609431010	609431	02/02/2023
ARK-ARGWC-9	609431011	609431	02/02/2023
ARK-ARGWC-10	609431012	609431	02/02/2023
ARK-ARGWA-14	610045001	610045	02/07/2023
ARK-ARAMW-4	610045002	610045	02/07/2023
ARK-AP3-FD-05	610045003	610045	02/07/2023
ARK-AP3-EB-04	609520001	609520	02/03/2023
ARK-AP3-EB-05	609520002	609520	02/03/2023
ARK-ARGWA-3	609520003	609520	02/03/2023
ARK-AP3-FD-04	609520004	609520	02/03/2023
ARK-ARGWC-15	609520005	609520	02/03/2023
ARK-ARGWC-17	609520006	609520	02/03/2023

# Stantec Georgia Power – Arkwright (AP-2, AP-3) Analytical Report Nos. 609439, 609155, 609520, 609431, 610045 March 2023

ARK-ARGWA-5	609520007	609520	02/03/2023
ARK-ARGWA-13	609520008	609520	02/03/2023

Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
ARK-ARGWC-21	Radium 226+228	J	Field blank detection
ARK-ARGWA-19	Radium 226+228	J	Field blank detection
ARK-ARAMW-7	Radium-228	J	Field blank detection
ARK-ARAMW-7	Radium 226+228	J	Field blank detection
ARK-ARGWC-22	Radium-228	J	Field blank detection
ARK-ARGWC-22	Radium 226+228	J	Field blank detection
ARK-ARAMW-2	Radium-228	J	Field blank detection
ARK-ARAMW-2	Radium 226+228	J	Field blank detection
ARK-ARAMW-1	Radium-228	J	Field blank detection
ARK-ARAMW-1	Radium 226+228	J	Field blank detection
ARK-ARAMW-8	Radium-228	J	Field blank detection
ARK-ARAMW-8	Radium 226+228	J	Field blank detection
ARK-ARGWC-18	Radium 226+228	J	Field blank detection
ARK-ARGWC-18	Radium 226	J	Field blank detection
ARK-ARGWA-12	Radium-228	J	Field blank detection
ARK-ARGWA-12	Radium 226+228	J	Field blank detection
ARK-ARGWC-7	Radium 226	J	Field blank detection
ARK-ARGWC-16	Radium 226	J	Field blank detection
ARK-AP3-FD-04	Radium-226	J	Field blank detection

# Stantec Georgia Power – Arkwright (AP-2, AP-3) Analytical Report Nos. 609439, 609155, 609520, 609431, 610045 March 2023

#### Table 3a - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARK-AP2-FD-	Radium-228	0.139 U	1.91 U	NC	A*
03 / ARK-	Radium	0.859 U	2.82 U	NC	A*
ARGWC-23	226_228				
	Radium 226	0.721	0.903	NC	A*

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

#### Table 3b - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARK-AP3-FD-	Radium-228	1.23 U	1.13 U	NC	A*
04 / ARK-	Radium	1.51 U	1.75 U	NC	A*
ARGWA-3	226_228				
	Radium 226	0.281 U	0.615	NC	A*

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

Table 3c - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARK-AP3-FD-	Radium-228	0.768 U	0.5 U	NC	A*
05 / ARK-	Radium	1.16 U	1.55 U	NC	A*
ARAMW-4	226_228				
	Radium 226	0.396 U	1.05	NC	A*

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

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.

U - Not detected.

NC - Not calculated

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.

U – Not detected.

NC – Not calculated

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.

U – Not detected.

NC – Not calculated

# **DATA USABILITY SUMMARY**

Steven Elliott (Stantec) reviewed one data package from GEL Laboratories (GEL) for the analysis of water samples collected June 13, 2023, 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)

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

Two (2) groundwater samples, one (1) field blank, one (1) equipment blank, and one (1) field duplicate sample 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 a temperature of 1.0°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**

<u>Laboratory Method Blanks</u>. No contamination was detected in any of the laboratory method blanks.

<u>Field Blanks</u>. Field blanks were analyzed for the full suite of sample analyses and all analytes were not detected with the following exceptions:

#### SDG 625988

Chloride was detected in the equipment blank ARK-AP1-EB-01 (06/13/2023) and field blank ARK-AP1-FB-01 (06/13/2023) 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.

# **Laboratory Duplicates**

Appropriate analytical duplicates were analyzed and RPDs were within the laboratory acceptance criteria.

#### Field Precision

One set of field duplicate samples were collected for this sampling event (see Table 3a 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
ARK-AP1PZ-6-20230613	625986001	625986	06/13/2023
ARK-AP1PZ-3-20230616	625988001	625988	06/13/2023
ARK-AP1-EB-01-20230613	625988002	625988	06/13/2023
ARK-AP1-FB-01-20230613	625988003	625988	06/13/2023
ARK-AP1-FD-01-20230613	625988004	625988	06/13/2023

#### **Table 2 – Qualified Analytical Data**

Field Identification	Analyte	Qualification	Reason for Qualification
	None		

J – Estimated data; the reported quantitation limit or sample concentration is approximated due to exceedance of one or more QC requirements.

Table 3a - Field Precision

Table 3a – Fleid Precision					
Field		Sample Result	Duplicate		
Identification	Analyte	(mg/L)	Result (mg/L)	<b>RPD</b> <sup>a</sup>	Qualified
ARK-AP1-FD-01	Sulfate	1330	1350	1.5%	А
/ ARK-AP1PZ-3	Chloride	4.91	4.94	<5*RL, <2*RL	A*
•	Boron	1.50	1.87	22%	Α
	Calcium	363	374	3.0%	А
	Barium	0.0215	0.0212	<5*RL, <2*RL	A*
	Cadmium	0.00361	0.00367	<5*RL, <2*RL	A*
	Cobalt	0.0515	0.0522	1.4%	А
	Lithium	0.0625	0.0633	1.3%	Α
	Molybdenum	0.000306 J	0.000266 J	<5*RL, <2*RL	A*
	TDS	2000	2050	2.5%	А

 $<sup>^{</sup>a}$  RPD = ((SR - DR)\*200)/(SR + DR)

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.

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.

# **DATA USABILITY SUMMARY**

Steven Elliott (Stantec) reviewed two data packages from GEL Laboratories (GEL) for the analysis of water samples collected from June 13, 2023, 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

Two (2) groundwater samples, one (1) field blank, one (1) equipment blank, and one (1) field duplicate sample 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 3c 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 in good condition under wet ice however a temperature was not recorded on the lab sample receipt forms. 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**

<u>Laboratory Method Blanks</u>. No contamination was detected in any of the laboratory method blanks.

<u>Field Blanks</u>. Field blanks were analyzed for the full suite of sample analyses and all analytes were reported as not detected (U) with the following exceptions:

 Radium-226 and Radium 226+228 were detected in the field blank ARK-AP1-FB-01 collected 06/13/2023. Detected sample results with concentrations less than 10 times the blank have been qualified as estimated.

# 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

Field duplicate precision met all project objectives.

# 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
ARK-AP1PZ-3	625989001	625989	06/13/2023
ARK-AP1-EB-01	625989002	625989	06/13/2023
ARK-AP1-FB-01	625989003	625989	06/13/2023
ARK-AP1-FD-01	625989004	625989	06/13/2023
ARK-AP1PZ-6	625987001	625987	06/13/2023

# Table 2 – Qualified Analytical Data

Field Identification	Analyte	Qualification	Reason for Qualification
ARK-AP1PZ-3	Radium 226+228	J	Field blank detection
ARK-AP1PZ-3	Radium 226	J	Field blank detection
ARK-AP1PZ-6	Radium 226+228	J	Field blank detection
ARK-AP1PZ-6	Radium 226	J	Field blank detection

#### Table 3a - Field Precision

Field Identification	Analyte	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD <sup>a</sup>	Qualified
ARK-AP1-FD-	Radium-228	1.90	0.0108	NC	A*
01 / ARK-	Radium	2.44	1.53	NC	A*
AP1PZ-3	226_228				
	Radium 226	0.54	1.52	NC	A*

 $<sup>^{</sup>a}RPD = ((SR - DR)*200)/(SR + DR)$ 

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.

U – Not detected.

NC - Not calculated