

# Assessment of Corrective Measures Report

**Georgia Power Company – Plant Arkwright**

Ash Pond 3 Landfill and Monofill

Project No.: 6122201429

Prepared for:



Atlanta, Georgia

12/4/2020

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## CERTIFICATION STATEMENT

### Assessment of Corrective Measures Report

Plant Arkwright

Ash Pond 3 Landfill and Monofill



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## LIST OF ACROYMNS

ACM	Assessment of Corrective Measures
AP	Ash Pond
ASD	Alternate Source Demonstration
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
EPD	Environmental Protection Division
ft	feet
ft bgs	feet below ground surface
ft/ft	feet per foot
GA EPD	Georgia Environmental Protection Division
GCL	Geosynthetic Clay Liner
GPC	Georgia Power Company
GWPS	Groundwater Protection Standard
ISS	In-Situ Solidification/Stabilization
ISCO	In-Situ Chemical Oxidation
ISCR	In-Situ Chemical Reduction
mg/L	milligrams per liter
MNA	Monitored Natural Attenuation
O&M	Operations and Maintenance
P&T	Pump and Treat
PE	Professional Engineer
PRB	Permeable Reactive Barrier
PWR	Partially Weathered Rock
SSL	Statistically Significant Level
US EPA	United States Environmental Protection Agency
ZVI	Zero Valent Iron

## 1.0 INTRODUCTION

In accordance with the Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10, Wood Environment and Infrastructure Solutions, Inc. (Wood) has prepared this *Assessment of Corrective Measures (ACM)* Report for Georgia Power Company (GPC) Plant Arkwright (the Site) Ash Pond 3 (AP-3) Landfill and Monofill.

Pursuant to GA EPD Rule 391-3-4.10(6)(a), this ACM evaluates potential corrective measures to address the statistically significant levels (SSLs) of molybdenum and cobalt identified in the *2020 Annual Groundwater Monitoring and Corrective Action Report* (Wood, 2020a).

A Notice of ACM was submitted to the GA EPD July 9, 2020 following the exceedance of molybdenum and cobalt identified during the April 2020 sampling event. GPC submitted a 60-day extension until December 4, 2020 for completion of this ACM Report as documented on October 7, 2020.

Three delineation groundwater piezometers were installed to assess the extent of cobalt and molybdenum in groundwater at the Site. Molybdenum is horizontally and vertically delineated to below the groundwater protection standards (GWPS) near well ARGWC-8 that shows SSLs for molybdenum. The SSL of cobalt in well ARGWC-17 is horizontally delineated at downgradient monitoring well ARGWC-18. Vertical delineation of cobalt at ARAMW-4 shows a minor exceedance (0.0046 mg/L in September 2020) above the GWPS of 0.0025 mg/L at delineation piezometer ARAMW-4. Additional sampling to establish a data set for statistical analysis and, if required, well installation will be performed as necessary to meet compliance with GA EPD Rule 391-3-4.10 and reported in the next semi-annual report. A timeline for the reporting is provided in Section 5 of this report.

Georgia Power conducted a human health and ecological risk evaluation to evaluate constituents that exhibit SSLs in groundwater, cobalt and molybdenum, at the AP-3 Landfill and Monofill. The risk evaluation used a conservative, health-protective approach that is consistent with United States Environmental Protection Agency (USEPA) risk assessment guidance, Georgia EPD regulations and guidance, and standard practice for risk assessment in the State of Georgia. As part of the risk evaluation, a well survey of potential groundwater wells within a three-mile radius of AP-3 Landfill and Monofill was conducted and consisted of reviewing federal, state, and county records and online sources, in addition to conducting a windshield survey of the area. The risk evaluation relied on groundwater data collected by Georgia Power from September 2016 to April 2020 in compliance with state CCR rules. Based upon this risk evaluation, which included multiple conservative assumptions, concentrations of cobalt and

molybdenum detected in groundwater at AP-3 Landfill and Monofill are not expected to pose a risk to human health or the environment. The Risk Evaluation Report (Wood, 2020b) and associated well survey are provided as **Appendix A**.

This ACM is the first step in identifying viable corrective measures to address SSLs in groundwater at the AP-3 Landfill and Monofill site. Based on results of the ACM, further evaluation may be performed, site-specific studies completed, and a corrective action plan developed and implemented pursuant to GA EPD Rule 391-3-4-.10(6)(a).

### **1.1 Purpose**

The purpose of this ACM is to begin the process of selecting corrective measure(s) for groundwater at AP-3 Landfill and Monofill. This process is typically iterative and may be composed of multiple steps to analyze the effectiveness of corrective measures to address the potential migration of CCR constituents in groundwater at the AP-3 Landfill and Monofill.

Once potential corrective measures are identified in this ACM, they are further evaluated using the criteria outlined in GA EPD Rule 391-4-.10(6)(a), which states that corrective measures assessment include an analysis of the effectiveness of potential corrective measures that considers the following:

- Performance,
- Reliability,
- Ease of implementation,
- Potential impacts (including safety, cross-media, and exposure)
- Time required to begin and complete the remedy, and
- Any institutional requirements (e.g., permitting or environmental and public health requirements) that could affect implementation of the remedy.

These evaluation criteria are considered for each potential corrective measure. Further evaluation of the technologies, which may include additional field studies, bench testing, and field pilot testing, will be required to select the appropriate corrective measure(s).

### **1.2 Site Location and Description**

Plant Arkwright is located in Bibb County, Georgia approximately 6 miles northwest of the city of Macon (**Figure 1**). The physical address of the plant is 5241 Plant Arkwright Rd, Macon, GA

31210. The AP-3 Landfill was initially constructed as a surface impoundment prior to 1958 but did not receive CCR material from the Plant Arkwright facility until the 1970s. Plant Arkwright was retired in 2002 and decommissioned in 2003. The 46-acre AP-3 Landfill and Monofill is located between Arkwright Road to the east and an industrial area to the west.

Directly to the north of the Site (upgradient) lies a wooded and residential area, and to the south is Beaverdam Creek which flows through a heavily wooded area. The AP-3 Landfill's long axis is approximately half a mile long oriented mostly north south with the short axis being approximately one-tenth of a mile wide. The Ash Monofill lies directly to the east of the AP-3 Landfill with a drainage ditch separating the two units.

### **1.3 Pond Closure**

GPC officially closed the AP-3 Landfill and Monofill in 2010 with EPD's approval and in accordance with the solid waste landfill regulations specified by GA EPD Rule 391-3-4, in effect at the time of its closure. The AP-3 Landfill and Monofill is subject to the requirements of relevant portions of GA EPD Rule 391-3-4-.10. The CCR unit referred to as the AP-3 Landfill and Monofill is defined as an inactive CCR Landfill per GA EPD Rule 391-3-4-.10(2)(a)(3).

Closure construction of the AP-3 Landfill and Monofill utilized a geosynthetic clay liner (GCL) overlain by 18 inches of cover soil. A closure certificate was issued by GA EPD for the AP-3 Landfill and Monofill on August 19, 2010. Corrective measures discussed in this ACM are being evaluated to address SSLs in groundwater at the compliance boundary.

## 2.0 GEOLOGY AND GROUNDWATER FLOW

The following section summarizes the geologic and hydrogeologic conditions at the Plant Arkwright AP-3 Landfill and Monofill as described in the *2020 Annual Groundwater Monitoring and Corrective Action Report* submitted to the GA EPD as part of Georgia's reporting requirements under GA EPD Rule 391-3-4-.10(6)(a).

### 2.1 Geology

The Plant Arkwright Site is located along the southern edge of the Washington Slope physiographic district within the Piedmont Physiographic Province (Clark and Zisa, 1976). The Washington Slope is characterized by a gently undulating surface which generally slopes to the south and southeast toward the Coastal Plain Physiographic Province located approximately 3.8 miles to the southeast of the Site. Streams follow the structure of underlying crystalline rocks eastward toward the Ocmulgee River.

Bedrock in the region is composed of moderate- to high-grade metamorphic rocks, such as biotite-granite gneiss, schist, and amphibolite, and igneous rocks like granite. In the southernmost Piedmont, in the area of the Site, bedrock is predominantly composed of biotite gneiss. The top of bedrock surface is highly weathered, and where exposed, is generally soft and friable (LeGrand, 1962). The Site is generally composed of fine to medium sandy silt to silty sand underlain by silty sand saprolite. Borings performed in the earlier Site investigations indicated extremely weathered quartz-feldspathic gneiss, hornblende gneiss, and schist.

The general geology beneath AP-3 Landfill and Monofill consists of clays, silty and sandy clays, silty sands, sandy silts, and minor gravel at depth, underlain by silty sand saprolite and bedrock. Historic borings indicate bedrock occurs at depths ranging from approximately 14 feet to 63 feet below ground surface and consists of weathered quartzofeldspathic gneiss, hornblende gneiss, and schist. Boring logs also indicate a relatively thin zone of partially weathered rock (PWR) above bedrock which ranges in thickness from 1 to 4 feet in the southern and eastern portions of the Site and up to 14 feet in the northeastern portion of the Site.

### 2.2 Hydrogeology and Groundwater Flow

The uppermost aquifer at the Site consists of two hydrostratigraphic units: the water table hydrostratigraphic unit and the underlying shallow fractured bedrock hydrostratigraphic unit. The water table unit is composed of the unconsolidated silty sands and sandy silts with clays and variable thicknesses of PWR mantling the bedrock surface. The water table unit is hydraulically connected to the underlying bedrock through fractures in the partially weathered

and fractured bedrock. The monitoring well network for the AP-3 Landfill and Monofill (**Figure 2: Monitoring Network Well Location Map**) monitors the water table zone and the shallow weathered and fractured bedrock.

Slug testing data from the uppermost aquifer at the Site reflect a range of horizontal hydraulic conductivities from  $1 \times 10^{-3}$  to  $1 \times 10^{-4}$  centimeters per second. Groundwater level monitoring data from the Site show stable water level trends and the potentiometric maps reflect groundwater generally flowing to the south and southeast across the AP-3 Landfill and Monofill. Potentiometric surface maps are presented in **Figure 3: Potentiometric Surface April 2020**, **Figure 4: Potentiometric Surface August 2020**, and **Figure 5: Potentiometric Surface September 2020** clearly displaying the relatively stable water table at the AP-3 Landfill and Monofill between April 2020 and September 2020.



### 3.0 NATURE AND EXTENT DELINEATION

The following sections describe monitoring-related field and assessment activities performed at the AP-3 Landfill and Monofill to date to delineate the nature and extent of SSLs in groundwater and evaluation of potential corrective measures to address them.

#### 3.1 Groundwater Monitoring & SSL Constituents

In accordance with GA EPD Rule 391-3-4-.10, a groundwater monitoring system was installed at the AP-3 Landfill and Monofill which (1) consists of a sufficient number of wells, (2) is installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer, and (3) represents the groundwater quality both upgradient of the unit (i.e., background conditions) and passing the waste boundary of the unit. The number, spacing, and depths of the groundwater monitoring wells were selected based on the characterization of site-specific hydrogeologic conditions. The monitoring well network was certified by a professional engineer (PE). The certified compliance monitoring well network for AP-3 Landfill and Monofill consists of a total of 13 monitoring wells: 5 upgradient wells and 8 downgradient wells. The locations of the wells for the certified monitoring well network along with the locations of the 3 assessment piezometers are shown on **Figure 2** and well construction details are listed in **Table 1: Summary of Monitoring Network Well Construction Details**. These assessment piezometers are intended to characterize the nature and extent of constituents showing SSLs in the detection monitoring wells. Groundwater is currently monitored in the AP-3 Landfill and Monofill wells under the assessment monitoring program pursuant to GA EPD Rule 391-3-4.10. Additional groundwater monitoring details are provided in the *2020 Annual Groundwater Monitoring and Corrective Action Report* (Wood, 2020a).

##### 3.1.1 SSLs for Appendix IV Constituents

Groundwater monitoring data collected during the semi-annual monitoring event in April 2020 were statistically analyzed pursuant to GA EPD Rule 391-3-4.10(6) and in general accordance with the *US EPA document Statistical Analysis of Groundwater Data at RCRA Facilities Unified Guidance* (Unified Guidance) (US EPA, 2009). Following Georgia CCR Rule requirements, separate GWPS were established for statistical comparisons of Appendix IV assessment monitoring parameters. Appendix IV GWPS are provided in **Table 2: Summary of Groundwater Protection Standards**. Appendix IV parameters detected during the semi-annual monitoring event were compared to GWPS to assess if concentrations in compliance wells statistically exceeded the GWPS. Details regarding the statistical analyses are provided in the *2020 Annual Groundwater and Corrective Action Monitoring Report* (Wood, 2020a). Statistical analyses of the April 2020 analytical data identified SSLs of molybdenum and cobalt the following wells during both sampling events:

- Molybdenum: ARGWC-8
- Cobalt: ARGWC-17

Pursuant to GA EPD Rule 391-3-4.10(6)(a), an ACM was initiated for cobalt and molybdenum for the AP-3 Landfill and Monofill on July 9, 2020. Additionally, a sixty-day extension was submitted to GA EPD on October 7, 2020.

### 3.2 Field Investigation Activities

Subsurface investigations have been conducted at the Site. The results of these subsurface investigations are discussed in the *2019 Semiannual* and *2020 Annual Groundwater Monitoring & Corrective Action Reports*, which included: soil and rock borings, rock coring, piezometer and monitoring well installation, slug testing, and groundwater sampling. Three piezometers (ARAMW-3, ARAMW-4, and ARAMW-6) were installed in November 2019 to assess the extent of groundwater conditions near monitoring wells ARGWC-8 and ARGWC-17. These piezometers were converted to delineation wells and are currently sampled as part of the assessment monitoring program. Detailed boring and well construction logs for these two new wells are provided in **Appendix B: Boring and Well Construction Logs**. The locations of these three delineation wells are shown on **Figure 2** and well construction details are also provided in **Table 1**. Geologic and hydrogeologic cross-sections are presented **Figure 6: Cross Section A-A' and B-B'**, **Figure 7: Cross Section C-C'**, and **Figure 8: Cross Section D-D' and E-E'**

Pursuant to GA EPD Rule 391-3-4.10(6)(a), groundwater in the vicinity of the AP-3 Landfill and Monofill will continue to be monitored during the ACM phase in accordance with the assessment monitoring program established for the CCR unit in November 2019. Groundwater samples were collected from the thirteen monitoring wells in August 2019 and analyzed for the full suite of the Appendix IV parameters per GA EPD Rule 391-3-4.10(6). The thirteen AP-3 Landfill and Monofill groundwater monitoring network wells and the three piezometers were sampled for the full Appendix IV constituent list in August 2020 for assessment monitoring constituent screening. The second 2020 semi-annual sampling event was conducted in September 2020 and the thirteen wells and three piezometers were sampled for Appendix III and detected Appendix IV constituents. This was the first semiannual sampling event for delineation wells ARAMW-3, ARAMW-4, and ARAMW-6. These three delineation piezometers will continue to be sampled to establish a data set for statistical analysis.

To assist in evaluating an alternate source demonstration, the upgradient and downgradient wells and piezometers were sampled in June 2020 and analyzed for boron, fluoride, cobalt, lithium, molybdenum, and geochemical characterization constituents.

Wells ARAMW-3 and ARAMW-6 were initially sampled in January 2020 for molybdenum and boron and ARAMW-4 was sampled for cobalt and boron. ARAMW-4 was resampled in February 2020 to verify cobalt concentrations. The 2020 analytical results reported for the vertical and horizontal delineation wells (ARAMW-3 and ARAMW-6) for well ARGWC-8 show that molybdenum is vertically delineated; as the molybdenum concentrations are below the site-specific molybdenum GWPS. The vertical assessment well (ARAMW-4) for ARGWC-17 shows cobalt concentrations that are slightly above (0.0046 mg/L in September 2020) the site-specific GWPS (0.0025 mg/L) for cobalt. However, additional evaluation of cobalt concentrations over time will be conducted before installing additional vertical delineation wells. Horizontal and vertical delineation of constituents at the AP-3 Landfill and Monofill is depicted in April and September/October 2020 isoconcentration maps presented in **Figure 9: Isoconcentration Map for Cobalt Ash Pond 3 – April 2020**, **Figure 10: Isoconcentration Map for Molybdenum Ash Pond 3 – April 2020**, **Figure 11: Isoconcentration Map for Cobalt Ash Pond 3 – September/October 2020**, and **Figure 12: Isoconcentration Map for Molybdenum Ash Pond 3 – September/October 2020**.

The groundwater analytical results from 2020 are summarized in **Table 3: Summary of Analytical Results**. Laboratory reports associated with the 2020 results are provided in **Appendix C**.

## 4.0 GROUNDWATER CORRECTIVE MEASURES

### 4.1 Objectives of the Corrective Measures

In evaluating the effectiveness of potential corrective measures using the criteria listed in GA EPD Rule 391-3-4.10, including performance, reliability, ease of implementation, potential impacts, remedy duration, and institutional and public health requirements, the following criteria listed in GA EPD Rule 391-3-4.10 must be met by the corrective measure when selected:

- Protect human health and the environment;
- Attain applicable GWPS as specified pursuant to GA EPD Rule 391-3-4.10;
- Control the sources of releases to reduce or eliminate, to the maximum extent feasible, further releases of Appendix IV constituents to the environment;
- Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, considering factors such as avoiding inappropriate disturbance of sensitive ecosystems; and
- Comply with standards for management of wastes as specified in GA EPD Rule 391-3-4.10.

Corrective measures selected for evaluation for potential use at the AP-3 Landfill and Monofill are anticipated to satisfy the above criteria.

### 4.2 Summary of Corrective Measures

The capping of the AP-3 Landfill and Monofill in 2010 is a source control measure that has reduced the potential for migration of CCR constituents to groundwater. Corrective measures discussed in this ACM are being evaluated to address SSLs in groundwater at and downgradient of the compliance boundary of the unit.

This section presents potential corrective measures capable of remediating the Appendix IV groundwater constituents (i.e., cobalt and molybdenum) at the AP-3 Landfill and Monofill. Each corrective measure is evaluated relative to criteria specified in GA EPD Rule 391-3-4.10(6). **Table 4: Evaluation of Remedial Technologies** provides a comparative screening of the corrective measures discussed in Section 4.

The following potential corrective measures are considered in this ACM:

- Geochemical Approaches (In-Situ Injection)

- Hydraulic Containment and Dewatering (Pump and Treat)
- Monitored Natural Attenuation (MNA)
- Permeable Reactive Barrier (PRB)
- Phytoremediation
- Subsurface Vertical Barrier Walls

In-situ solidification/stabilization (ISS) is generally considered a viable option for either small source areas or targeted zones within a larger footprint. The AP-3 Landfill and Monofill covers approximately 46 acres and groundwater flow through bedrock fractures would make ISS not a viable corrective measure for the AP-3 Landfill and Monofill, and no detailed evaluation is provided in Table 4.

#### **4.2.1 Geochemical Approaches (In-Situ Injection)**

In-situ injections of reagents are a remediation technology for inorganic constituents such as molybdenum and cobalt. In-situ injections for inorganic constituents may be applied in three modes that influence solubility, mobility, and/or toxicity of inorganic constituents: (i) oxidation-reduction potential (redox) manipulation; (ii) adsorption to iron and other metal oxyhydroxides or various sulfate compounds under oxidizing groundwater conditions; and (iii) adsorption to, or coprecipitation with, iron or other metal sulfides under reducing conditions. This technology requires understanding of the subsurface transport and (geo)chemical characteristics and a thorough understanding of the reaction kinetics to ensure appropriate reagent dosing is applied to the subsurface. Often this technology is field evaluated in a relatively small area (i.e., a pilot test) to bolster the understanding of these factors prior to remedial selection, design, and/or implementation.

Cobalt and molybdenum can be precipitated and/or immobilized under different combinations of pH and redox conditions. A variety of pH and/or redox-altering technologies is available which can incorporate biological processes, chemical oxidants, and/or mechanical processes such as air sparging. These processes can be used to decrease the mobility of these constituents. Once precipitated, these minerals are often stable even if geochemical conditions revert to a different redox environment. However, if not properly designed and implemented, manipulating redox conditions without forming the desired compounds may increase the mobility of naturally occurring constituents such as iron, manganese, and arsenic.

Air sparging can be used to provide oxygen to the subsurface in an attempt to precipitate (or make more “sorptive”) compounds that are generally more soluble and mobile under reducing conditions. This can also promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of constituents onto these mineral phases such as cobalt and molybdenum.

If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption.

Furthermore, in-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility and/or bioavailability of certain inorganic compounds.

The key process limiting in-situ remedial implementation and effectiveness is the delivery of amendments within the area of interest. Mixing and contact with the target constituents are necessary and can be difficult to achieve in heterogeneous materials and/or fine-grained materials.

While the effectiveness of molybdenum attenuation using in-situ redox manipulations may be limited to some extent, due to slow reaction kinetics, the attenuation of cobalt is expected to occur under both aerobic (via sorption to iron or manganese oxides) and anaerobic conditions (via formation of sulfide minerals). Therefore, in-situ injection is a potentially viable corrective measure for molybdenum and cobalt in groundwater at the AP-3 Landfill and Monofill and will be retained for further evaluation.

#### **4.2.2 Hydraulic Containment and Dewatering (Pump and Treat)**

Generally, hydraulic containment (or control) refers to the use of groundwater extraction to artificially induce a hydraulic gradient and capture or control the migration of impacted groundwater. Groundwater pump and treat (P&T), is often considered to be a viable remedial technology at many sites (US EPA, 1996). This approach uses extraction wells or trenches to capture groundwater, which may subsequently require above-ground treatment and permitted discharge to a receiving water body or sewer system, reinjection into the aquifer, or reuse at the Site. Groundwater P&T is often relatively slow as a means to restore groundwater quality over a long-term period. However, P&T can be effective as a stand-alone remedy, a temporary (interim) measure, or in combination with another measure to provide hydraulic containment to limit constituent migration toward a potential receptor.

Groundwater extraction for hydraulic control can often effectively address the variety of inorganic constituents encountered at CCR sites, including molybdenum and cobalt. Extraction technologies also have the ability to overcome the limitations of in-situ injection-based technologies (i.e., subsurface mixing and contact with affected materials, access to impacted groundwater in lower permeability geologic formations). Space constraints are mainly limited to the above-ground conveyance and treatment component of a P&T system since extraction wells

can generally be installed into relatively tight spaces at the edge of waste or other points of compliance.

Extracted groundwater may need to be treated prior to discharge (depending on discharge permit requirements), but does have the potential to be used for irrigation (e.g., of a cover system or other vegetated areas at Plant Arkwright). Therefore, P&T is a potentially viable corrective measure for molybdenum and cobalt in groundwater at the AP-3 Landfill and Monofill and will be retained for further evaluation.

#### **4.2.3 Monitored Natural Attenuation**

US EPA defines MNA as the reliance on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a time frame that is reasonable compared to that offered by other more active methods. The natural attenuation processes that are at work in such a remediation approach include a variety of physical, chemical, and/or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of constituents in soil or groundwater. These in-situ processes include the following: dispersion; dilution; sorption; volatilization; radioactive decay; and chemical or biological stabilization, precipitation, transformation, or destruction of inorganic constituents (US EPA, 2015).

Attenuation mechanisms for inorganic constituents, such as molybdenum and cobalt are either physical (e.g., dilution, dispersion, flushing, and related processes) or chemical (e.g., sorption or oxidation reduction reactions). Both molybdenum and cobalt undergo sorption to iron and manganese oxides and depending on specific redox conditions, cobalt may also form sparingly soluble sulfide minerals via abiotic or biotic process.

The US EPA uses four phases to establish whether MNA can be successfully implemented for inorganics at a given site. The phases (or steps) include:

1. Demonstration that SSLs in groundwater are delineated and stable or decreasing.
2. Evaluation of the mechanisms and rates of attenuation.
3. Assessment if the capacity of the aquifer is sufficient to attenuate the mass of constituents in groundwater and that the immobilized constituents are stable and will not remobilize.

4. Design of a performance monitoring program based on the mechanisms of attenuation and including a decision framework for consideration of a contingent remedy tailored to site-specific conditions should MNA not perform adequately.

A successful MNA approach requires a good understanding of hydrogeologic conditions and may require additional information and monitoring over an extended period of time. MNA may be a relatively slow remedy to obtain site closure when used in isolation; as such, MNA is frequently used in combination with other remedies, including source control.

MNA is a potentially viable corrective measure for molybdenum and cobalt in groundwater at the AP-3 Landfill and Monofill and will be retained for further evaluation.

#### **4.2.4 Permeable Reactive Barriers**

PRBs typically involve the installation of a permeable subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through. PRBs can be installed in downgradient locations using conventional excavation methods or one-pass trenching method. Excavated trenches are backfilled with reactive media to create a barrier that treats dissolved constituents as they passively flow through the PRB with the groundwater (e.g., ITRC, 2011). These systems can either be constructed as continuous “walls” or as “funnel-and-gate” systems where (impermeable) slurry walls create a “funnel” that directs groundwater to permeable “treatment gates” filled with reactive materials. PRBs are typically keyed into an underlying low-permeability unit such as a clay layer.

PRBs can present a viable alternative for in-situ treatment of cobalt and molybdenum. The technology typically includes reactive media such as ZVI, biologically active media (to induce oxidizing or reducing conditions), or clays, apatite, zeolites, and/or peat moss (to promote ionic exchange and/or sorption). PRBs have proven to be effective in passively treating several inorganic constituents found at CCR sites, including cobalt and molybdenum (Ludwig et al. 2002). The use of PRBs for molybdenum has been tested, but additional site-specific testing is needed to confirm the applicability of this technology to remove molybdenum from groundwater since it has shown early breakthrough with ZVI-type media (Morrison et al., 2006). Careful testing is required to select the appropriate treatment media.

The installation depths of a PRB are generally limited to about 90 ft below ground surface (bgs). The installation of a PRB generally requires more space than extraction wells for a P&T system, but a PRB does not require above-ground treatment components. Therefore, the overall treatment footprint is likely to be smaller compared to a P&T system.



Additional subsurface investigations, reactive media testing, and compatibility testing of groundwater with the components of a PRB are needed to evaluate the feasibility of installing a PRB at the former CCR Unit. Pending these evaluations, the technology is currently considered to be a potentially viable corrective measure to address molybdenum and cobalt in groundwater at the AP-3 Landfill and Monofill and will be retained for further evaluation.

#### 4.2.5 Phytoremediation

Phytoremediation is the use of plants to degrade, immobilize, and/or contain constituents in soil, groundwater, surface water, and sediments. Phytoremediation has emerged as a viable alternative to more active environmental cleanup technologies, especially for large areas with relatively low levels of constituents in shallow soils or groundwater.

In general, the main mechanisms involved in the application of phytoremediation for inorganic constituents include:

- Phytosequestration, which is the ability of plants to sequester constituents in the rhizosphere (an area a few millimeters away from a root surface). This is a containment mechanism.
- Phytohydraulics is the ability of plants to capture and evaporate water. This is hydraulic control of a groundwater plume through plant root uptake and is considered a containment mechanism.
- Phytoextraction is the process of constituent uptake into the plant. This is remediation by removal.

Typically, a combination of these mechanisms acts in concert to achieve successful applications of phytoremediation for inorganic constituents.

The effectiveness of groundwater remediation using traditional phytoremediation approaches may be limited by compacted soil conditions that impede root penetration or target groundwater that is too deep for root access. Given that groundwater wells at the AP-3 Landfill and Monofill that exhibited SSLs for molybdenum and cobalt are screened at depths up to 30 ft bgs, traditional plantings for phytoremediation are not expected to be successful. However, more recently, an engineered approach to phytoremediation, the *TreeWell*® system (a proprietary system developed by Applied Natural Sciences) has been shown to overcome these constraints by utilizing a specialized lined planting unit constructed with optimum planting media designed to promote downward root growth, encourage constituent treatment, and focus groundwater extraction from a targeted depth interval (Gatliff et al., 2016).

By installing a cased “well” for tree planting using large diameter auger technology, extraction of deeper groundwater zones (i.e., in excess of 50 ft bgs) can be achieved since the surface of the “well” is sealed and only groundwater from a targeted zone is allowed into the cased-off borehole. This type of system mirrors a traditional mechanical extraction system using the trees as pumps. The *TreeWell*® system can be used for both hydraulic control of groundwater and for treatment of constituents via degradation (for organic constituents) or immobilization/containment mechanisms (for organic and inorganic constituents). With respect to the specific conditions at the AP-3 Landfill and Monofill, the system would be applied for hydraulic control, but molybdenum and cobalt are expected to be either immobilized within the root zone or incidentally taken up into the tree biomass.

The advantage of an engineered phytoremediation system includes no above-ground water management needs and limited long-term operation and maintenance (O&M) requirements following the establishment of the system. Such systems have been observed to meet design hydraulic control parameters typically within three years of installation. The layout for a phytoremediation remediation system is generally based on groundwater flow modeling.

Based on the site-specific hydrogeology (i.e. relatively slow groundwater velocities observed in the uppermost aquifer) and low levels of cobalt and molybdenum as well as the availability of potential planting area downgradient of ARGWC-8, an engineered phytoremediation approach is a potentially viable corrective measure for SSLs observed in the vicinity of ARGWC-8.

However, the limited physical space for installation of a phytoremediation system between the Ash Monofill and the AP-3 Landfill in the area of ARGWC-17 would limit the effectiveness of the *TreeWell*® system. Thus, a phytoremediation approach will be retained for further evaluation.

#### **4.2.6 Subsurface Vertical Barrier Walls**

Subsurface vertical barrier walls have been used for seep control and groundwater cutoff at impoundments and waste disposal units for more than three decades. In general, barrier walls are designed to provide containment; localized treatment achieved through the sorption or chemical precipitation reactions from construction of the walls are incidental to the design objective.

This approach involves placing a barrier to groundwater flow in the subsurface, frequently around the source area or the downgradient limits of the source area to prevent future migration of dissolved constituents in groundwater from beneath the source to downgradient areas. Barrier walls are typically keyed into a lower confining unit. Barrier walls can also be used in downgradient applications to limit discharge to a surface water or to reduce aquifer recharge

from adjacent surface water features when groundwater extraction wells are placed near a surface water feature. A variety of barrier materials can be used, including cement and/or bentonite slurries or various mixtures of soil with cement or bentonite, geomembrane composite materials, or driven materials such as steel or vinyl sheet pile.

The installation of these low-permeability walls is similar to the methods described for PRBs above. In general, the applicability of slurry walls is limited by the depth installation, which is approximately 90 feet below ground surface. However, site-specific geologic and technology-specific considerations may limit this depth to shallower installations.

Groundwater extraction is typically required upgradient of the barrier wall to maintain an inward hydraulic gradient and avoid groundwater mounding behind the barrier. The extracted groundwater would likely require treatment in an above-ground treatment system.

Additional subsurface investigations may be needed to further evaluate the feasibility as well as the placement of an additional barrier wall at the AP-3 Landfill and Monofill. This technology is considered a potentially viable corrective measure to address molybdenum and cobalt at the AP-3 Landfill and Monofill and will be retained for further evaluation. However, it is more likely to be a component of another application rather than a stand-alone corrective measure.



## 5.0 REMEDY SELECTION PROCESS

The purpose of this ACM is to begin the process of selecting corrective measure(s) for groundwater based on further evaluation using the criteria outlined in GA EPD Rule 391-3-4-.10(6)(a). The following sections present the source control and site management strategy, additional data gathering, schedule, reporting, and next steps. The following describes these components of the remedy process and a conceptual schedule for implementation.

### 5.1 Pond Closure and Site Management Strategy

GPC completed closure of the AP-3 Landfill and Monofill in 2010 in accordance with the solid waste landfill regulations specified by GA EPD Rule 391-3-4, in effect at the time of its closure. In 2010, EPD issued closure certificate 011-025D(LI) for the AP-3 Landfill and Monofill.

The Site conceptual model may need to be refined and/or updated from the current understanding as more data is collected. Georgia Power plans to proactively utilize adaptive site management to support the remedial strategy and address potential changes in site conditions as appropriate. Under an adaptive site management strategy, a remedial approach will be selected whereby: (1) a corrective measure will be installed or implemented to address current conditions, (2) the performance of the corrective measure will be monitored, evaluated, and reported semi-annually, (3) the site conceptual model will be updated as more data are collected, and (4) adjustments and augmentations will be made to the corrective measure(s), as needed to assure that performance criteria and site remedial goals are met.

### 5.2 Additional Data Collection

Additional data collection, analysis, and site-specific evaluation are necessary to refine the conceptual site model and to further evaluate the feasibility of each corrective measure presented herein such that an appropriate groundwater corrective measure may be selected. Some of the data needed to refine the conceptual site model may be collected concurrent with routine groundwater monitoring events under the assessment monitoring program, or during supplementary sampling, if required. However, additional data collection may include aquifer testing, groundwater modeling, material compatibility testing, bench scale studies, and pilot tests may require an estimated one to two additional years to complete. Once sufficient data are available to arrive at a focused number of corrective measures or a combination of corrective measures that would provide an effective groundwater remedy, necessary steps will be taken to implement a remedy at the Site in accordance with GA EPD Rule 391-3-4.10.

### 5.3 Schedule, Reporting, and Next Steps

Additional data collection is anticipated to be initiated in progress and will continue through early 2021 and beyond. A summary of next steps is as follows:

- Statistical evaluation of analytical data at vertical delineation well ARAMW-4 will be performed in late 2020 to early 2021.
- Installation and sampling of additional well to vertically characterize the nature and extent of ARGWC-17 will be performed in early 2021 if required.
- Other field studies and data collection (e.g. slug testing, rock chemistry) will be performed in early 2021.
- Data evaluation for groundwater and/or geochemical modeling will continue through mid-2021.
- Bench testing and/or pilot-scale testing will be evaluated and performed as needed for the remedy selection currently targeted for mid-2022.

Semiannual reporting will document AP-3 Landfill and Monofill groundwater conditions, results associated with additional data collection and the progress in selecting and designing the remedy in accordance with GA EPD Rule 391-3-4.10(6). To align ACM progress reporting with semi-annual reporting, an addendum to this report will be submitted along with the *2021 Semi-Annual Groundwater Monitoring and Corrective Action Report* in February 2021.

## 6.0 REFERENCES

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# **TABLES**



**TABLE 1  
SUMMARY OF MONITORING NETWORK WELL AND PIEZOMETER CONSTRUCTION**

Well	Northing <sup>(1)</sup>	Easting <sup>(1)</sup>	Top of Casing Elevation (feet above MSL) <sup>(2)</sup> (Prior to June 2020 Resurvey)	Top of Casing Elevation (feet above MSL) <sup>(2)</sup> (June 2020 Resurvey)	Ground Surface Elevation (feet above MSL)	Top of Screen Elevation (feet above MSL)	Screen Bottom Elevation (feet above MSL)	Screen Length (feet)	Total Well Depth on Construction Log (ft below land surface)	Total Well Depth Measured June 22, 2016 (feet below TOC) <sup>(3)</sup>	Water Bearing Zone Screened	Location
ARGWA-3	1066899.39	2437431.05	388.61	388.33	386.53	356.2	346.2	10.0	40.5	42.3	Overburden	Upgradient
ARGWA-5	1066885.12	2437209.22	376.45	376.15	373.51	353.8	343.8	10.0	30.0	33.1	Overburden	Upgradient
ARGWA-12	1067003.79	2436788.45	372.56	372.72	369.27	349.2	337.2	12.0	32.3	32.4	Bedrock	Upgradient
ARGWA-13	1065951.25	2438129.93	371.81	371.57	368.10	337.7	327.7	10.0	40.7	43.3	Bedrock	Upgradient
ARGWA-14	1066023.70	2438384.80	388.16	388.25	384.94	339.3	329.3	10.0	56.0	58.2	Bedrock	Upgradient
ARGWC-7	1064410.59	2438355.19	352.25	352.42	348.97	314.2	304.2	10.0	46.5	48.3	Overburden	Downgradient
ARGWC-8	1064521.98	2437572.92	355.70	355.53	352.19	322.6	312.6	10.0	40.5	43.2	Overburden	Downgradient
ARGWC-9	1065139.64	2437297.96	367.38	367.07	363.44	338.6	328.6	10.0	36.5	38.1	Overburden	Downgradient
ARGWC-10	1065419.44	2437192.51	370.87	370.67	367.56	342.6	332.6	10.0	41.5	38.4	Overburden	Downgradient
ARGWC-15	1065475.43	2438360.90	375.90	375.64	371.76	342.1	332.1	10.0	40.0	42.4	Bedrock	Downgradient
ARGWC-16	1065263.69	2438174.15	365.21	364.90	361.52	340.2	330.2	10.0	31.6	34.5	Bedrock	Downgradient
ARGWC-17	1065458.82	2438009.52	368.52	368.24	365.04	344.5	334.5	10.0	30.9	33.9	Overburden	Downgradient
ARGWC-18	1064482.45	2437961.15	354.99	355.20	351.92	314.1	304.1	10.0	48.1	50.7	Overburden	Downgradient
ARAMW-3	1064530.73	2437569.81	355.35	355.39	352.20	298.2	288.2	10.0	64.0	68.90	Overburden	Downgradient
ARAMW-4	1065463.83	2438004.43	367.61	367.86	364.56	320.6	310.6	10.0	54.0	57.70	Overburden	Downgradient
ARAMW-6	1064439.35	2437606.99	337.34	337.46	334.23	314.2	304.2	10.0	30.0	32.37	Bedrock	Downgradient

- Notes:
1. Horizontal locations referenced to Georgia State Plane West, North American Datum of 1983 surveyed in June 2020.
  2. MSL indicates feet above mean sea level and referenced to North American Vertical Datum of 1988

**TABLE 2  
SUMMARY OF GROUNDWATER PROTECTION STANDARDS**

<b>Constituent</b>	<b>Units</b>	<b>MCL</b>	<b>Federal CCR Rules Specified Limit</b>	<b>Site-Specific Background April 2020</b>	<b>State Derived Site GWPS <sup>(2)</sup> April 2020</b>
Antimony	mg/L	0.006		0.0020	0.006
Arsenic	mg/L	0.01		0.0050	0.01
Barium	mg/L	2.0		0.24	2.0
Beryllium	mg/L	0.004		0.0025	0.004
Cadmium	mg/L	0.005		0.0043	0.005
Chromium	mg/L	0.1		0.01	0.1
Cobalt <sup>(1)</sup>	mg/L		0.006	0.0025	0.0025
Fluoride	mg/L	4.0		0.53	4.0
Lead <sup>(1)</sup>	mg/L		0.015	0.013	0.013
Lithium <sup>(1)</sup>	mg/L		0.04	0.0099	0.0099
Mercury	mg/L	0.002		0.0002	0.002
Molybdenum <sup>(1)</sup>	mg/L		0.1	0.015	0.015
Combined Radium	piC/L	5.0		1.10	5.0
Selenium	mg/L	0.05		0.034	0.05
Silver	mg/L			0.0051	0.0051
Thallium	mg/L	0.002		0.001	0.002

Notes:

mg/L - milligrams per liter

piC/L - picoCuries per liter

MCL - Maximum Contaminant Level: The MCL is the GWPS under the Federal CCR Rule unless background is greater.

Federal CCR Rules Specified Limit - Groundwater protection standard specified in the Federal CCR Rule 40 CFR § 257.95 (h) Amendment July 30, 2002  
GWPS - Groundwater Protection Standard

(1) Constituent without an established MCL. The background limits were used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia Environmental Protection Division (EPD) Rule 391-3-4-.10(6)

(2) Under the existing Georgia EPD Rules, the GWPS is: (i) the MCL, (ii) where the MCL is not established, the background concentration, or (iii) background concentrations for constituents where the background level is higher than the MCL.

**TABLE 3  
ANALYTICAL DATA SUMMARY -  
JANUARY 2020 THROUGH OCTOBER 2020**

Substance	Well ID								
	ARGWA-3	ARGWA-3	ARGWA-3	ARGWA-3	ARGWA-5	ARGWA-5	ARGWA-5	ARGWA-5	
	4/7/2020	6/25/2020	8/18/2020	9/29/2020	4/7/2020	6/25/2020	8/18/2020	9/29/2020	
<b>APPENDIX III</b>	<b>Boron</b>	<0.039	<0.039	NA	<0.039	<0.039	<0.039	NA	<0.039
	<b>Calcium</b>	5.5	5.7	NA	5.9	4.0	6.1	NA	6.6
	<b>Chloride</b>	2.9	2.8	NA	2.7	3.7	4.2	NA	4.6
	<b>Fluoride</b>	0.098 J	0.06	<0.026	0.065 J	0.072 J	0.042	<0.026	0.051 J
	<b>Sulfate</b>	0.67 J	1.6	NA	<0.38	<0.38	<0.38	NA	<0.38
	<b>TDS</b>	64	NA	NA	62	65	NA	NA	61
	<b>pH</b>	5.90	5.75	6.47	6.02	5.86	5.87	6.18	6.00
<b>APPENDIX IV</b>	<b>Antimony</b>	<0.00038	NA	<0.00038	NA	<0.00038	NA	<0.00038	NA
	<b>Arsenic</b>	<0.00031	NA	<0.00031	<0.00031	<0.00031	NA	<0.00031	<0.00031
	<b>Barium</b>	0.018	NA	0.021	0.019	0.020	NA	0.031	0.030
	<b>Beryllium</b>	<0.00018	NA	<0.00018	<0.00018	<0.00018	NA	<0.00018	<0.00018
	<b>Cadmium</b>	<0.00022	NA	<0.00022	NA	<0.00022	NA	<0.00022	NA
	<b>Chromium</b>	0.0023	NA	0.0027	0.0030	<0.0015	NA	<0.0015	<0.0015
	<b>Cobalt</b>	<0.00013	<0.00013	0.00022 J	<0.00013	0.00014 J	<0.00013	<0.00013	<0.00013
	<b>Lead</b>	<0.00013	NA	0.00019 J	<0.00013	<0.00013	NA	0.00013 J	<0.00013
	<b>Lithium</b>	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034
	<b>Mercury</b>	0.00016 J	NA	<0.00013	NA	<0.00010	NA	<0.00013	NA
	<b>Molybdenum</b>	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
	<b>Radium</b>	0.0354 U	NA	0.132 U	-0.0479 U	0.198 U	NA	1.12	-0.146 U
	<b>Selenium</b>	<0.0015	NA	<0.0015	<0.0015	<0.0015	NA	<0.0015	<0.0015
<b>Thallium</b>	<0.00015	NA	0.00036 J	<0.00015	0.00015 J	NA	0.00021 J	0.00019 J	
*	<b>Silver</b>	<0.00018	NA	NA	<0.00018	<0.00018	NA	NA	<0.00018

Notes:

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

**TABLE 3  
ANALYTICAL DATA SUMMARY -  
JANUARY 2020 THROUGH OCTOBER 2020**

Substance	Well ID								
	ARGWA-12	ARGWA-12	ARGWA-12	ARGWA-12	ARGWA-13	ARGWA-13	ARGWA-13	ARGWA-13	
	4/7/2020	6/26/2020	8/18/2020	9/29/2020	4/7/2020	6/25/2020	8/18/2020	9/29/2020	
<b>APPENDIX III</b>	<b>Boron</b>	<0.039	<0.039	NA	<0.039	0.23	0.32	NA	0.35
	<b>Calcium</b>	12	15	NA	14	61	100	NA	120
	<b>Chloride</b>	11	12	NA	12	3.8	5.8	NA	5.7
	<b>Fluoride</b>	0.082 J	0.051	0.041 J	0.060 J	0.086 J	0.03	<0.026	0.032 J
	<b>Sulfate</b>	8.0	9.0	NA	8.3	270	410	NA	540
	<b>TDS</b>	120	NA	NA	130	480	NA	NA	880
	<b>pH</b>	5.91	5.94	6.48	5.88	5.84	5.8	6.15	5.75
<b>APPENDIX IV</b>	<b>Antimony</b>	<0.00038	NA	<0.00038	NA	<0.00038	NA	<0.00038	NA
	<b>Arsenic</b>	<0.00031	NA	<0.00031	<0.00031	<0.00031	NA	<0.00031	<0.00031
	<b>Barium</b>	0.066	NA	0.079	0.079	0.021	NA	0.025	0.024
	<b>Beryllium</b>	<0.00018	NA	<0.00018	<0.00018	<0.00018	NA	<0.00018	<0.00018
	<b>Cadmium</b>	<0.00022	NA	<0.00022	NA	<0.00022	NA	<0.00022	NA
	<b>Chromium</b>	0.0015 J	NA	<0.0015	<0.0015	<0.0015	NA	<0.0015	<0.0015
	<b>Cobalt</b>	0.00029 J	0.00013	0.00019 J	0.00016 J	<0.00013	<0.00013	<0.00013	<0.00013
	<b>Lead</b>	<0.00013	NA	<0.00013	<0.00013	<0.00013	NA	<0.00013	<0.00013
	<b>Lithium</b>	0.0036 J	0.0061	0.0039 J	0.0048 J	0.0036 J	0.0067	0.0042 J	0.0052
	<b>Mercury</b>	<0.00010	NA	<0.00013	NA	<0.00010	NA	<0.00013	NA
	<b>Molybdenum</b>	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
	<b>Radium</b>	0.622	NA	0.587	0.765	-0.0414 U	NA	0.380 U	0.403 U
	<b>Selenium</b>	<0.0015	NA	<0.0015	<0.0015	0.0094	NA	0.019	0.021
<b>Thallium</b>	<0.00015	NA	<0.00015	<0.00015	<0.00015	NA	<0.00015	<0.00015	
*	<b>Silver</b>	<0.00018	NA	NA	<0.00018	<0.00018	NA	NA	<0.00018

Notes:

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

**TABLE 3  
ANALYTICAL DATA SUMMARY -  
JANUARY 2020 THROUGH OCTOBER 2020**

Substance	Well ID								
	ARGWA-14	ARGWA-14	ARGWA-14	ARGWA-14	ARGWC-7	ARGWC-7	ARGWC-7	ARGWC-7	
	4/6/2020	6/25/2020	8/19/2020	9/29/2020	4/8/2020	6/25/2020	8/18/2020	9/29/2020	
<b>APPENDIX III</b>	<b>Boron</b>	0.041 J	<0.039	NA	0.039 J	0.086	0.091	NA	0.078 J
	<b>Calcium</b>	43	27	NA	29	11	11	NA	11
	<b>Chloride</b>	4.2	4	NA	4.1	4.4	4.6	NA	4.1
	<b>Fluoride</b>	0.28	0.17	0.12	0.13	0.062 J	<0.026	<0.026	0.027 J
	<b>Sulfate</b>	10	3.3	NA	4.1	39	42	NA	38
	<b>TDS</b>	280	NA	NA	210	130	NA	NA	140
	<b>pH</b>	6.65	6.38	6.62	6.80	5.75	5.75	6.70	5.92
<b>APPENDIX IV</b>	<b>Antimony</b>	<0.00038	NA	<0.00038	NA	<0.00038	NA	<0.00038	NA
	<b>Arsenic</b>	<0.00031	NA	<0.00031	0.00038 J	<0.00031	NA	<0.00031	<0.00031
	<b>Barium</b>	0.051	NA	0.041	0.062	0.039	NA	0.044	0.042
	<b>Beryllium</b>	<0.00018	NA	<0.00018	<0.00018	<0.00018	NA	<0.00018	<0.00018
	<b>Cadmium</b>	<0.00022	NA	<0.00022	NA	<0.00022	NA	<0.00022	NA
	<b>Chromium</b>	<0.0015	NA	<0.0015	<0.0015	0.0027	NA	0.0031	0.0031
	<b>Cobalt</b>	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013
	<b>Lead</b>	<0.00013	NA	<0.00013	<0.00013	<0.00013	NA	<0.00013	<0.00013
	<b>Lithium</b>	<0.0034	0.0071	<0.0034	0.0044 J	<0.0034	0.0046	<0.0034	<0.0034
	<b>Mercury</b>	<0.00010	NA	<0.00013	NA	<0.00010	NA	<0.00013	NA
	<b>Molybdenum</b>	0.00084 J	<0.00061	0.00065 J	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
	<b>Radium</b>	0.286 U	NA	-0.0549 U	0.134 U	0.366 U	NA	0.376 U	0.334 U
	<b>Selenium</b>	<0.0015	NA	<0.0015	<0.0015	<0.0015	NA	<0.0015	<0.0015
<b>Thallium</b>	<0.00015	NA	<0.00015	0.00019 J	<0.00015	NA	<0.00015	<0.00015	
*	<b>Silver</b>	<0.00018	NA	NA	<0.00018	<0.00018	NA	NA	<0.00018

Notes:

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

**TABLE 3  
ANALYTICAL DATA SUMMARY -  
JANUARY 2020 THROUGH OCTOBER 2020**

Substance	Well ID								
	ARGWC-8	ARGWC-8	ARGWC-8	ARGWC-8	ARGWC-9	ARGWC-9	ARGWC-9	ARGWC-9	
	4/9/2020	6/23/2020	8/20/2020	10/1/2020	4/9/2020	6/26/2020	8/19/2020	10/1/2020	
<b>APPENDIX III</b>	<b>Boron</b>	1.1	1.1	NA	1.2	<0.039	<0.039	NA	0.041 J
	<b>Calcium</b>	47	52	NA	52	5.3	5.6	NA	5.7
	<b>Chloride</b>	7.7	7	NA	6.0	5.6	5.4	NA	5.5
	<b>Fluoride</b>	0.16	0.12	0.054 J	0.14	0.066 J	0.027	<0.026	0.041 J
	<b>Sulfate</b>	59	62	NA	57	1.1	0.94	NA	0.82 J
	<b>TDS</b>	270	NA	NA	270	70	NA	NA	55
	<b>pH</b>	6.42	6.37	6.34	6.44	5.90	5.85	7.21	5.78
<b>APPENDIX IV</b>	<b>Antimony</b>	<0.00038	NA	<0.00038	NA	<0.00038	NA	<0.00038	NA
	<b>Arsenic</b>	<0.00031	NA	<0.00031	<0.00031	<0.00031	NA	<0.00031	<0.00031
	<b>Barium</b>	0.045	NA	0.053	0.052	0.044	NA	0.046	0.045
	<b>Beryllium</b>	<0.00018	NA	<0.00018	<0.00018	<0.00018	NA	<0.00018	<0.00018
	<b>Cadmium</b>	<0.00022	NA	<0.00022	NA	<0.00022	NA	<0.00022	NA
	<b>Chromium</b>	<0.0015	NA	<0.0015	<0.0015	0.0069	NA	0.0080	0.0075
	<b>Cobalt</b>	0.00013 J	0.00017 J	0.00023 J	0.00021 J	0.00015 J	<0.00013	0.00013 J	<0.00013
	<b>Lead</b>	<0.00013	NA	<0.00013	<0.00013	<0.00013	NA	<0.00013	<0.00013
	<b>Lithium</b>	<0.0034	0.0042 J	<0.0034	0.0035 J	<0.0034	<0.0034	<0.0034	<0.0034
	<b>Mercury</b>	<0.00010	NA	<0.00013	NA	<0.00010	NA	<0.00013	NA
	<b>Molybdenum</b>	0.039	0.043	0.042	0.043	<0.00061	<0.00061	<0.00061	<0.00061
	<b>Radium</b>	0.255 U	NA	0.140 U	0.512 U	0.334 U	NA	0.124 U	0.501
	<b>Selenium</b>	<0.0015	NA	<0.0015	<0.0015	<0.0015	NA	<0.0015	<0.0015
<b>Thallium</b>	<0.00015	NA	<0.00015	<0.00015	<0.00015	NA	<0.00015	<0.00015	
*	<b>Silver</b>	<0.00018	NA	NA	<0.00018	<0.00018	NA	NA	<0.00018

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
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3. J indicates the substance was detected at such low levels that the precision of the laboratory instrument could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated value.
4. TDS indicates total dissolved solids.
5. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
6. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
7. \* - Georgia Appendix I constituent that is not also included in Appendix IV.
8. NA indicates constituent was not analyzed.

**TABLE 3  
ANALYTICAL DATA SUMMARY -  
JANUARY 2020 THROUGH OCTOBER 2020**

Substance	Well ID									
	ARGWC-10	ARGWC-10	ARGWC-10	ARGWC-10	ARGWC-10	ARGWC-15	ARGWC-15	ARGWC-15	ARGWC-15	
	4/8/2020	5/27/2020	6/23/2020	8/19/2020	10/1/2020	4/8/2020	6/25/2020	8/19/2020	9/29/2020	
<b>APPENDIX III</b>	<b>Boron</b>	<0.039	NA	0.053 J	NA	0.082	<0.039	<0.039	NA	<0.039
	<b>Calcium</b>	7.5	NA	7.7	NA	8.1	21	23	NA	25
	<b>Chloride</b>	3.9	NA	4.2	NA	3.9	1.9	1.9	NA	2.5
	<b>Fluoride</b>	0.071 J	NA	0.04 J	<0.026	0.048 J	0.12	0.067	0.081 J	0.089 J
	<b>Sulfate</b>	<0.38	NA	<0.38	NA	<0.38	5.9	5.6	NA	7.7
	<b>TDS</b>	82	NA	NA	NA	93	130	NA	NA	130
	<b>pH</b>	5.95	5.98	5.95	7.06	5.83	6.26	6.32	6.47	7.11
<b>APPENDIX IV</b>	<b>Antimony</b>	0.00094 J	NA	NA	<0.00038	NA	<0.00038	NA	<0.00038	NA
	<b>Arsenic</b>	<0.00031	NA	NA	<0.00031	<0.00031	<0.00031	NA	<0.00031	<0.00031
	<b>Barium</b>	0.031	NA	NA	0.034	0.032	0.030	NA	0.028	0.030
	<b>Beryllium</b>	<0.00018	NA	NA	<0.00018	<0.00018	<0.00018	NA	<0.00018	<0.00018
	<b>Cadmium</b>	<0.00022	NA	NA	<0.00022	NA	<0.00022	NA	<0.00022	NA
	<b>Chromium</b>	0.0046	NA	NA	0.0049	0.0047	<0.0015	NA	<0.0015	<0.0015
	<b>Cobalt</b>	<0.00013	NA	0.00013 J	0.00015 J	<0.00013	0.00026 J	0.00022	0.00040 J	0.00030 J
	<b>Lead</b>	0.031	0.00014 J	NA	0.00013 J	<0.00013	<0.00013	NA	<0.00013	<0.00013
	<b>Lithium</b>	<0.0034	NA	<0.0034	<0.0034	<0.0034	<0.0034	0.004	<0.0034	<0.0034
	<b>Mercury</b>	<0.00010	NA	NA	<0.00013	NA	<0.00010	NA	<0.00013	NA
	<b>Molybdenum</b>	<0.00061	NA	<0.00061	<0.00061	<0.00061	0.00075 J	0.00086	0.0016 J	0.0019 J
	<b>Radium</b>	-0.0401 U	NA	NA	-0.0271 U	0.172 U	0.309 U	NA	0.538	0.394 U
	<b>Selenium</b>	<0.0015	NA	NA	<0.0015	<0.0015	<0.0015	NA	<0.0015	<0.0015
<b>Thallium</b>	<0.00015	NA	NA	<0.00015	<0.00015	<0.00015	NA	<0.00015	<0.00015	
<b>* Silver</b>	<0.00018	NA	NA	NA	<0.00018	<0.00018	NA	NA	<0.00018	

Notes:

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

**TABLE 3  
ANALYTICAL DATA SUMMARY -  
JANUARY 2020 THROUGH OCTOBER 2020**

Substance	Well ID								
	ARGWC-16	ARGWC-16	ARGWC-16	ARGWC-16	ARGWC-17	ARGWC-17	ARGWC-17	ARGWC-17	
	4/8/2020	6/24/2020	8/19/2020	9/29/2020	4/8/2020	6/24/2020	8/18/2020	9/29/2020	
<b>APPENDIX III</b>	<b>Boron</b>	0.059 J	0.11	NA	0.081	<0.039	0.059	NA	0.045 J
	<b>Calcium</b>	40	47	NA	39	8.3	11	NA	12
	<b>Chloride</b>	5.1	5.9	NA	5.2	3.7	4	NA	3.4
	<b>Fluoride</b>	0.051 J	0.038	<0.026	0.026 J	0.053 J	<0.026	<0.026	0.029 J
	<b>Sulfate</b>	200	310	NA	200	47	67	NA	66
	<b>TDS</b>	350	NA	NA	340	91	NA	NA	140
	<b>pH</b>	5.07	5.2	5.24	5.50	5.0	5.1	5.07	5.75
<b>APPENDIX IV</b>	<b>Antimony</b>	<0.00038	NA	<0.00038	NA	<0.00038	NA	<0.00038	NA
	<b>Arsenic</b>	<0.00031	NA	<0.00031	<0.00031	<0.00031	NA	<0.00031	<0.00031
	<b>Barium</b>	0.042	NA	0.045	0.042	0.045	NA	0.062	0.056
	<b>Beryllium</b>	<0.00018	NA	<0.00018	<0.00018	0.00025 J	NA	0.00039 J	0.00040 J
	<b>Cadmium</b>	<0.00022	NA	<0.00022	NA	<0.00022	NA	<0.00022	NA
	<b>Chromium</b>	0.0021	NA	0.0021	0.0020	<0.0015	NA	<0.0015	<0.0015
	<b>Cobalt</b>	<0.00013	0.00013	<0.00013	<0.00013	0.016	0.024	0.030	0.027
	<b>Lead</b>	<0.00013	NA	<0.00013	<0.00013	<0.00013	NA	<0.00013	<0.00013
	<b>Lithium</b>	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034
	<b>Mercury</b>	<0.00010	NA	<0.00013	NA	<0.00010	NA	<0.00013	NA
	<b>Molybdenum</b>	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
	<b>Radium</b>	0.280 U	NA	0.306 U	-0.0246 U	0.402 U	NA	0.423	0.175 U
	<b>Selenium</b>	0.0022 J	NA	0.0029 J	0.0025 J	<0.0015	NA	<0.0015	<0.0015
<b>Thallium</b>	<0.00015	NA	0.00027 J	0.00025 J	<0.00015	NA	<0.00015	<0.00015	
*	<b>Silver</b>	<0.00018	NA	NA	<0.00018	<0.00018	NA	NA	<0.00018

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
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6. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
7. \* - Georgia Appendix I constituent that is not also included in Appendix IV.
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**TABLE 3  
ANALYTICAL DATA SUMMARY -  
JANUARY 2020 THROUGH OCTOBER 2020**

Substance	Well ID										
	ARGWC-18	ARGWC-18	ARGWC-18	ARGWC-18 Dissolved	ARGWC-18	ARGWC-18 Dissolved	ARAMW-3	ARAMW-3	ARAMW-3	ARAMW-3	
	4/9/2020	6/24/2020	8/20/2020	8/20/2020	9/30/2020	9/30/2020	1/15/2020	6/24/2020	8/20/2020	9/30/2020	
<b>APPENDIX III</b>	<b>Boron</b>	2.3	2.2	NA	NA	2.6	2.7	1.0	1.0	NA	1.1
	<b>Calcium</b>	46	44	NA	NA	52	53	NA	33	NA	37
	<b>Chloride</b>	7.3	7.2	NA	NA	6.9	NA	NA	5.9	NA	5.5
	<b>Fluoride</b>	0.11	0.094	<0.026	NA	0.082 J	NA	NA	0.18	<0.026	0.064 J
	<b>Sulfate</b>	190	190	NA	NA	170	NA	NA	45	NA	49
	<b>TDS</b>	440	NA	NA	NA	390	NA	NA	NA	NA	240
	<b>pH</b>	5.98	5.91	6.43	6.43	5.98	5.98	6.8	6.38	6.24	6.41
<b>APPENDIX IV</b>	<b>Antimony</b>	<0.00038	NA	<0.00038	<0.00038	NA	NA	NA	NA	<0.00038	NA
	<b>Arsenic</b>	<0.00031	NA	<0.00031	<0.00031	<0.00031	<0.00031	NA	NA	<0.00031	<0.00031
	<b>Barium</b>	0.041	NA	0.041	0.037	0.041	0.037	NA	NA	0.093	0.094
	<b>Beryllium</b>	<0.00018	NA	<0.00018	<0.00018	<0.00018	<0.00018	NA	NA	<0.00018	<0.00018
	<b>Cadmium</b>	<0.00022	NA	<0.00022	<0.00022	NA	NA	NA	NA	<0.00022	NA
	<b>Chromium</b>	<0.0015	NA	<0.0015	<0.0015	<0.0015	<0.0015	NA	NA	<0.0015	<0.0015
	<b>Cobalt</b>	0.00091 J	0.0012	0.0015 J	0.0013 J	0.0013 J	0.0012 J	NA	0.00053	0.00056 J	0.0011 J
	<b>Lead</b>	<0.00013	NA	0.00028 J	<0.00013	0.00020 J	<0.00013	NA	NA	<0.00013	<0.00013
	<b>Lithium</b>	<0.0034	0.0047	<0.0034	<0.0034	0.0048 J	0.0046 J	NA	0.0046	<0.0034	0.0055
	<b>Mercury</b>	<0.00010	NA	<0.00013	<0.00013	NA	NA	NA	NA	<0.00013	NA
	<b>Molybdenum</b>	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	0.0053	0.0077	0.0029 J	0.0061 J
	<b>Radium</b>	0.419 U	NA	0.191 U	NA	0.0811 U	NA	NA	NA	-0.137 U	0.539 U
	<b>Selenium</b>	<0.0015	NA	<0.0015	<0.0015	<0.0015	<0.0015	NA	NA	<0.0015	<0.0015
<b>Thallium</b>	<0.00015	NA	<0.00015	<0.00015	<0.00015	<0.00015	NA	NA	<0.00015	<0.00015	
*	<b>Silver</b>	<0.00018	NA	NA	NA	<0.00018	<0.00018	NA	NA	NA	<0.00018

Notes:

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**TABLE 3  
ANALYTICAL DATA SUMMARY -  
JANUARY 2020 THROUGH OCTOBER 2020**

Substance	Well ID									
	ARAMW-4	ARAMW-4	ARAMW-4	ARAMW-4	ARAMW-4	ARAMW-6	ARAMW-6	ARAMW-6	ARAMW-6	
	1/15/2020	2/11/2020	6/24/2020	8/20/2020	9/30/2020	1/15/2020	6/24/2020	8/21/2020	10/1/2020	
APPENDIX III	<b>Boron</b>	0.32	NA	0.4	NA	0.36	0.96	1	NA	1.1
	<b>Calcium</b>	NA	NA	170	NA	210	NA	33	NA	38
	<b>Chloride</b>	NA	NA	6.4	NA	5.0	NA	5.4	NA	5.0
	<b>Fluoride</b>	NA	NA	0.041	<0.026	0.028 J	NA	0.082	0.051 J	0.071 J
	<b>Sulfate</b>	NA	NA	860	NA	790	NA	58	NA	58
	<b>TDS</b>	NA	NA	NA	NA	1300	NA	NA	NA	220
	<b>pH</b>	6.1	6.0	5.8	5.77	5.94	6.36	6.33	6.32	6.37
APPENDIX IV	<b>Antimony</b>	NA	NA	NA	<0.00038	NA	NA	NA	<0.00038	NA
	<b>Arsenic</b>	NA	NA	NA	0.00034 J	0.00039 J	NA	NA	<0.00031	<0.00031
	<b>Barium</b>	NA	NA	NA	0.053	0.053	NA	NA	0.049	0.044
	<b>Beryllium</b>	NA	NA	NA	<0.00018	<0.00018	NA	NA	<0.00018	<0.00018
	<b>Cadmium</b>	NA	NA	NA	<0.00022	NA	NA	NA	<0.00022	NA
	<b>Chromium</b>	NA	NA	NA	<0.0015	<0.0015	NA	NA	<0.0015	<0.0015
	<b>Cobalt</b>	0.0064	0.0042	0.0049	0.0050	0.0046	NA	0.0049	0.0018 J	0.0018 J
	<b>Lead</b>	NA	NA	NA	<0.00013	<0.00013	NA	NA	<0.00013	<0.00013
	<b>Lithium</b>	NA	NA	0.013	0.012	0.012	NA	<0.0034	<0.0034	<0.0034
	<b>Mercury</b>	NA	NA	NA	<0.00013	NA	NA	NA	<0.00013	NA
	<b>Molybdenum</b>	NA	NA	0.00079	<0.00061	0.00073 J	0.00065 J	<0.00061	<0.00061	<0.00061
	<b>Radium</b>	NA	NA	NA	0.624 U	0.532	NA	NA	0.285 U	0.0114 U
	<b>Selenium</b>	NA	NA	NA	<0.0015	<0.0015	NA	NA	<0.0015	<0.0015
<b>Thallium</b>	NA	NA	NA	0.00022 J	<0.00015	NA	NA	0.00018 J	<0.00015	
*	<b>Silver</b>	NA	NA	NA	NA	<0.00018	NA	NA	NA	<0.00018

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
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7. \* - Georgia Appendix I constituent that is not also included in Appendix IV.
8. NA indicates constituent was not analyzed.

**Table 4**  
**Evaluation of Remedial Technologies**  
**Plant Arkwright, AP-3 Landfill and Monofill, Bibb County, Georgia**

Corrective Measure	Regulatory Citation for Criteria:		GA EPD Rule 391-3-4.10(6)	
	Description	Performance	Reliability	
<b>Geochemical Approaches (In-Situ Injection)</b>	Use of an injection well network, or other means of introducing reagents or air into the subsurface, to provide suitable reagents for either anaerobic or aerobic attenuation of Co and Mo. Under anaerobic conditions, Co would be attenuated within sparingly soluble sulfide minerals; this approach might also increase the attenuation of Mo. Under aerobic conditions, soluble iron or manganese and oxygen (either via air sparging or through a chemical oxidant) would be injected to promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of Co (and potentially, Mo) onto these mineral phases. If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption. In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility of certain inorganic compounds, including Co. However, the main attenuation mechanism for Co and Mo is sorption, which is more dependent on pH than redox.	The effective immobilization of Co has been shown under aerobic and anaerobic conditions; however, the anaerobic approach (involving the injection of an electron donor together with iron or manganese and sulfur) requires careful study and testing. While aerobic approaches are somewhat less complex, additional aquifer characterization is needed to further evaluate these options. It is currently not well understood whether molybdenum can be efficiently attenuated using in-situ redox manipulations due to slow reaction kinetics. Mo attenuation under both aerobic and anaerobic conditions needs to be further evaluated but is expected to occur. Mo is more strongly sorbed to aluminum oxides than other metal oxides, and it is generally less sorptive and more mobile compared to Co.	Reliability dependent on permeability of the subsurface and the amount and distribution of secondary iron or manganese (oxy-) hydroxides (for aerobic approach), or electron donors and soluble iron or manganese and sulfur that can be consistently distributed (for anaerobic approach). Reliable technology if injected materials can be distributed throughout the impacted aquifer. Bench-and/or pilot-scale treatability testing programs are needed to understand the biogeochemical processes that would effectively reduce migration of Co and Mo in groundwater.	
<b>Pump and Treat (Hydraulic Containment)</b>	Pump and Treat (P&T) refers to the use of groundwater extraction to induce a hydraulic gradient for hydraulic capture or control the migration of impacted groundwater. This approach uses extraction wells or trenches to capture groundwater, which may subsequently require above-ground treatment and permitted discharge to a receiving water feature, reinjection into the groundwater, or reuse (e.g., land application, CCR conditioning, etc.). It is applicable to a variable mix of inorganic constituents, including dissolved Co and Mo.	P&T is effective at providing hydraulic control, but it is unclear whether full groundwater remediation can be achieved without further understanding attenuation mechanisms at the Site. At the AP-3 Landfill and Monofill, implementation of the corrective measure is contingent on completing additional assessment activities (i.e. high-resolution site characterization, additional pump tests, flow modeling, and capture zone analysis). This is needed to refine the constituent distribution in the subsurface to target specific zones for pumping for improved mass recovery efficiency/ effectiveness and to further evaluate the potential remedy performance.	Generally reliable for hydraulic containment, but uncertainty exists whether groundwater remediation goals can be achieved within a reasonable time frame without further understanding attenuation mechanisms.	
<b>Monitored Natural Attenuation (MNA)</b>	MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame relative to more active methods. Under certain conditions (e.g., through sorption, mineral precipitation or oxidation-reduction reactions), MNA effectively reduces the dissolved concentrations of inorganic constituents in groundwater. Attenuation mechanisms for inorganic constituents at CCR sites, including cobalt (Co) and molybdenum (Mo) at AP-3 Landfill and Monofill, are either physical (e.g. dilution, dispersion, flushing, and related processes) or chemical (e.g., sorption or oxidation reduction reactions). The chemical attenuation processes include precipitation and sorption reactions such as adsorption on the surfaces of soil minerals, absorption into the matrix of soil minerals, or partitioning into organic matter. Further, oxidation-reduction (redox) reactions, via abiotic or biotic processes, can transform the valence states of some inorganic constituents to less soluble and thus less mobile forms. For Co and Mo, the main attenuation processes include sorption to iron and manganese oxides (Co and Mo), aluminum oxides (Mo), and formation of sparingly soluble sulfide minerals (Co).	Physical and chemical MNA mechanisms for Co and Mo, including dilution, dispersion, sorption, and oxidation reduction reactions can be effective at achieving groundwater protection standards (GWPS) within a reasonable time frame. Attenuation processes for Co and Mo are already occurring at the site as evidenced by data from the delineation wells. Source control will improve the mass balance such that the buffer capacity of the aquifer is unlikely to be exhausted, and the attenuation processes already at work for Co and Mo at AP-3 Landfill and Monofill will further enhance ongoing MNA.	Reliable as long as the aquifer conditions that result in Co and Mo attenuation remain favorable and/or are being enhanced and sufficient attenuation capacity is present. MNA is reliable and can either be used as a stand-alone corrective measure for groundwater impacted by dissolved Co and/or Mo, or in combination with a second technology.	
<b>Permeable Reactive Barrier</b>	Permeable reactive barrier (PRB) technology typically involves the installation of a permeable subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through. Either ZVI-Carbon matrix or solid carbon (bio-barrier) are currently proposed for the concurrent removal of Co and Mo. The carbon could be composed of peat moss, mulch or another carbon source. Exact placement of the PRB is contingent on finalization of the nature and extent characterization. PRB walls are typically keyed into the bedrock. While the relatively shallow groundwater in the residuum and fractured bedrock is connected to the groundwater in more competent bedrock, the higher permeability/conductivity of the PRB is not expected to impede groundwater flow. PRBs can also be constructed as "funnel and gate" systems, where a barrier wall directs groundwater to a smaller "treatment gate" filled with reactive media.	PRBs have been shown to effectively address Co and Mo in groundwater if the right mix of reactive materials (e.g., ZVI and carbon) is selected for concurrent removal/immobilization of these constituents. The approach is expected to achieve GWPS for both constituents as impacted groundwater passes through the reactive barrier. Molybdenum redox kinetics may be slow and hence a thicker wall might be needed relative to solely treating for Co. Furthermore, additional testing is required to select the appropriate sorptive media mix, especially related to Mo.	Reliable groundwater corrective measure, but loss of reactivity over time may require re-installation depending on the duration of the remedy. Additional data collection, including conducting a bench and/or pilot study, is needed to better characterize current attenuation mechanisms and/or select the appropriate reactive media mix for a PRB wall.	
<b>Phytoremediation / TreeWell®</b>	Phytoremediation uses trees and other plants to degrade or immobilize constituents or achieve hydraulic control without the need for an above-ground water treatment system and infrastructure. Within the context of the AP-3 Landfill and Monofill, this corrective measure would likely use an engineered (proprietary) TreeWell® phytoremediation system along the point of compliance or downgradient edge of the impacted groundwater for hydraulic control. The system promotes root development to the targeted groundwater zone (depth), allowing for hydraulic control of impacted groundwater. In addition, immobilization of Co and Mo within the root zone as well as incidental uptake of dissolved Co and Mo with groundwater is expected to occur concurrent with hydraulic control.	Once established (typically at the end of the third growing season), a TreeWell® system is effective for providing hydraulic containment of groundwater, and potential reduction of Co and Mo concentrations through immobilization and/or uptake and sequestration in the tree biomass; however, the main purpose is to provide hydraulic control. Given the site-specific hydrogeology and reported Co and Mo groundwater concentrations surrounding the AP-3 Landfill and Monofill, the approach is currently considered to be applicable in this setting. However, additional aquifer testing and/or groundwater flow modeling may be needed to confirm suitability for the area downgradient of the AP-3 Landfill and Monofill.	Engineered phytoremediation is a proven technology where hydrogeologic factors are taken into account (e.g., hydraulic conductivity, flow velocity, depth to impacted groundwater zone, etc.). This is considered an active remedial approach through the use of trees as the "pumps" driving the system. Careful design will be needed to select the proper species, which will include consideration of groundwater chemistry, plant uptake of constituents, and groundwater flow modeling to evaluate the required number and placement of TreeWell® units.	
<b>Subsurface Vertical Barrier Walls</b>	This approach involves placing a barrier to groundwater flow in the subsurface, frequently around a source area, to prevent future migration of dissolved constituents in groundwater from beneath the source to downgradient areas. In general, barrier walls are designed to provide containment; localized treatment achieved through the sorption or chemical precipitation reactions from construction of the walls are incidental to the design objective. Barrier walls can also be used in downgradient applications; to limit discharge to a surface water feature or to reduce aquifer recharge from an adjacent surface water feature when groundwater extraction wells are placed near one. A variety of barrier materials can be used, including cement and/or bentonite slurries, geomembrane composite materials, or driven materials such as steel or vinyl sheet pile. Groundwater extraction from upgradient of the barrier is required to avoid groundwater mounding behind the barrier.	Barrier walls are a proven technology for seepage control and/or groundwater cutoff at impoundments. Slurry walls are limited by the depth of installation, which is approximately 90 ft bgs. However, site-specific geologic and technology-specific considerations may limit this depth to shallower installations. Within the context of AP-3 Landfill and Monofill, a barrier wall might be used in conjunction with a "funnel and gate" system for a PRB rather than a stand-alone technology. As such, groundwater with Co and Mo above GWPS could either be directed to "treatment gates" for passive treatment (in a PRB) or migration of impacted groundwater could be minimized via barrier wall installation. Additional subsurface investigations, aquifer testing, and compatibility testing with site-specific groundwater will be needed.	Generally reliable as a barrier to groundwater flow; however, treatment of downgradient groundwater is incidental and not the primary objective.	

**Table 4  
Evaluation of Remedial Technologies  
Plant Arkwright, AP-3 Landfill and Monofill, Bibb County, Georgia**

	GA EPD Rule 391-3-4.10(6)	GA EPD Rule 391-3-4.10(6)	GA EPD Rule 391-3-4.10(6)
Corrective Measure	Ease of Implementation	Potential Impacts	Time Requirement to Begin/Complete
<b>Geochemical Approaches (In-Situ Injection)</b>	Moderate. Installation of injection well network or other injection infrastructure would be required. Alternative installation approaches may be considered, such as along the downgradient edge of impacted groundwater, which would function similar to a PRB application. Potential for clogging of aquifer matrix and/or injection well infrastructure. Chemical distribution during injections (i.e., radius of influence) needs to be evaluated.	Minimal impacts are expected if remedy works as designed, based on a thorough pre-design investigation, geochemical modeling, and bench/pilot study results. Redox-altering processes have the potential to mobilize naturally-occurring constituents as an unintended consequence if not properly studied and implemented.	Installation of the injection network can be accomplished relatively quickly (1 to 2 months). However, a thorough pre-design investigation, geochemical modeling, and/or bench- and/or pilot-testing will be required to obtain design parameters prior to design and construction of the corrective measure, which may take up to 24 months. Once installed, the time required to achieve GWPS within the treatment area may be relatively quick but depends on the attenuation process kinetics of each targeted constituent. The time for complete distribution of the injected materials throughout the treatment area is also variable.
<b>Pump and Treat (Hydraulic Containment)</b>	Moderate. Proven approach, and supplemental installation of extraction wells/trenches is fairly straightforward. The extracted groundwater may potentially require an above-ground treatment system. A variety of sorption and precipitation approaches exist for ex-situ treatment of Co and Mo. Operation and maintenance (O&M) requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals.	Moderate. The main potential impacts are related to the presence and operation of an on-site above-ground water treatment facility and related infrastructure to convey and treat extracted groundwater. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone.	Installation of extraction wells and/or trenches can be accomplished relatively quickly (1 to 2 months). However, additional aquifer testing, system design and installation, and permit approval may be required, which may take up to 24 months. The initiation of the approach would be contingent on the start-up of the wastewater treatment infrastructure. Hydraulic containment can be achieved relatively quickly after startup of the extraction system, but uncertainty exists with respect to the time to achieve GWPS without additional data collection to better understand attenuation mechanisms for Co and Mo.
<b>Monitored Natural Attenuation (MNA)</b>	Reasonably implementable with respect to infrastructure, but moderate to complex with respect to documentation. Proven approach, but additional data are needed to show that the existing attenuation capacity is sufficient to meet site objectives within a reasonable timeframe. A monitoring well network already exists to implement future groundwater monitoring efforts.	None. MNA relies on the natural processes active in the aquifer matrix to reduce constituent concentrations without disturbing the surface or the subsurface.	The infrastructure to initiate MNA is already in place. Demonstrating attenuation mechanisms and capacity can be time-consuming and can take up to 24 months. MNA is expected to be successful within a reasonable time frame.
<b>Permeable Reactive Barrier</b>	Moderate to difficult. Trenching would be required to install a mix of reactive materials in the subsurface. Continuous trenching may be the most feasible construction method. Site-specific geology (i.e., partially weathered bedrock layer) poses a possible constructability challenge when attempting to key PRB material into competent bedrock. Installation methods and materials are readily available. Once installed, treatment will be passive and O&M requirements are minimal if replacement of the PRB is not necessary.	Minimal impacts are expected following the construction of the remedy. However, ZVI has the potential to create anaerobic conditions downgradient of the PRB wall that may mobilize redox-sensitive naturally-occurring constituents. These conditions need to be carefully monitored. Short-term impacts during the construction of the remedy can be mitigated through appropriate planning and health and safety measures.	Installation of a PRB can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, bench- and/or pilot- testing would be required to obtain design parameters prior to design and construction of the remedy, which may take up to 24 months. Once installed, the time to achieve GWPS downgradient of the PRB is anticipated to be relatively quick.
<b>Phytoremediation / TreeWell®</b>	Reasonably implementable to moderate. Engineered approach has been proven effective, and specific depth zones can be targeted. Trees are installed as "tree wells" in a large diameter boring to get the roots deep enough to intercept impacted groundwater flow paths. Area must be clear of above- and below- ground structures (i.e., power lines). The system, once established (approximately three growing seasons), is a self-maintaining, sustainable remedial system that has no external energy requirements and little maintenance (i.e., efforts normally associated with landscaping).	Minimal impacts are expected. In fact, there are several positive impacts expected, including enhanced aesthetics, wildlife habitat, and limited energy consumption.	The design phase will require some groundwater modeling for optimal placement of the TreeWell® units, which may take up to 6 months. Depending on the number of required units, the installation effort is expected to last several weeks. Hydraulic capture/control is expected approximately three years after planting and system performance is expected to further improve over time.
<b>Subsurface Vertical Barrier Walls</b>	Moderate to difficult. Trenching will be required to fill in the various slurry mixes; alternatively, sheet pile installations can be accomplished without excavation of trenches. The application of barrier walls is limited by the depth of installation, which similar to PRBs, should be keyed into a low permeability layer such as a thick clay layer or bedrock. Installation methods and materials are readily available. Once installed, above-ground infrastructure to pump and treat groundwater will be required. O&M requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals.	Minimal impacts are expected following the construction of the remedy. Short-term impacts during the construction of the remedy can be mitigated through appropriate planning and health and safety measures. Changes to groundwater flow patterns due to installation of the barrier wall are expected, which can affect other aspects of groundwater corrective action. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone that may result in the mobilization of other constituents that may require treatment.	Installation of a barrier wall can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, some design phase and additional aquifer and compatibility testing will be required, which may take up to 24 months. Once installed, preventing migration of constituents dissolved in groundwater is anticipated to be relatively quick. Since this approach does not treat the downgradient area of impacted groundwater but prevents migration from a source area, it will likely have to be maintained long- term and coupled with other approaches.

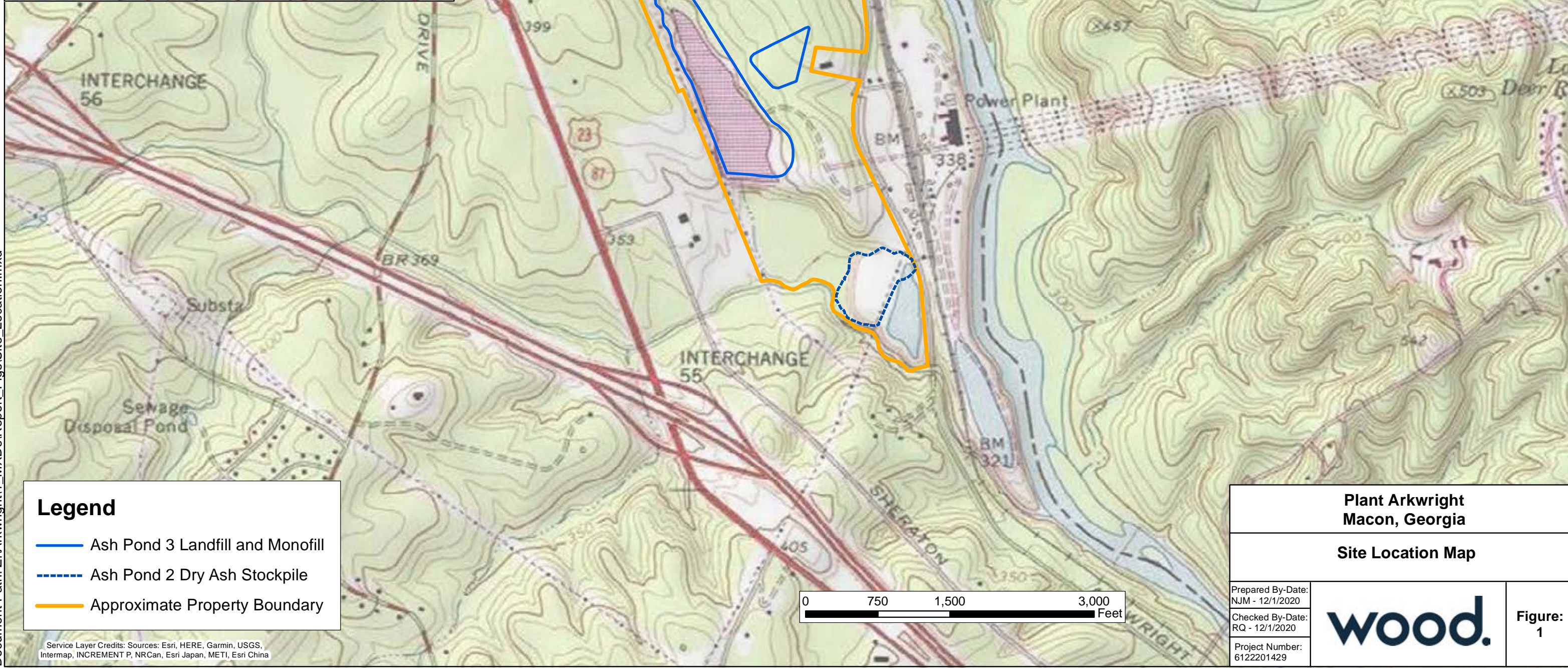
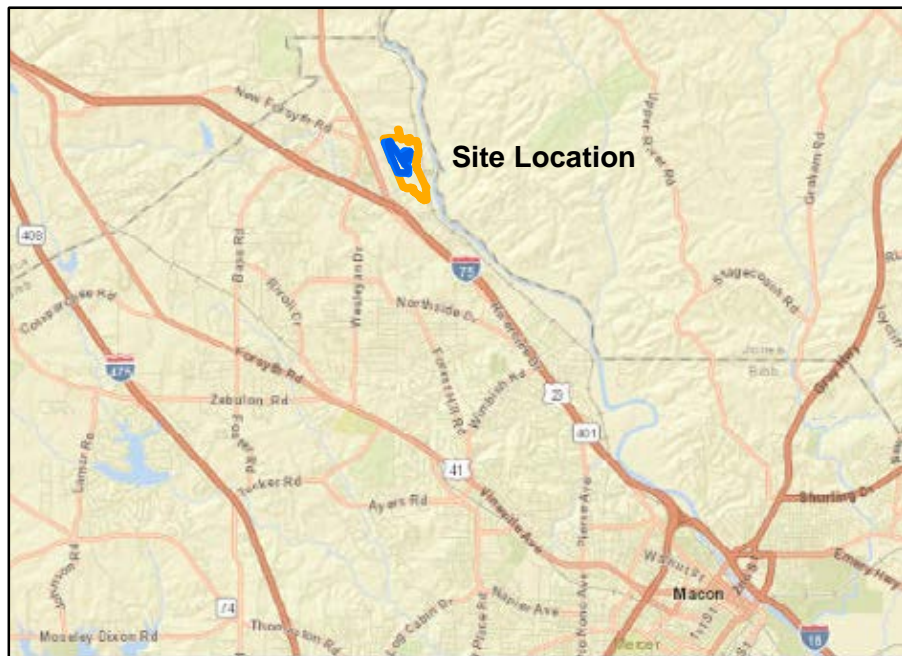
**Table 4**  
**Evaluation of Remedial Technologies**  
**Plant Arkwright, AP-3 Landfill and Monofill, Bibb County, Georgia**

Corrective Measure	GA EPD Rule 391-3-4.10(6)		Relative Costs
	Institutional Requirements	Other Env or Public Health Requirements	
<b>Geochemical Approaches (In-Situ Injection)</b>	Deed restrictions may be necessary until in-situ treatment has achieved GWPS. An underground injection control (UIC) permit (for in-situ injections) would be required to implement this corrective measure. No other institutional requirements are expected at this time.	None expected at this point. Potential mobilization of redox-sensitive constituents exists during implementation of an anaerobic attenuation approach. Following installation, the remedy is passive.	Medium (depending on expanse of injection network required and injectate volume required per derived design parameters)
<b>Pump and Treat (Hydraulic Containment)</b>	Depending on the effluent management strategy, an NPDES permit may be required, or obtaining an underground injection control (UIC) permit may be needed if groundwater reinjection is chosen. In addition, deed restrictions may be required as long as groundwater conditions are above regulatory standards for unrestricted use.	Above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal.	Medium to high (depending on remedy duration, complexity of above-ground treatment system, and volume of water processed)
<b>Monitored Natural Attenuation (MNA)</b>	MNA may require the implementation of institutional controls, such as deed restrictions, to preclude potential exposure to groundwater within the footprint of impacted groundwater until GWPS are achieved.	Little to no physical disruption to remediation areas and no adverse construction-related impacts are expected on the surrounding community.	Low to medium
<b>Permeable Reactive Barrier</b>	Deed restrictions may be necessary for groundwater areas upgradient of the PRB (if not installed along the waste boundary). No other institutional requirements are expected at this time.	None expected at this point. Following installation, the remedy is passive. However, certain treatment media (such as ZVI) have the potential to mobilize naturally-occurring constituents downgradient of the PRB.	Medium to high (for installation) - minimal O&M requirements if replacement is not necessary
<b>Phytoremediation / TreeWell®</b>	Deed restrictions may be necessary for groundwater areas upgradient of the TreeWell® system. No other institutional requirements are expected at this time.	None expected at this point. Innovative and green technology may be positively received by various stakeholders. Following installation, the remedy is passive and does not require external energy.	Medium (for installation) - minimal O&M requirements
<b>Subsurface Vertical Barrier Walls</b>	Deed restrictions may be necessary for groundwater areas downgradient of the barrier wall until remedial goals are met. No other institutional requirements are expected at this time.	Due to the need for groundwater extraction associated with barrier walls, above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal.	Medium to high (depending on length and depth of wall, remedy duration and complexity of above-ground treatment system)

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# FIGURES





**Legend**

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

**Plant Arkwright  
Macon, Georgia**

**Site Location Map**

Prepared By-Date:  
NJM - 12/1/2020  
Checked By-Date:  
RQ - 12/1/2020  
Project Number:  
6122201429







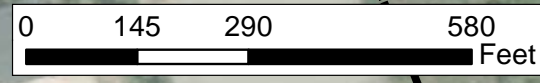
**Figure:  
1**





**Legend**

-  Groundwater Monitoring Network Well
-  Piezometer Installed November 2019
-  Approximate Limits of Waste
-  Approximate Property Boundary



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Plant Arkwright  
Macon, Georgia**

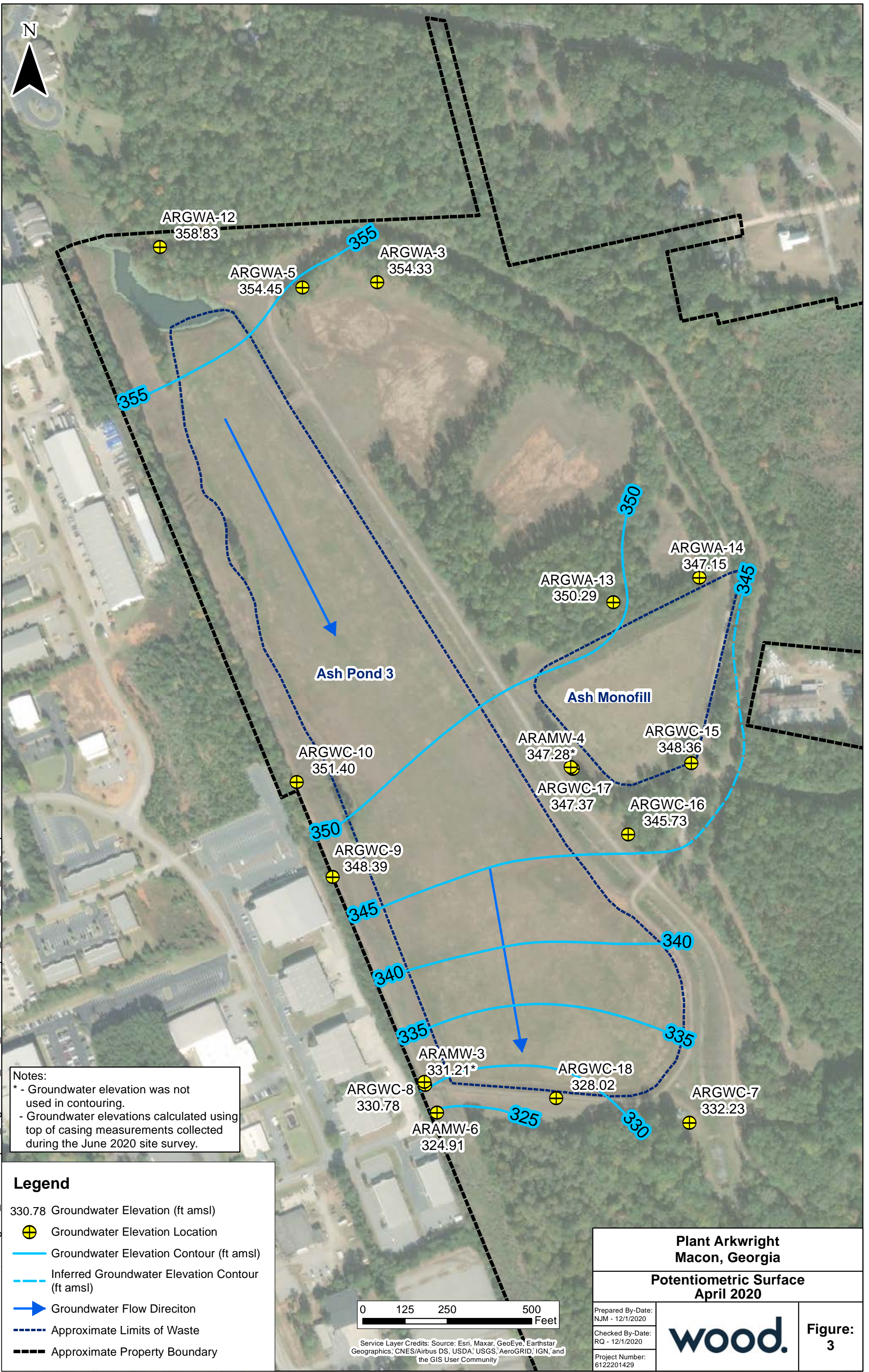
**Monitoring Network Well Location Map**

Prepared By-Date:  
NJM - 12/1/2020  
Checked By-Date:  
RQ - 12/1/2020  
Project Number:  
6122201429



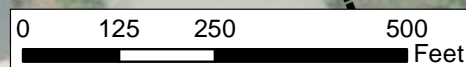
**Figure:  
2**





**Notes:**  
 \* - Groundwater elevation was not used in contouring.  
 - Groundwater elevations calculated using top of casing measurements collected during the June 2020 site survey.

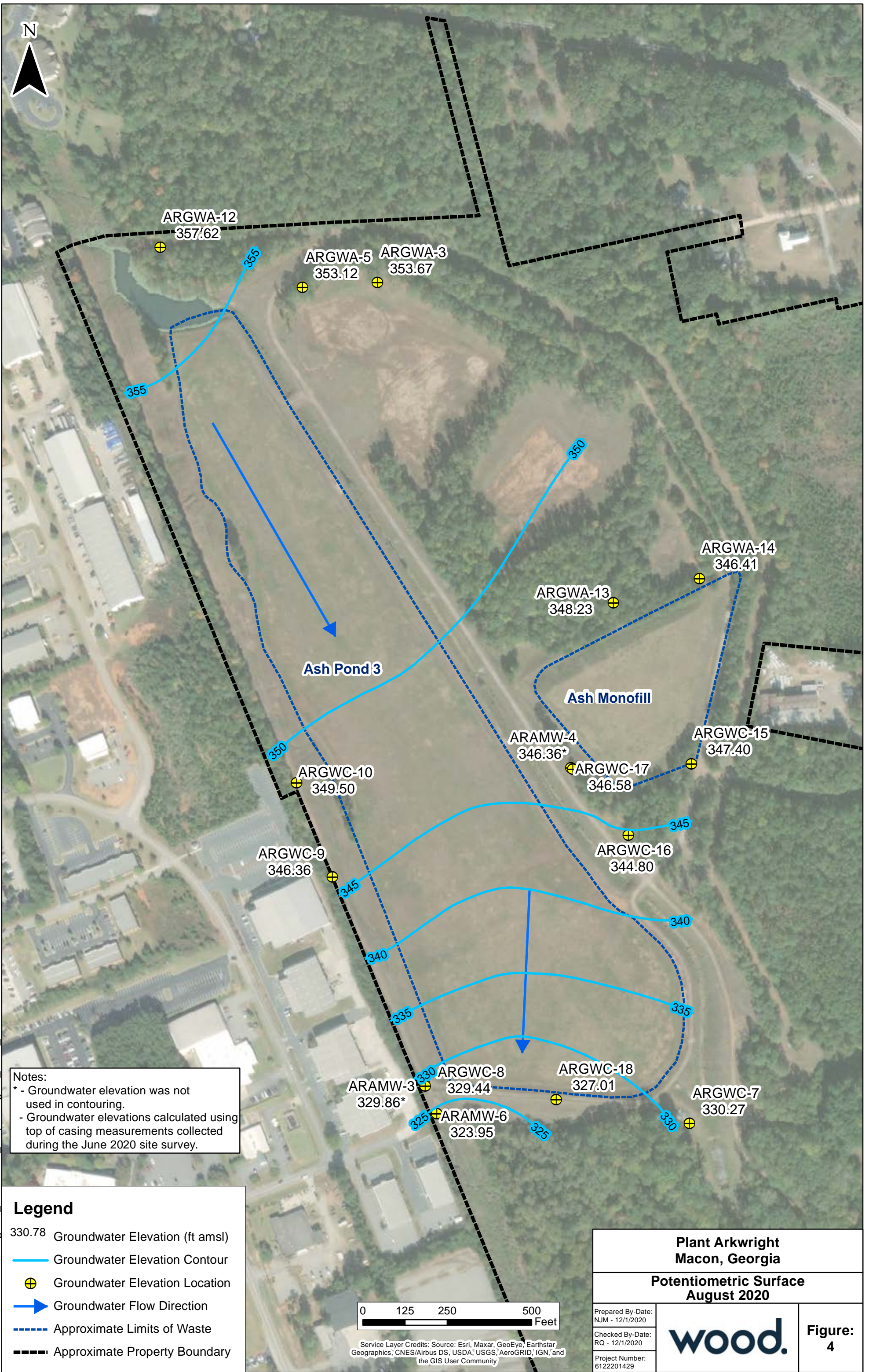
- Legend**
- 330.78 Groundwater Elevation (ft amsl)
  - Groundwater Elevation Location
  - Groundwater Elevation Contour (ft amsl)
  - Inferred Groundwater Elevation Contour (ft amsl)
  - Groundwater Flow Direction
  - Approximate Limits of Waste
  - Approximate Property Boundary



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

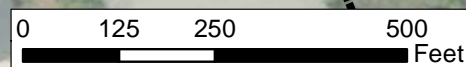
<b>Plant Arkwright Macon, Georgia</b>	
<b>Potentiometric Surface April 2020</b>	
Prepared By-Date: NJM - 12/1/2020	<b>Figure: 3</b>
Checked By-Date: RQ - 12/1/2020	
Project Number: 6122201429	





**Notes:**  
 \* - Groundwater elevation was not used in contouring.  
 - Groundwater elevations calculated using top of casing measurements collected during the June 2020 site survey.

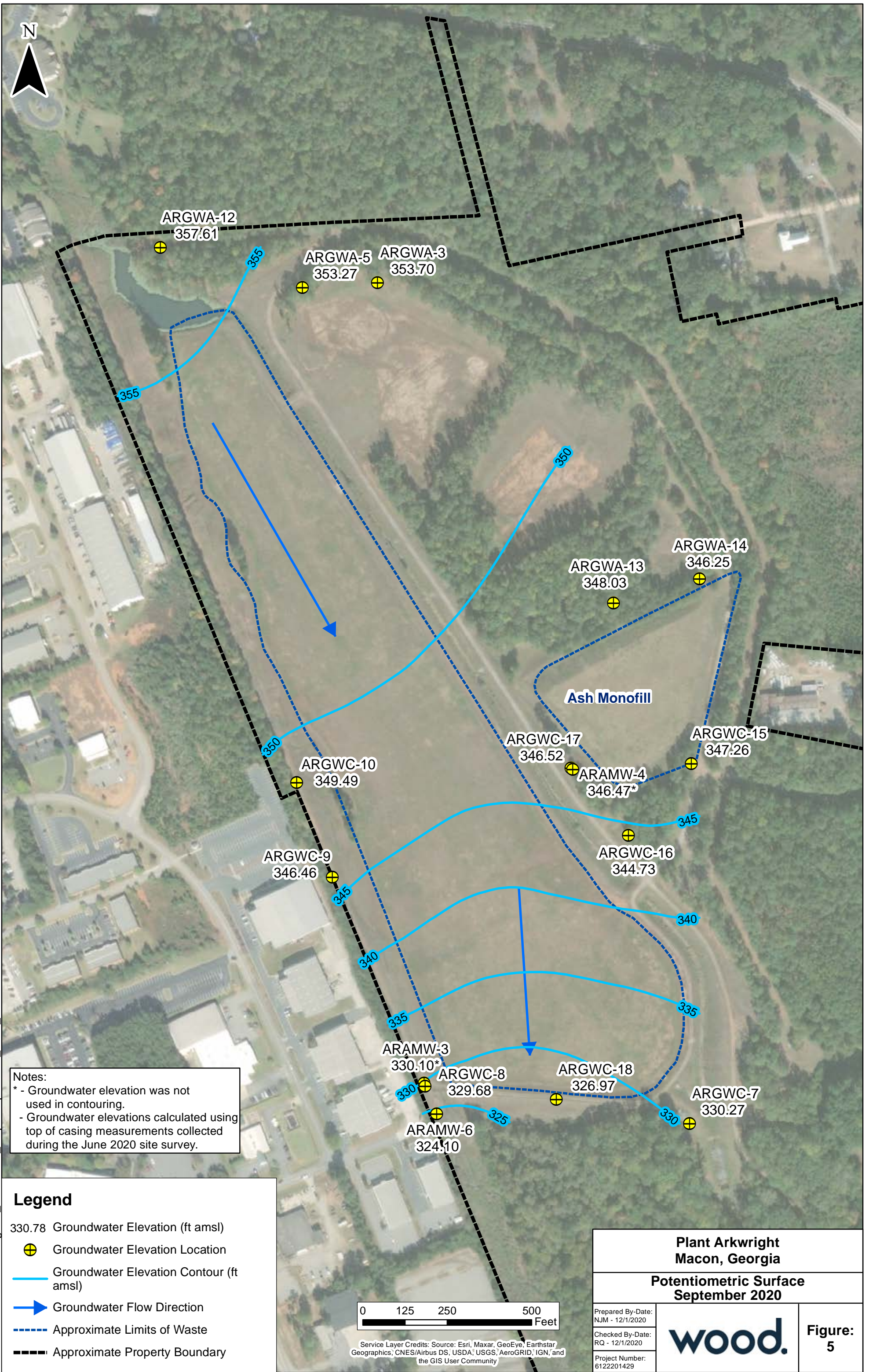
- Legend**
- 330.78 Groundwater Elevation (ft amsl)
  - Groundwater Elevation Contour
  - ⊕ Groundwater Elevation Location
  - ➔ Groundwater Flow Direction
  - - - - Approximate Limits of Waste
  - Approximate Property Boundary



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar, Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Plant Arkwright Macon, Georgia</b>	
<b>Potentiometric Surface August 2020</b>	
Prepared By-Date: NJM - 12/1/2020	<b>Figure: 4</b>
Checked By-Date: RQ - 12/1/2020	
Project Number: 6122201429	

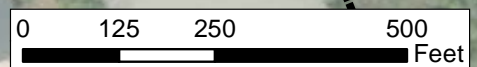




**Notes:**  
 \* - Groundwater elevation was not used in contouring.  
 - Groundwater elevations calculated using top of casing measurements collected during the June 2020 site survey.

**Legend**

- 330.78 Groundwater Elevation (ft amsl)
- Groundwater Elevation Location
- Groundwater Elevation Contour (ft amsl)
- Groundwater Flow Direction
- Approximate Limits of Waste
- Approximate Property Boundary

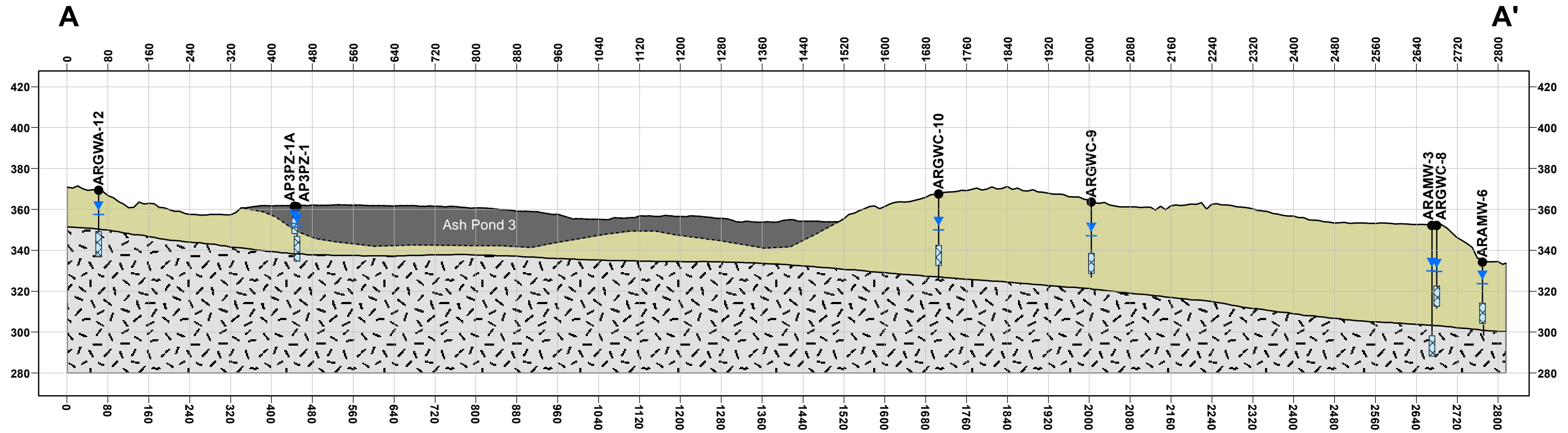


Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

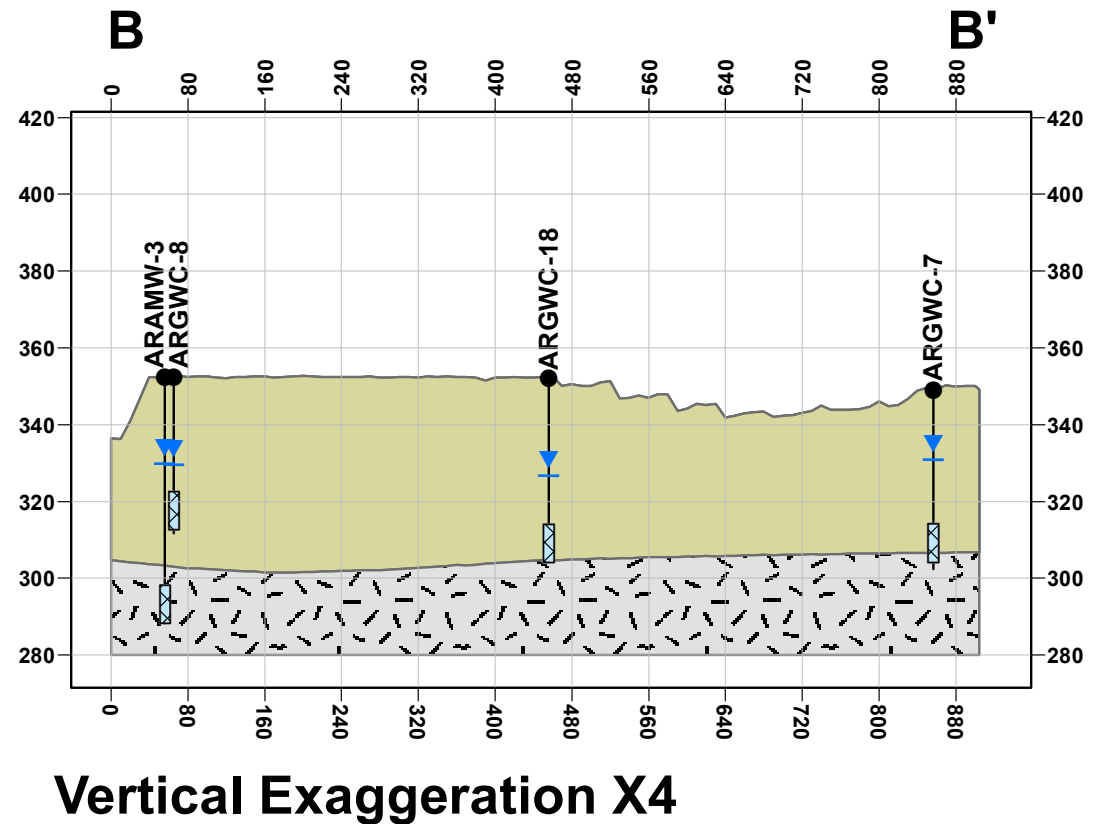
<b>Plant Arkwright Macon, Georgia</b>	
<b>Potentiometric Surface September 2020</b>	
Prepared By-Date: NJM - 12/1/2020	<b>Figure: 5</b>
Checked By-Date: RQ - 12/1/2020	
Project Number: 6122201429	



Document Path: Z:\Arkwright\1\_MXD\Report\_Figs\Assessment\_Corrective\_Measures\AP3\AP\_3\_Sect\_A\_Sect\_B\_noChemBoxes.mxd



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Legend**

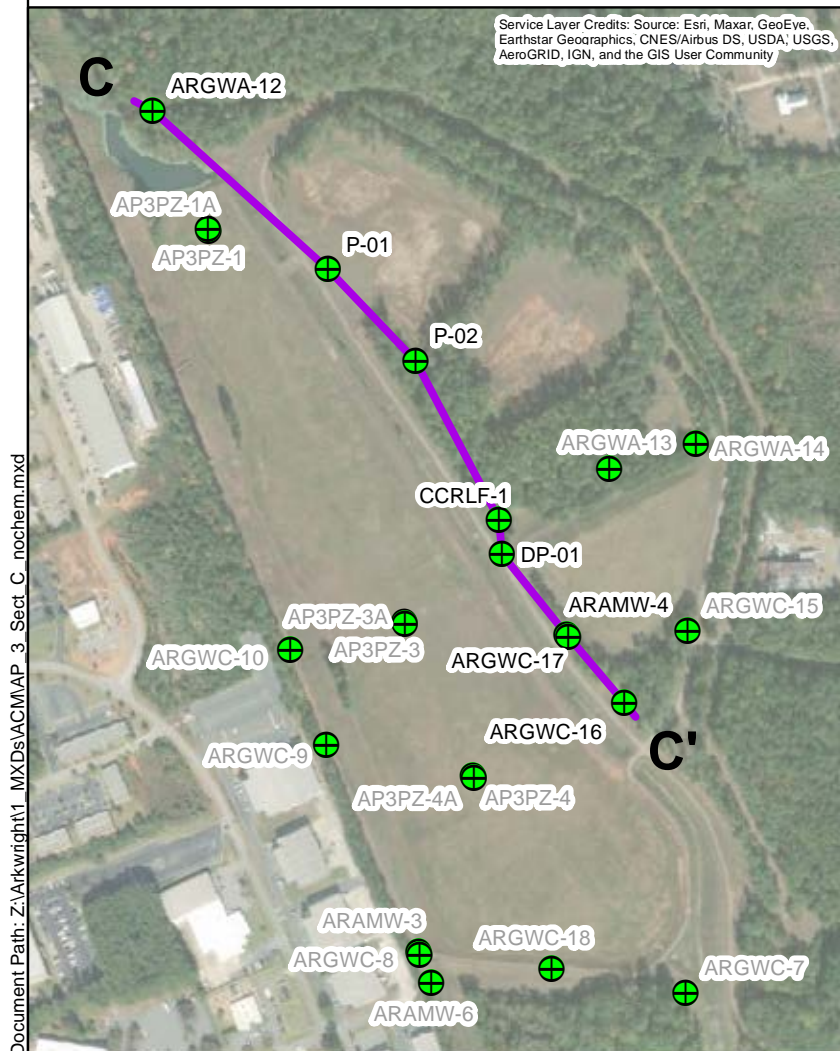
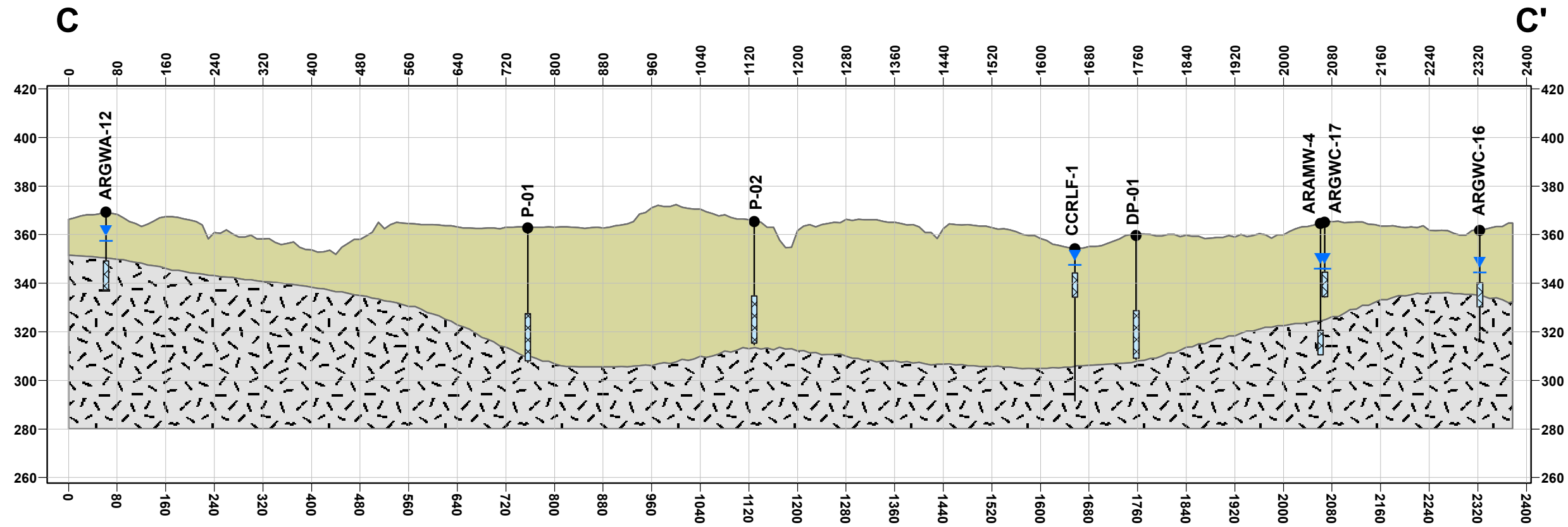
- Well
- Screen
- Overburden
- Bed Rock
- Ash Material
- Groundwater Elevation
- Cross-Section Trace

**Plant Arkwright  
Macon, Georgia**

**Cross Sections A-A' and B-B'**

Prepared By-Date: NJM - 11/9/2020		<b>Figure: 6</b>
Checked By-Date: RQ - 11/9/2020		
Project Number: 6122201429		

**Notes:**  
 - Bottom of ash surface is approximate and is based on borings through ash materials and the 1959 1:24,000 USGS topographic map of Macon, GA.



### Vertical Exaggeration X4

Notes:  
 - Monitoring network well groundwater elevations presented based on April 2020 sampling event measurements.

**Legend**

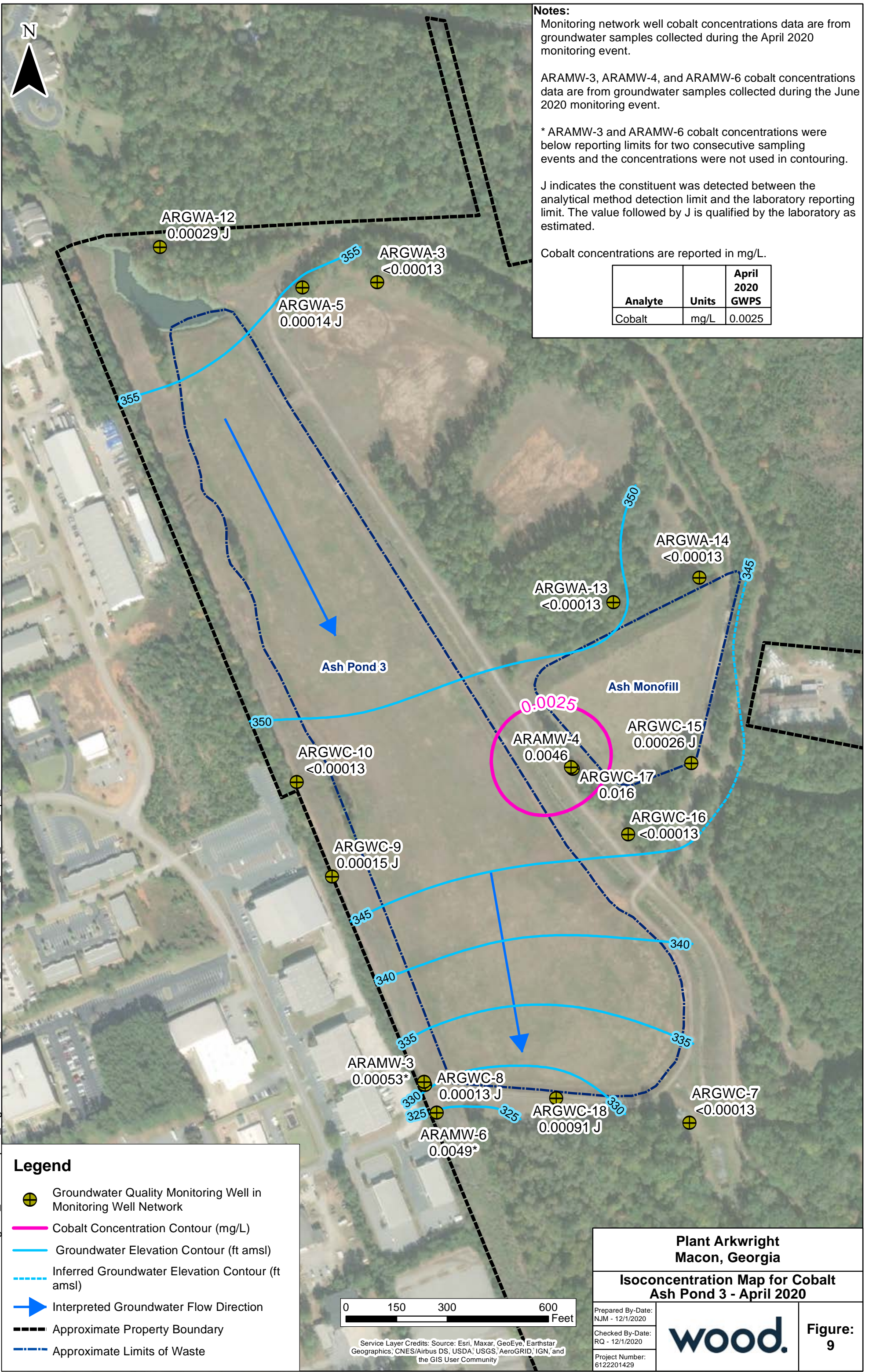
- Well
- Screen
- Overburden
- Bed Rock
- Ash Material
- Groundwater Elevation
- Cross-Section Trace

<b>Plant Arkwright Macon, Georgia</b>	
<b>Cross Section C-C'</b>	
Prepared By-Date: NJM - 11/9/2020	
Checked By-Date: RQ - 11/9/2020	
Project Number: 6122201429	
<b>Figure: 7</b>	









**Notes:**

Monitoring network well cobalt concentrations data are from groundwater samples collected during the April 2020 monitoring event.

ARAMW-3, ARAMW-4, and ARAMW-6 cobalt concentrations data are from groundwater samples collected during the June 2020 monitoring event.

\* ARAMW-3 and ARAMW-6 cobalt concentrations were below reporting limits for two consecutive sampling events and the concentrations were not used in contouring.

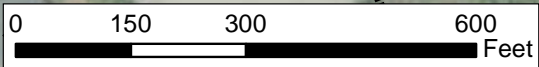
J indicates the constituent was detected between the analytical method detection limit and the laboratory reporting limit. The value followed by J is qualified by the laboratory as estimated.

Cobalt concentrations are reported in mg/L.

Analyte	Units	April 2020 GWPS
Cobalt	mg/L	0.0025

**Legend**

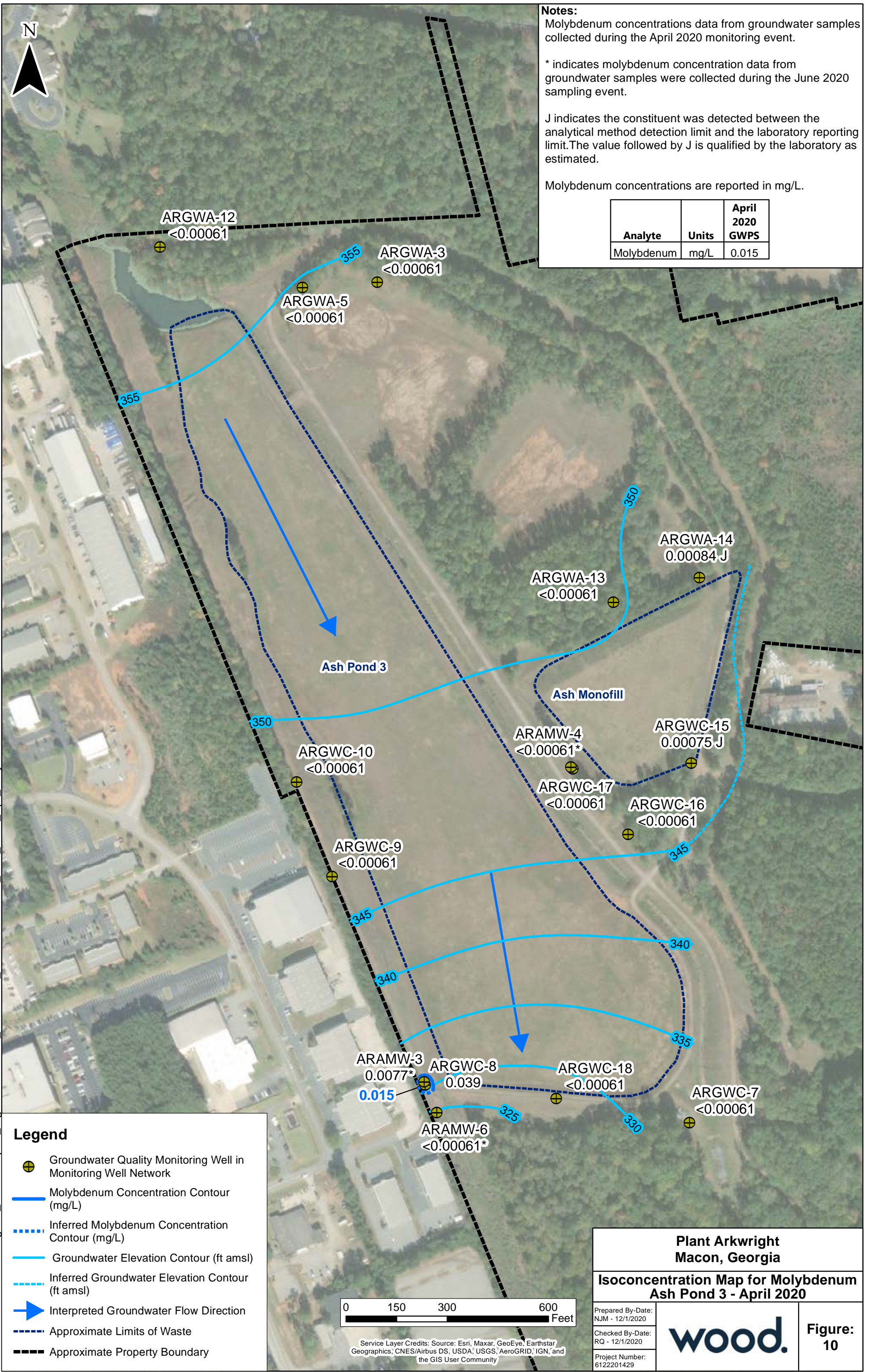
- Groundwater Quality Monitoring Well in Monitoring Well Network
- Cobalt Concentration Contour (mg/L)
- Groundwater Elevation Contour (ft amsl)
- Inferred Groundwater Elevation Contour (ft amsl)
- Interpreted Groundwater Flow Direction
- Approximate Property Boundary
- Approximate Limits of Waste



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Plant Arkwright Macon, Georgia</b>	
<b>Isoconcentration Map for Cobalt Ash Pond 3 - April 2020</b>	
Prepared By-Date: NJM - 12/1/2020	
Checked By-Date: RQ - 12/1/2020	
Project Number: 6122201429	
<b>Figure: 9</b>	



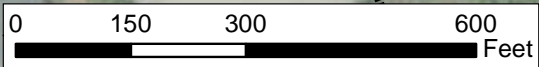


**Notes:**  
 Molybdenum concentrations data from groundwater samples collected during the April 2020 monitoring event.  
 \* indicates molybdenum concentration data from groundwater samples were collected during the June 2020 sampling event.  
 J indicates the constituent was detected between the analytical method detection limit and the laboratory reporting limit. The value followed by J is qualified by the laboratory as estimated.  
 Molybdenum concentrations are reported in mg/L.

Analyte	Units	April 2020 GWPS
Molybdenum	mg/L	0.015

**Legend**

- Groundwater Quality Monitoring Well in Monitoring Well Network
- Molybdenum Concentration Contour (mg/L)
- Inferred Molybdenum Concentration Contour (mg/L)
- Groundwater Elevation Contour (ft amsl)
- Inferred Groundwater Elevation Contour (ft amsl)
- Interpreted Groundwater Flow Direction
- Approximate Limits of Waste
- Approximate Property Boundary



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Plant Arkwright Macon, Georgia</b>	
<b>Isoconcentration Map for Molybdenum Ash Pond 3 - April 2020</b>	
Prepared By-Date: NJM - 12/1/2020	
Checked By-Date: RQ - 12/1/2020	
Project Number: 6122201429	
<b>Figure: 10</b>	





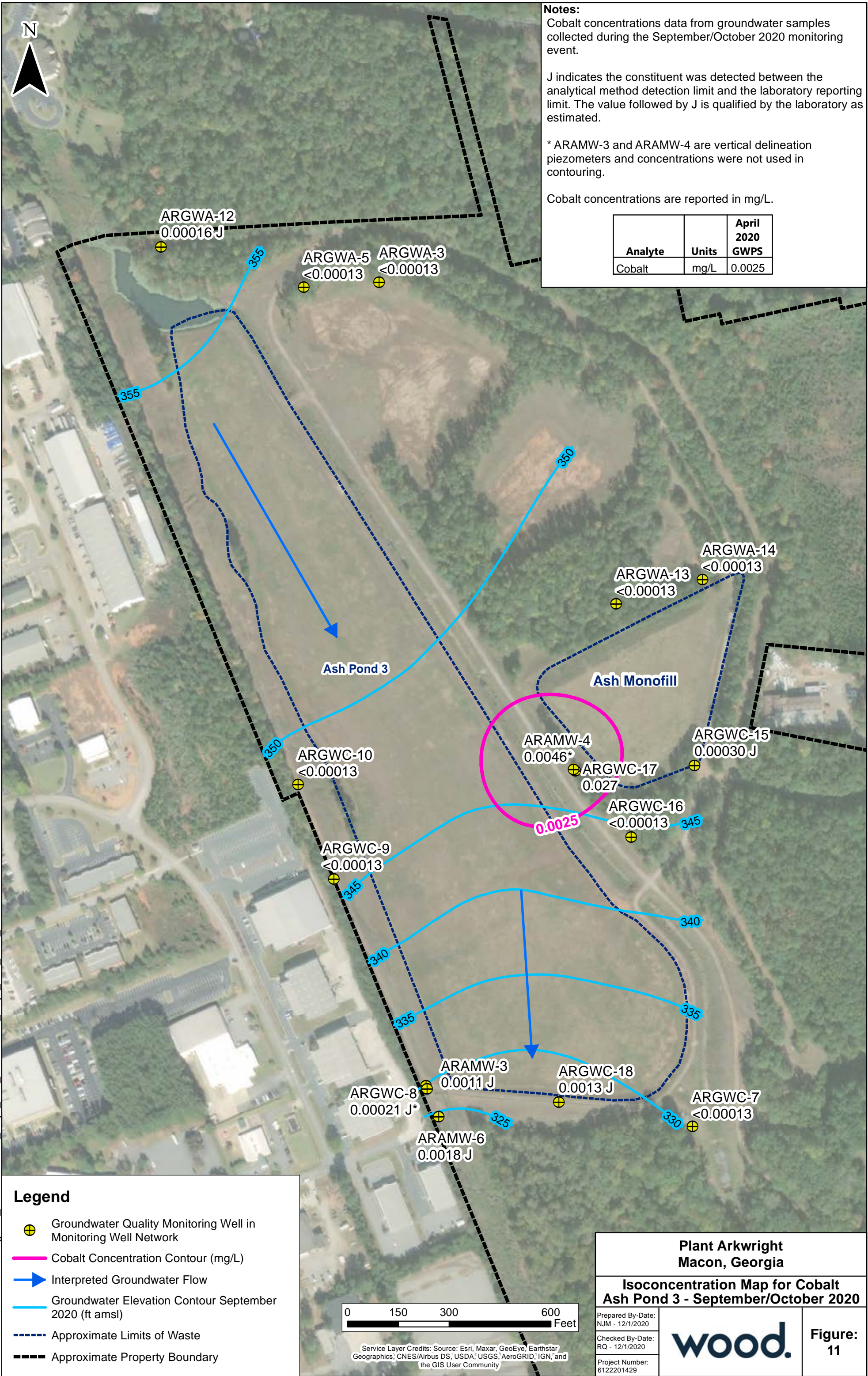
**Notes:**  
 Cobalt concentrations data from groundwater samples collected during the September/October 2020 monitoring event.

J indicates the constituent was detected between the analytical method detection limit and the laboratory reporting limit. The value followed by J is qualified by the laboratory as estimated.

\* ARAMW-3 and ARAMW-4 are vertical delineation piezometers and concentrations were not used in contouring.

Cobalt concentrations are reported in mg/L.

Analyte	Units	April 2020 GWPS
Cobalt	mg/L	0.0025



**Legend**

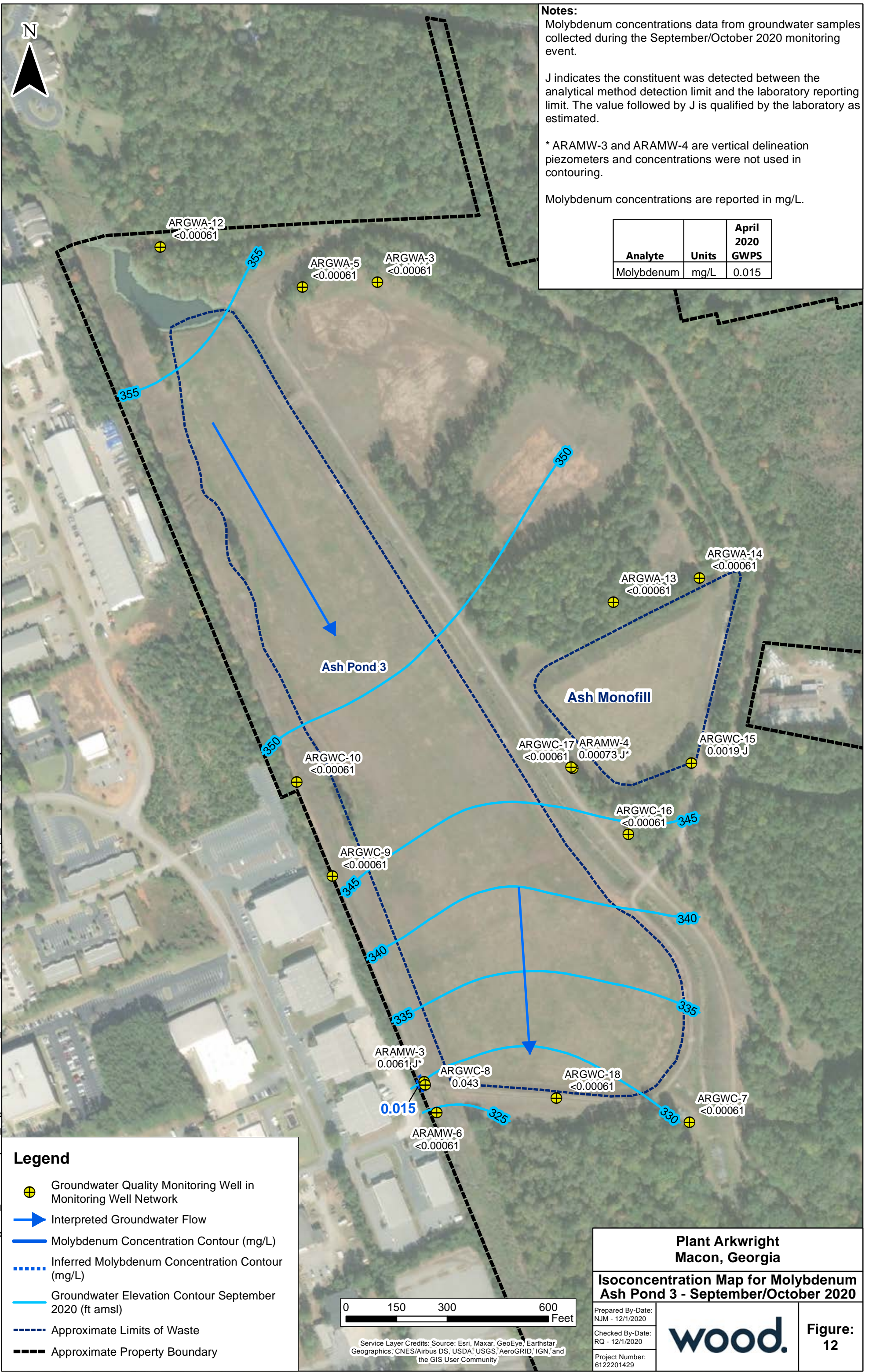
- Groundwater Quality Monitoring Well in Monitoring Well Network
- Cobalt Concentration Contour (mg/L)
- Interpreted Groundwater Flow
- Groundwater Elevation Contour September 2020 (ft amsl)
- Approximate Limits of Waste
- Approximate Property Boundary

<b>Plant Arkwright Macon, Georgia</b>	
<b>Isoconcentration Map for Cobalt Ash Pond 3 - September/October 2020</b>	
Prepared By-Date: NJM - 12/1/2020	
Checked By-Date: RQ - 12/1/2020	
Project Number: 6122201429	
<b>Figure: 11</b>	

0 150 300 600 Feet

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





**Notes:**  
Molybdenum concentrations data from groundwater samples collected during the September/October 2020 monitoring event.

J indicates the constituent was detected between the analytical method detection limit and the laboratory reporting limit. The value followed by J is qualified by the laboratory as estimated.

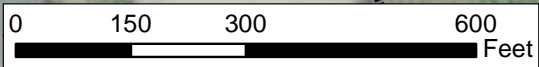
\* ARAMW-3 and ARAMW-4 are vertical delineation piezometers and concentrations were not used in contouring.

Molybdenum concentrations are reported in mg/L.

Analyte	Units	April 2020 GWPS
Molybdenum	mg/L	0.015

**Legend**

- ⊕ Groundwater Quality Monitoring Well in Monitoring Well Network
- ➔ Interpreted Groundwater Flow
- Molybdenum Concentration Contour (mg/L)
- - - - Inferred Molybdenum Concentration Contour (mg/L)
- Groundwater Elevation Contour September 2020 (ft amsl)
- - - - Approximate Limits of Waste
- - - - Approximate Property Boundary



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Plant Arkwright  
Macon, Georgia**

**Isoconcentration Map for Molybdenum  
Ash Pond 3 - September/October 2020**

Prepared By-Date: NJM - 12/1/2020		<b>Figure: 12</b>
Checked By-Date: RQ - 12/1/2020		
Project Number: 6122201429		



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# **APPENDIX A**

## **Risk Evaluation Report**



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# **RISK EVALUATION REPORT FORMER PLANT ARKWRIGHT ASH POND 3 LANDFILL AND MONOFILL BIBB COUNTY, GEORGIA**

*Prepared for*

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December 2020

Project Number 6123-20-1475

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

ACC	Atlantic Coast Consulting, Inc.
AP	Ash Pond
CCR	Coal Combustion Residual
CEM	Conceptual Exposure Model
CFR	Code of Federal Regulations
COI	Constituent of Interest
COPI	Constituent of Potential Interest
EPC	Exposure Point Concentration
EPD	[Georgia] Environmental Protection Division
GCL	Geosynthetic Clay Liner
GWPS	Groundwater Protection Standard
HSRA	Hazardous Site Response Act
mg/L	Milligrams per liter
OCGA	Official Code of Georgia Annotated
ProUCL	ProUCL software version 5.1
PWR	Partially Weathered Rock
RME	Reasonable Maximum Exposure
RRS	Risk Reduction Standards
RSL	Regional Screening Level
SSL	Statistically Significant Level
UCL	95 Percent Upper Confidence Limit of the Arithmetic Mean
USEPA	United States Environmental Protection Agency
VRP	Voluntary Remediation Program

## EXECUTIVE SUMMARY

The former Georgia Power's Plant Arkwright (site) consisted of a four-unit coal-fired, electric-generating facility approximately 6 miles northwest of the city of Macon, Georgia in Bibb County, Georgia. In compliance with applicable regulations, coal combustion residual (CCR) material resulting from power generation has historically been transferred and stored at the Ash Pond 3 Landfill and Monofill (AP-3), which were commissioned and operated separately but were then combined into one CCR unit in 2008 prior to closure. The Monofill disposal area is located just east of the AP-3 Landfill and was approved by EPD in January 1994 under Solid Waste Handling Permit 011-025D(LI) as a private industrial landfill to accept only waste from Georgia Power. This report focuses on the AP-3 Landfill and Monofill and is hereafter referred to as AP-3.

Georgia Power is currently in the permitting process for AP-3, which was closed in accordance with solid waste landfill regulations specified in the Georgia Rules for Solid Waste Management, Chapter 391-3-4, in effect at the time of its closure in 2010. Closure construction of the AP-3 Landfill and Monofill was completed in 2009 utilizing a geosynthetic clay liner overlain by 18 inches of cover soil. The Closure Certificate issued by Georgia Environmental Protection Division (EPD) in August 19, 2010 for AP-3 initiated the post-closure care period for the CCR unit. AP-3 is exempt from the requirements in the Federal CCR Rule<sup>1</sup>, in accordance with §257.50 (d) and (e), which states that the subpart does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015. AP-3 is, however, subject to the requirements of relevant portions of the State CCR Rule (Georgia EPD Rule 391-3-4-.10; EPD, 2018a), which includes semi-annual groundwater monitoring and reporting.

This report presents the results of a human health and ecological risk evaluation for CCR constituents that exhibit statistically significant levels (SSLs) in groundwater at the site, cobalt and molybdenum. A conservative, health-protective approach was used that is consistent with United States Environmental Protection Agency (USEPA) risk assessment guidance, Georgia EPD regulations and guidance, and standard practice for risk assessment in the State of Georgia. Molybdenum was previously identified as a state SSL-related constituent using the Groundwater Protection Standards (GWPS) established

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<sup>1</sup> The full citation for the Federal CCR Rule is: 40 C.F.R. § 257, Subpart D – *Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments*. The rule was finalized with an effective date of October 14, 2015 and last amended August 28, 2020 with an effective date of September 28, 2020 (USEPA, 2020a).



for AP-3 pursuant to the State CCR Rule, but would not be identified as a SSL-related constituent under the Federal CCR Rule (Wood, 2020). Cobalt was also previously identified as a state SSL-related constituent and would be identified as a federal SSL-related constituent under the Federal CCR Rule if it was applicable (Wood, 2020). The risk evaluation relies on recent (September 2016 to April 2020) groundwater data collected by Georgia Power in compliance with the State CCR Rule.

Consistent with USEPA guidance, this risk evaluation used a tiered approach to evaluate potential risks, which included the following steps:

1. Development of a conceptual exposure model (CEM) for AP-3.
2. Initial groundwater risk screening: Comparison of groundwater concentrations for SSL-related constituents (cobalt and molybdenum) to conservative, health-protective criteria to assess whether constituents pose a risk to human health.
3. Refined groundwater risk evaluation: Performance of a more refined analysis for Constituents of Potential Interest (COPIs) that were retained in the initial risk screening in order to evaluate the potential risks to human health due to groundwater exposure.
4. Development of risk conclusions and identification of associated uncertainties.

Using this approach that includes multiple conservative assumptions, SSL-related constituents (cobalt and molybdenum) are not expected to pose a risk to human health or the environment. Therefore, no further risk evaluation for groundwater is warranted. Compliance groundwater monitoring for AP-3 under the State CCR Rule will continue. Georgia Power will proactively evaluate the data and update this evaluation, if necessary.

## 1 INTRODUCTION

This report summarizes a risk evaluation of AP-3 located at the former Georgia Power Plant Arkwright (the site) in Bibb County, Georgia (**Figure 1**). Georgia Power is currently in the permitting process for AP-3 in accordance with the State CCR Rule (EPD, 2018a). AP-3 is exempt from the requirements in the Federal CCR Rule, in accordance with § 257.50(d), which states that the subpart does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015 (USEPA, 2020a). Closure construction of the AP-3 Landfill and Monofill was completed in 2009 utilizing a geosynthetic clay liner overlain by 18 inches of cover soil. A Closure Certificate was issued by EPD in August 19, 2010 for AP-3.

This risk evaluation provides additional technical review of the human health and environmental protectiveness associated with the closure of AP-3 with respect to cobalt and molybdenum concentrations in groundwater, which were identified as SSL-related constituents. Molybdenum was previously identified as a state SSL-related constituent using the groundwater GWPS established for AP-3 pursuant to the State CCR Rule, but would not be identified as an SSL-related constituent under the Federal CCR Rule<sup>2</sup>. Cobalt was also previously identified as a state SSL-related constituent and would be identified as a federal SSL-related constituent under the Federal CCR Rule if it was applicable. The evaluation relies on a conservative, health-protective approach that is consistent with the risk approaches outlined in Voluntary Remediation Program (VRP) (Georgia Voluntary Remediation Act, OCGA §12-8-100) and USEPA Regional Screening Levels (RSLs) User's Guide (USEPA, 2020b). This evaluation also incorporated principles and assumptions consistent with the Federal and State CCR Rules.

The risk evaluation includes the development of a site-specific CEM and a stepwise risk screening process for identified SSL-related constituents for AP-3. Cobalt was identified as an SSL-related constituent in monitoring well ARGWC-17, and molybdenum was identified as an SSL-related constituent in monitoring well ARGWC-8. Based on the

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<sup>2</sup> A state SSL-related constituent is determined by comparing the confidence intervals developed to either the constituent's MCL, if available, or the calculated background interwell prediction limit. A federal SSL-related constituent is determined by comparing the confidence intervals developed to either the constituent's MCL, if available, the USEPA RSL, if no MCL is available, or the calculated background interwell prediction limit.

results of the risk evaluation for these SSL-related constituents, a site-specific recommended path forward is provided.

The remainder of the report is organized as follows:

- ***Section 2, Basis and Background for the Development of the Conceptual Exposure Model*** – Presents site-specific information related to the site history, monitoring network, topography and surface hydrology, geology and hydrogeology, potential transport pathways, and receptors that could potentially be exposed to SSL-related constituents.
- ***Section 3, Risk Evaluation Screening*** – Describes the process for the initial risk-based screening of SSL-related constituents in groundwater to identify COPIs.
- ***Section 4, Refined Risk Evaluation*** – Describes the risk screening process for the groundwater COPIs, including calculation of exposure point concentrations (EPCs) and analysis of concentration trends over time.
- ***Section 5, Uncertainty Assessment*** – Describes the uncertainties associated with the risk screening process.
- ***Section 6, Conclusions*** – Presents the conclusions of the risk evaluation.
- ***Section 7, References*** – Provides reference information for the sources cited in this document.

## 2 BASIS AND BACKGROUND FOR THE DEVELOPMENT OF THE CONCEPTUAL EXPOSURE MODEL

This section provides a brief overview of the site location and operational history, site regulatory status, and geology/hydrogeology.

A CEM representing the site-specific processes and conditions that are relevant to the potential migration of groundwater and potential exposure to SSL-related constituents has been developed based on a review and compilation of information previously presented in former Plant Arkwright AP-3 documents, including the *CCR Unit Permit Application Part A, Former Plant Arkwright – AP3 Landfill and Monofill* (Jacobs, 2018a), *CCR Unit Permit Application Part B, Former Plant Arkwright – AP3 Landfill and Monofill* (Jacobs, 2018b), *2019 Semiannual Groundwater Monitoring and Corrective Action Report* (Atlantic Coast Consulting [ACC], 2020), and the *Plant Arkwright AP-3 2020 Annual Groundwater Monitoring and Corrective Action Report* (Wood, 2020). The CEM includes a conservative evaluation of potential transport pathways, potential exposure pathways, and potential human and ecological receptors.

### 2.1 Site Description

The former Plant Arkwright is located in Bibb County, Georgia, approximately 6 miles northwest of the city of Macon. Plant Arkwright is bordered by the Ocmulgee River on the east (**Figure 1**). The former Plant Arkwright was a four-unit coal-fired power generating facility that was retired in 2002 and decommissioned in 2003. CCR landfill units at the former Plant Arkwright include AP-1, AP-2 (Dry Ash Stockpile Landfill) and AP-3.

AP-3 was initially constructed as a surface impoundment prior to 1958, but did not receive CCR material until the 1970s. The CCR unit was closed in 2010 in accordance with the solid waste landfill regulations specified by Georgia EPD Rule 391-3-4, in effect at the time of its closure. Closure construction of AP-3 was completed in 2009 utilizing a geosynthetic clay liner overlain by 18 inches of cover soil. The closed footprint of the AP-3 Landfill encompasses 31.54 acres, and the closed footprint of the Monofill encompasses 4.08 acres. A closure certificate was issued by Georgia EPD for AP-3 on August 19, 2010. The Closure Certificate initiated the post-closure care period for the CCR unit.

Semi-annual groundwater monitoring and reporting for AP-3 is performed in accordance with the monitoring program requirements of the State CCR Rule. A groundwater

monitoring network was installed to monitor groundwater quality both upgradient and downgradient of AP-3. The AP-3 certified monitoring well network consists of five upgradient monitoring wells and eight downgradient monitoring wells. Three piezometers (ARAMW-3, ARAMW-4, and ARAMW-6) were also installed at AP-3 in November 2019. The locations of the certified compliance well network are provided on **Figure 2**.

### **2.1.1 Topography and Surface Hydrology**

The site is located along the southern edge of the Washington Slope Physiographic District. The Washington Slope is characterized by a gently undulating surface which generally slopes to the south and southeast towards the Coastal Plain Physiographic District located approximately 3.8 miles to the southeast of the site. Topography of the Washington Slope ranges from approximately 700 feet above sea level in the areas of southern Atlanta and Athens to approximately 300 feet above sea level at its southern limit along the Georgia Fall Line. Streams follow the structure of underlying crystalline rocks eastward toward the Ocmulgee River. Relief throughout the district is between 50 and 100 feet with the greatest relief being along the Ocmulgee River with steep walled valleys with elevation changes between 150 and 200 feet.

Wetland areas delineated on the former Plant Arkwright property are located south of the AP-3 Landfill earthen dike and not within the AP-3 permit boundary (**Figure 2**). A small, man-made pond is located adjacent to AP-3 to the north. Circa 2005, the configuration of the man-made pond was adjusted to allow for drainage into a man-made, jurisdictional surface water channel constructed between the AP-3 Landfill and Monofill, which generally runs from north to south. This man-made surface water channel discharges surface water through a weir structure located at the southeastern corner of AP-3 and into the wetlands area located further south alongside Beaverdam Creek. Beaverdam Creek is a tributary of the Ocmulgee River and is located approximately 1,200 feet south of the southernmost extent of AP-3. Beaverdam Creek runs roughly from northwest to southeast, eventually discharging to the Ocmulgee River at a location over  $\frac{3}{4}$ -mile from AP-3. At its closest point, AP-3 is located approximately 1,400 feet west of the Ocmulgee River. The Ocmulgee River is part of the Lower Ocmulgee River Basin, flowing from north to south in the vicinity of former Plant Arkwright. All surface water and groundwater in the former Plant Arkwright area eventually flows in a southerly direction.

## 2.1.2 Geology and Hydrogeology

The geologic and hydrogeologic characteristics of the site have been extensively evaluated and compiled in previous reports. The following presents a brief summary of this information from the *Plant Arkwright AP-3 2020 Annual Groundwater Monitoring & Corrective Action Report* (Wood, 2020):

*The general geology beneath AP-3 Landfill and Monofill consists of clays, silty and sandy clays, silty sands, sandy silts, and minor gravel at depth, underlain by silty sand saprolite and bedrock. Historic borings at the Site indicate bedrock occurs at depths ranging from approximately 14 feet to 63 feet below ground surface, and consists of weathered quartzofeldspathic gneiss, hornblende gneiss, and schist. Boring logs also indicate a relatively thin zone of partially weathered rock (PWR) above bedrock which ranges in thickness from 1 to 4 feet in the southern and eastern portions of the site, and up to 14 feet in the northeastern portion of the site.*

Pertinent hydrogeologic information from the *Plant Arkwright AP-3 2020 Annual Groundwater Monitoring and Corrective Action Report* (Wood, 2020) is presented below:

*Two main hydrostratigraphic units are present at the Site: the water table aquifer and the underlying bedrock aquifer. The water table aquifer is composed of the unconsolidated silty sands and sandy silts with clays and variable thicknesses of PWR [partially weathered rock] mantling the bedrock surface. The water table aquifer is hydraulically connected to the underlying bedrock aquifer (Southern Company Services, 2005) and comprise the uppermost aquifer. The monitoring well network for AP-3 Landfill and Monofill monitors the water table aquifer and the upper weathered and fractured bedrock.*

*Slug testing data from the site reflect a range of hydraulic conductivities from  $10^{-3}$  to  $10^{-4}$  centimeters per second. Groundwater level monitoring data from the site show stable water level trends and the potentiometric maps reflect groundwater generally flowing to the south and southeast across AP-3 Landfill and Monofill.*

The potentiometric surface elevation contours for April 2020 is presented in **Figure 3**.

## 2.2 Potential Exposure Pathways and Receptors

A variety of geologic, hydrogeologic, and geochemical mechanisms can occur in the subsurface and serve to attenuate constituent concentrations in groundwater such as soil or rock characteristics, the local geology and hydrogeology, and the distance the groundwater must travel before reaching a potential receptor. The CEM (**Figure 4**) depicts the conservative potential exposure pathways and receptors included in the risk evaluation.

The following potential exposure pathways and receptors were considered:

- On-site industrial worker: The groundwater exposure pathway for the on-site industrial worker was considered incomplete because there are no wells on-site that are classified for use as potable wells.
- On-site construction worker: While there is a potential for limited exposure to groundwater by a future construction worker through dermal contact with on-site shallow groundwater during subsurface activities, future construction workers would be expected to have little to no direct contact with on-site groundwater due to safety procedures outlined in their site-specific health and safety plans.
- On-site resident: The groundwater exposure pathway for the on-site resident was considered incomplete because there is no residential use on-site under current site conditions and future residential use of the site is considered unlikely. Land use surrounding the site is zoned agricultural to the north, planned industrial to the west, agricultural to the southwest, and multi-family residential to the south (Bibb County, 2020). Beyond the Ocmulgee River to the east, land use is predominantly zoned agricultural/forestry (Jones County, 2007).
- Off-site industrial/construction worker: The potential for off-site worker exposure through direct contact with shallow groundwater was addressed through the evaluation of hypothetical off-site residential receptors. Health-protective screening levels for residential receptors would be more conservative than industrial and construction worker screening levels.
- Off-site resident: The groundwater exposure pathway for hypothetical off-site residential receptors was assumed potentially complete. A well survey of potential groundwater wells within a three-mile radius of AP-3 was conducted and consisted of reviewing Federal, State, and County records and online sources, in

addition to conducting a windshield survey of the area (Newfields, 2020). The well survey is included as **Appendix A**. Results of the survey are presented on **Figure 5**.

Combining well information from all sources with parcel data, 639 total parcels likely to be associated with an active or inactive private well within the three-mile radius were identified. Municipal water from the Macon Water Authority is widely available throughout the Bibb County portion of the area. The majority of the water lines around the plant were built in the 1970s, when the nearby homes were constructed. Municipal water is not available in the Monroe County part of the area. The residential area east of the Ocmulgee River is served by public water. No active public wells were located within the 3-mile radius. The closest private wells to AP-3 are south of the site and Beaverdam Creek, which was assumed to represent a localized hydraulic discharge boundary for groundwater flow in the upper aquifer from the area.

No surface water intakes have been identified for public water supplies within three miles downgradient of the site. Evaluation of information presented on the Water Quality Portal (2020) indicates a surface water intake is located approximately 4.6 miles downstream of the site. Use of surface water as a drinking water source within three miles downgradient of the site is an incomplete exposure pathway; therefore, drinking water exposure assumptions for surface water do not apply.

As a conservative measure, potential off-site residential exposure to SSL-related constituents was evaluated using on-site groundwater wells around the perimeter and downgradient of AP-3. This comparison makes the conservative assumption that on-site groundwater may potentially migrate to off-site drinking water wells, through advective transport in groundwater without any attenuation within the aquifer media through factors such as dilution, dispersion, or adsorption. The risk evaluation screening conservatively assumed that hypothetical off-site residential receptors could be exposed to the concentrations of SSL-related constituents in groundwater through its use as a potable water supply by ingestion and dermal contact with groundwater.

- Off-site recreational surface water receptors: The surface water exposure pathway for recreational receptors was addressed qualitatively through the evaluation of on-site groundwater data. Molybdenum and cobalt concentrations were either below the health-protective screening criteria or were delineated below health-



protective screening criteria in on-site groundwater; therefore, evaluation of the surface water pathway was not necessary.

- Off-site ecological surface water receptors: The surface water exposure pathway for off-site ecological receptors was addressed qualitatively through the evaluation of on-site groundwater data. Molybdenum and cobalt concentrations were either below the health-protective screening criteria or were delineated below health-protective screening criteria in on-site groundwater; therefore, evaluation of the surface water pathway was not necessary.

### **3 RISK EVALUATION SCREENING**

The CEM developed in Section 2 was used to identify the potentially completed exposure pathways to human receptors that are considered in the risk evaluation. The initial step in the risk evaluation is the comparison of SSL-related constituents in groundwater collected between September 2016 to April 2020 to health-protective levels for potentially complete exposure pathways. The approach used is consistent with the Georgia EPD regulations and guidance, USEPA guidance, and standard practice for risk assessment in the State of Georgia. The Georgia EPD allows for the site-specific evaluation of risk in programs such as the Voluntary Remediation Program (EPD, 2009).

The initial risk evaluation screening was performed for the potential groundwater exposure pathway by comparing the constituent concentrations of on-site groundwater wells determined to have SSL-related constituents to appropriate health-protective screening criteria. These criteria included the risk reduction standards (RRS) established under the Hazardous Site Response Act (HSRA) for drinking water and site-specific background for the protection of human health. If the maximum concentration of a SSL-related constituent exceeded the screening criterion, the constituent was identified as a COPI for further evaluation in the refined risk evaluation. The methodology and screening criteria used were identified in accordance with regulatory guidance and standard risk assessment practices using an approach designed to conservatively overestimate possible exposures and risks, providing an additional level of confidence in the conclusions. The methodology is summarized on **Figure 6** and discussed in more detail below.

#### **3.1 Data Used in Risk Evaluation Screening**

This section provides information on the groundwater dataset used in the risk evaluation screening.

##### **3.1.1 Groundwater Data**

For the initial risk screening evaluation, groundwater data from samples collected between September 2016 to April 2020 from on-site monitoring well ARGWC-17 (cobalt data) and between August 2016 to April 2020 from on-site monitoring well ARGWC-8 (molybdenum data) were used in the risk screening evaluation for hypothetical off-site residential exposure. Cobalt in monitoring well ARGWC-17 and molybdenum in monitoring well ARGWC-8 were previously identified as SSL-related constituents. The

data for these SSL-related constituents from the wells listed above were screened against relevant health-protective screening criteria.

The two wells with SSL-related constituents are depicted on **Figure 2** and the groundwater dataset used in the risk evaluation is presented in **Appendix B**. Method detection limits for the groundwater dataset used in the risk evaluation were reviewed and confirmed to be less than the screening levels.

### **3.1.2 Background Groundwater Quality**

Statistical analysis of groundwater monitoring data is performed at the former Plant Arkwright pursuant to §257.93-95 following the established statistical method from the Unified Guidance (USEPA, 2009) for AP-3; background values are routinely updated under the program. Five monitoring wells in the certified monitoring well network are designated as upgradient or background locations, including ARGWA-3, ARGWA-5, ARGWA-12, ARGWA-13, and ARGWA-14. The statistical analyses performed on the groundwater data were described in the *2020 Annual Groundwater Monitoring & Corrective Action Report Statistical Summary* (Wood, 2020) and text from that document is presented below.

*Non-parametric Interwell tolerance limits were used to calculate the site-specific background limits from pooled upgradient well data for Appendix IV constituents. Parametric tolerance limits are used when data follow a normal or transformed-normal distribution such as for radium. When data contained greater than 50% nondetects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used. The background limits were then used when determining the groundwater protection standard (GWPS) under 40 CFR § 257.95(h) and Georgia EPD Rule 391-3-4-.10(6)(a).*

Naturally occurring or site-specific background concentrations can exceed health-protective screening criteria. Therefore, site-specific background values were used as the groundwater screening values if background concentrations were identified as greater than the groundwater screening values, as further described in Section 3.2.

## **3.2 Groundwater Screening Evaluation**

The process of screening SSL-related constituents in groundwater against human health screening levels for groundwater is discussed below and presented in **Figure 6**. The HSRA RRS evaluated under the VRP approach presented herein included Type 1 and

Type 2 standards for off-site residential receptors. The Hazardous Site Response Act, Rule 391-3-19.07(1) notes that “[a]ll risk reduction standards will, when implemented, provide adequate protection of human health and the environment.” In addition, Rule 391-3-19.07(3) notes a corrective action, if needed, may be considered complete when “a site meets any or a combination of the applicable risk reduction standards described in Rule 391-3-19-.07.”

In accordance with risk standards and methodologies approved by the Georgia EPD, the screening level hierarchy for the SSL-related constituents is as follows:

- The higher of the Type 1 or Type 2 RRS for hypothetical off-site residential exposures, which are considered protective of human health for those constituents regulated under HSRA (i.e., cobalt).

The Type 2 RRS was used for cobalt, which is the lower of the calculated carcinogenic and non-carcinogenic values derived using the default exposure factors for residential receptors and the methodology found in Appendix III of the HSRA rule (EPD, 2018b). Toxicity values for cobalt used for the Type 2 RRS calculations were identified in the Provisional Peer Reviewed Toxicity Value for Cobalt (USEPA, 2008). The risk-based Type 2 RRS were calculated using USEPA’s RSL calculator (USEPA, 2008) assuming a target cancer risk of  $1 \times 10^{-5}$  and a target hazard quotient of 1, consistent with the Georgia EPD guidance (EPD, 2018b). The calculations of the Type 2 RRS values for the SSL-related constituents are presented in **Appendix C**.

- Site-specific screening levels were calculated for those chemical constituents like molybdenum that do not have RRS under HSRA using residential exposure assumptions consistent with the HSRA rules (EPD, 2018b) and are equivalent to the USEPA tapwater RSLs. The screening level for molybdenum is essentially a Type 2 RRS calculated at a target hazard quotient of 1, consistent with Georgia EPD guidance, and has been adopted by USEPA as the risk-based level for the Federal CCR Rule (USEPA, 2020a). The calculations of the site-specific and Type 2 RRS values for the SSL-related constituents are presented in **Appendix C**. A site-specific screening level was used for molybdenum.
- If site-specific background concentrations are greater than the criteria described above, then the site-specific background concentration is used as the screening level in accordance with the CCR methodology for development of groundwater

protection standards (USEPA, 2020a). Background was not used as a screening level in the evaluation.

Groundwater data collected from the wells identified to have SSL-related constituents were compared to residential screening criteria as a surrogate for protection of hypothetical off-site receptors. Concentrations of cobalt in ARGWC-17 and molybdenum in ARGWC-8 were compared to the higher of the HSRA Type 1 RRS, Type 2 RRS, and background values for groundwater pursuant to standard practice for risk assessment within the State of Georgia.

**Table 1** presents the maximum detected concentration of each SSL-related constituent (0.037 mg/L for cobalt and 0.051 mg/L for molybdenum), which was used to represent potential off-site groundwater quality for comparison to the selected screening levels for hypothetical off-site residential receptors of 0.006 mg/L for cobalt and 0.1 mg/L for molybdenum. As noted in **Table 1**, cobalt was detected at concentrations that exceeded the screening level, was identified as a COPI, and was retained for further evaluation in the refined risk evaluation. Concentrations of molybdenum were below the health-protective screening level, and therefore, no further evaluation of molybdenum is necessary.

## 4 REFINED RISK EVALUATION

A refined risk evaluation was conducted for the groundwater COPI, cobalt, that was detected in ARGWC-17 at concentrations that exceeded the health-protective screening criterion. The refined risk evaluation identified an EPC for potential exposure to cobalt for the purposes of characterizing potential risk to human receptors.

### 4.1 Refined Groundwater Risk Evaluation

Potential risk associated with exposure to cobalt by hypothetical off-site residential receptors was refined using the methodology described in the HSRA and VRP guidance (EPD, 2018b; EPD, 2009) and is presented in the following section and on **Figure 7**.

For the refined risk evaluation, groundwater data from the on-site well that was identified to have an SSL-related constituent and downgradient monitoring wells that represent groundwater flow in the same hydraulically downgradient direction were used as a surrogate for hypothetical off-site residential exposure. The downgradient groundwater monitoring wells included in the refined risk evaluation are depicted with yellow well labels on **Figure 2** and include the well with the SSL-related constituent (ARGWC-17) along with the wells downgradient of ARGWC-17 (ARAMW-4 and ARGWC-18).

Groundwater data used in the refined risk evaluation were collected from the uppermost aquifer and are considered to be representative of groundwater conditions at the site. The groundwater data used in the refined risk evaluation are presented in **Appendix B**. Method detection limits for the groundwater datasets used in the risk evaluation were reviewed and confirmed to be less than the screening levels.

#### 4.1.1 Groundwater Exposure Point Calculation

The refined risk evaluation for cobalt includes the development of an EPC. The EPC is a conservative estimate of potential exposure to a receptor. The EPC is based on the 95 percent upper confidence limit of the arithmetic mean (UCL) and accounts for uncertainty and variability in the dataset (USEPA, 2002). Consistent with USEPA guidance for developing groundwater EPCs (USEPA, 2014), UCLs were calculated using USEPA ProUCL 5.1 software (ProUCL) (USEPA, 2016) and user's guide (USEPA, 2015a). For the refined risk evaluation, the UCLs for cobalt were calculated using the following specific datasets:

- UCL for the individual well with an SSL-related constituent;



- UCL based on combined data from the well with an SSL-related constituent and other wells/piezometers in the general vicinity to include additional downgradient monitoring wells/piezometers that represent groundwater flow in the same hydraulically downgradient direction; and
- UCL based on the combined data from the farthest downgradient well that is hydraulically downgradient of the well with an SSL-related constituent.

Other assumptions made in the calculations of the UCLs include:

- Primary samples (no duplicates) were used to calculate EPCs as duplicate samples were analyzed for quality assurance purposes.
- If the calculated UCL exceeded the maximum detected concentration or if enough samples were not available to calculate an UCL, then the maximum detected concentration was used as the EPC.

ProUCL software calculates multiple UCLs and provides a recommended UCL that was selected as the EPC. If there were multiple UCLs recommended by ProUCL, the maximum UCL value was selected. **Appendix D-1** provides a summary of the UCLs calculated using the methods described above, and **Appendix D-2** presents a figure showing the wells used in the calculation of the EPCs for cobalt. **Appendix D-3** provides the input and output files associated with the ProUCL software.

**Table 2** summarizes the groundwater EPC selected for cobalt. This table shows the number of samples, the maximum detected concentration, the UCL recommended by ProUCL software, and the selected EPC.

#### **4.1.2 COPI Concentration Trend Analysis**

Concentration trends over time were evaluated as one line of evidence in the refined risk evaluation for cobalt. The Mann-Kendall trend test with an alpha value equal to 0.05 and the Theil-Sen line test were conducted on the data from ARGWC-17 for cobalt to evaluate the trends in concentrations over time. The tests were conducted using the USEPA ProUCL 5.1 software (USEPA, 2016).

The Mann-Kendall and Theil-Sen test results are presented on a time series graph in **Appendix D-4** and indicated a statistically significant decreasing trend in cobalt concentrations over time at ARGWC-17.

A trend analysis for cobalt was also evaluated for ARGWC-18, the farthest downgradient well of ARGWC-17. Similar to ARGWC-17, the Mann-Kendall and Theil-Sen test results presented in **Appendix D-4** indicated a statistically significant decreasing trend in cobalt concentrations over time at ARGWC-18.

#### **4.1.3 Refined Groundwater Risk Evaluation Results**

Cobalt was identified as a groundwater COPI in the initial risk screening. In the refined risk evaluation, comparison of the calculated EPC to the screening level was used to identify whether cobalt is a constituent of interest (COI) that may pose a potential risk to hypothetical off-site residential receptors exposed through the use of groundwater as potable water. If the EPC from the farthest downgradient well is greater than the respective screening level, then the constituent is identified as having the potential for risk that warrants additional evaluation (i.e., performing a surface water evaluation).

Cobalt was detected in 11 out of 11 groundwater samples in well ARGWC-17 at concentrations that exceeded the off-site groundwater screening level for residential receptors. For the refined risk evaluation, the following EPCs were calculated for cobalt using the monitoring wells/piezometers shown in **Appendices D-1** and **D-2**:

- Data from ARGWC-17 were combined to represent groundwater exposure for the well with an SSL-related constituent (EPC Step 1 in **Appendix D-1**).
- Data from ARGWC-17 and the downgradient wells ARAMW-4 and ARGWC-18 were combined to represent groundwater exposure in the same hydraulically downgradient direction (EPC Step 2 in **Appendix D-1**).
- Data from ARGWC-18 were combined to represent groundwater exposure using the well that is the farthest hydraulically downgradient of well ARGWC-17 (EPC Step 3 in **Appendix D-1**).

The UCLs for the dataset for ARGWC-17 of 0.025 milligrams per liter (mg/L) and the combined dataset from ARGWC-17, ARAMW-4, and ARGWC-18 of 0.021 mg/L exceeded the screening level of 0.006 mg/L. The UCL for the dataset of the farthest hydraulically downgradient well (ARGWC-18) of 0.0016 mg/L is below the screening level of 0.006 mg/L. In addition, the distance from ARGWC-18 to the nearest property boundary within the potential groundwater flow direction is approximately 900 feet.

**Table 3** presents the results of the refined screening comparing the farthest hydraulically downgradient EPC to the screening criterion. Cobalt was not identified as a groundwater

COI for hypothetical off-site residential receptors and is not expected to pose a risk to human health through potable water use.

#### **4.1.4 Refined Groundwater Risk Evaluation Summary and Conclusions**

Detections of cobalt at ARGWC-17 were reported at concentrations above the groundwater screening value. However, the results of the refined risk evaluation for groundwater indicate the following:

- Cobalt is not expected to pose a risk to hypothetical off-site residential receptors.
- All of the individual data points used to calculate the cobalt EPC to represent potential groundwater exposure for hypothetical off-site residential receptors based on the farthest hydraulically downgradient monitoring well (ARGWC-18) were less than the health-protective screening level.
- Statistically significant decreasing trends in cobalt concentrations have been observed at the well exhibiting an SSL and the farthest downgradient well over time.

Therefore, based on the multiple lines of evidence, further risk evaluation for groundwater is not warranted. Compliance groundwater monitoring under the State CCR Rule will continue.

## 5 UNCERTAINTY ASSESSMENT

USEPA guidance stresses the importance of providing an analysis of uncertainties so that risk managers are better informed when evaluating risk assessment conclusions (USEPA, 1989). The uncertainty assessment provides a better understanding of the key uncertainties that are most likely to affect the risk assessment results and conclusions.

The potential uncertainties associated with the risk evaluation are as follows:

### **Health-Protective Screening Criteria Uncertainties:**

- In accordance with risk standards and methodologies approved by the Georgia EPD, the higher of the Type 1 or Type 2 standard were selected for screening criteria. Selection of the screening criteria per standard practice for risk assessment within the State of Georgia is considered appropriate for risk quantification for AP-3. The Hazardous Site Response Act, Rule 391-3-19.07(1) notes that “[a]ll risk reduction standards will, when implemented, provide adequate protection of human health and the environment.” Thus, this approach is likely to overestimate hypothetical risks for off-site receptors.
- Screening criteria based on RRSs, including cobalt, represent the reasonable maximum exposure (RME). The RME is defined as "the highest exposure that is reasonably expected to occur at a site but that is still within the range of possible exposures" (USEPA, 1989). USEPA (1989) states that the “intent of the RME is to estimate a conservative exposure case (i.e., well above the average case) that is still within the range of possible exposures.” Potential receptors will likely have lower exposures than those presented in this risk evaluation (i.e., a majority of the site concentrations will be less than the UCL), and therefore, potential exposures are likely overestimated.

### **Exposure Uncertainties:**

- The maximum detected concentrations of SSL-related constituents were compared to conservative screening criteria to identify the COPIs. Use of the maximum detected concentration is consistent with standard practice; however, use of the maximum detected concentration for exposure likely overestimates potential risk.
- The constituents included in the risk evaluation occur naturally in the site geologic setting. Although background concentrations were evaluated and used



in the screening process, contributions to exposure and risk were assumed to be entirely CCR-related and natural background sources were not quantified. Thus, SSL-related exposures were likely overestimated.

- Hypothetical off-site residential exposure was evaluated using on-site groundwater data from wells around the perimeter and downgradient of AP-3. This comparison makes the conservative assumption that on-site groundwater may potentially migrate to off-site drinking water wells through advective transport in groundwater, but without any attenuation within the aquifer media through factors such as dilution, dispersion, or adsorption, overestimating potential exposure and risk to hypothetical off-site receptors. Concentrations above screening criteria are not migrating off-site as wells located downgradient of the screening level exceedances for cobalt have concentrations less than the health-protective criterion.
- EPCs for metals in groundwater were assumed to be 100 percent bioavailable by ingestion and dermal contact. This assumption may tend to overestimate risk.
- A well survey of potential groundwater wells within a three-mile radius of the former Plant Arkwright was conducted by NewFields in 2020 and consisted of reviewing publicly available federal, state, and county records as well as a windshield survey of the area (**Appendix A**). Wood relied on the data collected by NewFields.

The evaluation used on-site groundwater data to represent hypothetical off-site exposure, which is a conservative approach that likely results in overestimation of assumed exposure and assumed potential risk. The closest private wells to AP-3 are south of the site and Beaverdam Creek, which represents a localized discharge boundary for groundwater flow in the upper aquifer from the area. Although off-site potable wells identified in the well survey were not included in the risk evaluation, the presence of these wells do not appear to change the conclusions of the risk evaluation because concentrations of COPIs are delineated on-site.

**Toxicity Uncertainties:**

- Toxicity factors used to calculate health-protective criteria are established at conservative levels to account for uncertainties and often result in criteria that are many times lower than the levels observed to cause effects in human or animal studies. Therefore, a screening level exceedance does not necessarily equate to an adverse effect.

## **6 CONCLUSIONS**

This human health and ecological risk evaluation for SSL-related constituents in groundwater at the site was conducted using methods consistent with Georgia EPD and USEPA guidance and included multiple conservative assumptions. Based on this evaluation, cobalt and molybdenum are not expected to pose a risk to human health or the environment.

Accordingly, no further risk evaluation for groundwater is warranted. Compliance groundwater monitoring for AP-3 under the State CCR Rule will continue. Georgia Power will proactively evaluate the data and update this evaluation, if necessary.

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# **TABLES**

**Table 1**  
**SSL-Related Constituent Groundwater Screening**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, Georgia**

CCR Rule Designation	Constituent	CAS No.	Detection Frequency <sup>[1]</sup>	Exceedance Frequency <sup>[2]</sup>	Maximum Concentration (mg/L)	Screening Level (mg/L)	Source	Site-Specific Background (mg/L)	COPI? (Y/N)	Rationale <sup>[3]</sup>
Appendix IV	Cobalt	7440-48-4	11 / 11	11 / 11	0.037	0.006	Type 2 RRS <sup>[4]</sup>	0.0025	Y	ASL
	Molybdenum	7439-98-7	11 / 11	0 / 11	0.051	0.1	Site-Specific	0.015	N	BSL

**Notes:**

[1] September 2016 to April 2020 data for downgradient well ARGWC-17 (cobalt) and August 2016 to April 2020 data for ARGWC-8 (molybdenum)

[2] Exceedance frequency is for the specific constituent that exceeds the first screening value in the hierarchy of screening values.

[3] Rationale for classification or exclusion of constituent as a COPI:

ASL = Above respective screening level

BSL = Below respective screening level

[4] The Type 2 RRSs and site-specific screening levels are calculated by the EPA RSL calculator with exposure factors inputs from HSRA Appendix III, Table 3.

**Definitions:**

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

COPI = Constituent of Potential Interest

EPA = United States Environmental Protection Agency

RRS = Risk Reduction Standard

Prepared by/Date: IMR 9/24/20

Checked by/Date: LMS 10/23/20

**Table 2**  
**Groundwater Exposure Point Concentration Summary**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

Exposure Unit	CCR Rule Designation	Constituent	CAS No.	Detection Frequency	Maximum Concentration (mg/L)	95% UCL (mg/L)	Recommended UCL Method	Selected EPC <sup>[1]</sup> (mg/L)
AP-3	Appendix IV	Cobalt	7440-48-4	11 / 11	0.0021	0.0016	95% Student's-t UCL	0.0016

**Notes:**

[1] EPCs calculated in accordance with USEPA, 2014. Memorandum for Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. OSWER Directive 9283.1-42, February 2014. Located at <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236917>. For further detail on the selected EPC, refer to Appendix D.

**Definitions:**

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

mg/L = milligrams per liter

95% UCL = 95 percent upper confidence limit

EPC = Exposure Point Concentration

Prepared by/Date: IMR 9/24/2020

Checked by/Date: LMS 10/23/20



**Table 3**  
**Downgradient Groundwater Refined Screening**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

Exposure Unit	CCR Rule Designation	Constituent	CAS No.	Detection Frequency	Exceedance Frequency <sup>[1]</sup>	Selected EPC <sup>[2]</sup> (mg/L)	Screening Level (mg/L)	Source	Site-Specific Background (mg/L)	COI? (Y/N)	Rationale <sup>[3]</sup>
AP-3	Appendix IV	Cobalt	7440-48-4	11 / 11	0 / 11	0.0016	0.006	Type 2 RRS <sup>[4]</sup>	0.0025	N	BSL

**Notes:**

[1] The exceedance frequency is based on the number of samples with detected concentrations that exceed the identified screening level.

[2] EPCs calculated in accordance with USEPA, 2014. Memorandum for Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. OSWER Directive 9283.1-42, February 2014. Located at <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236917>.

For further detail on the selected EPC, refer to Appendix D.

[3] Rationale for classification of constituent as a COI or exclusion as a COI:

ASL = Above respective screening level

BSL = Below respective screening level

ND = Not detected (maximum practical quantitation limit [PQL])

[4] The Type 2 RRSs are calculated by the EPA RSL calculator with exposure factors inputs from HSRA Appendix III, Table 3.

**Definitions:**

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

COI = Constituent of Interest

mg/L = milligrams per liter

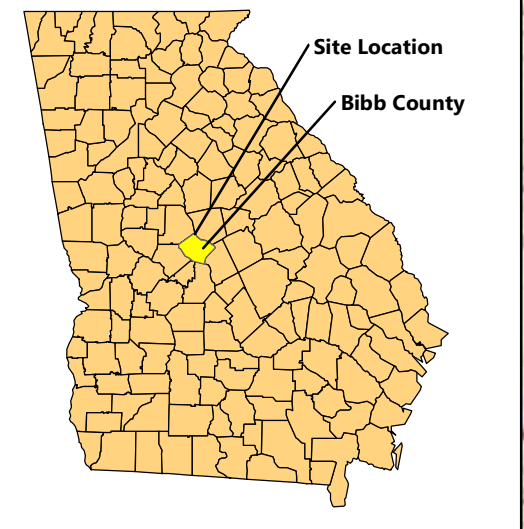
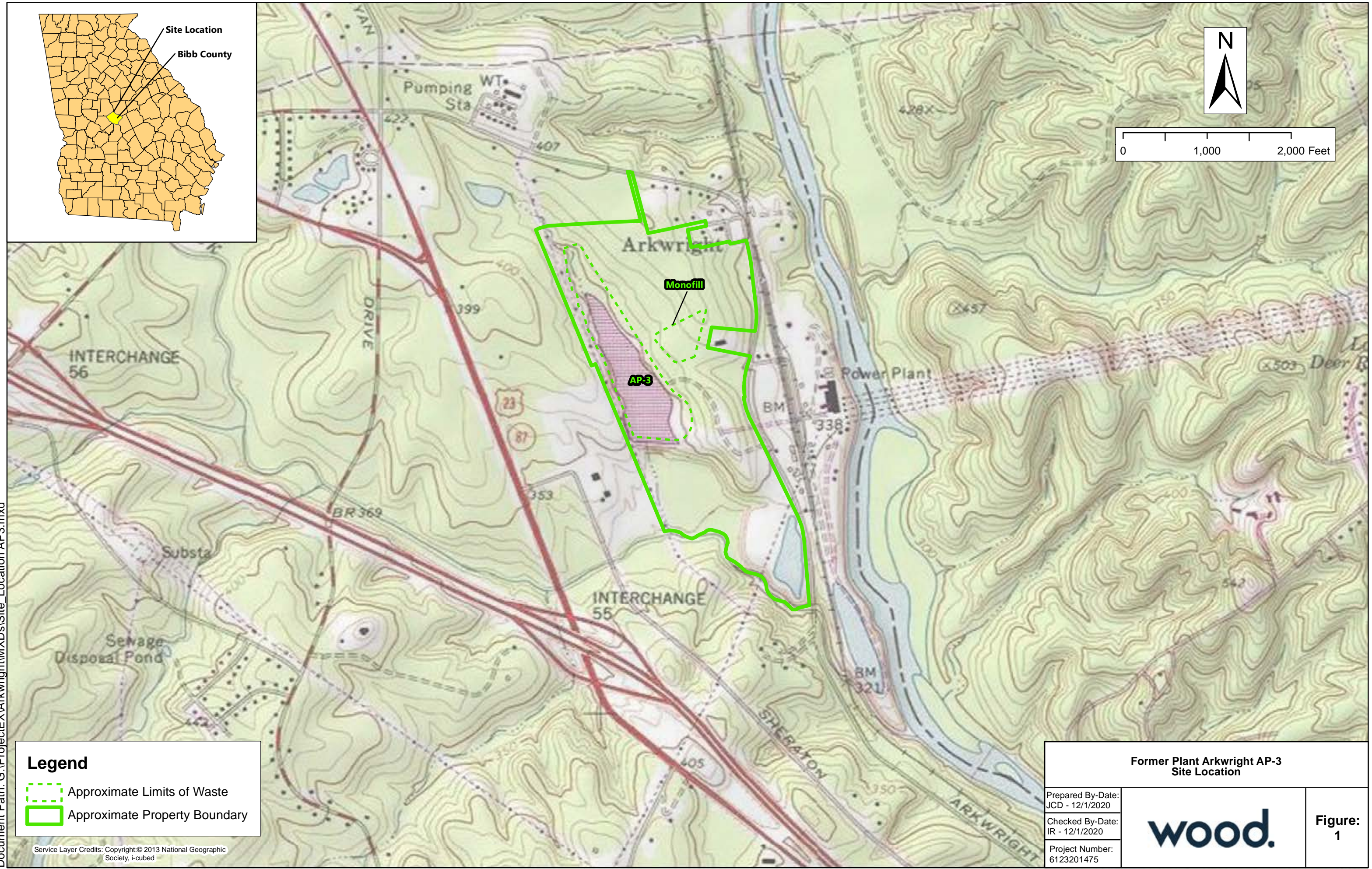
EPC = Exposure Point Concentration

Prepared by/Date: IMR 9/24/2020

Checked by/Date: LMS 10/23/20

# **FIGURES**





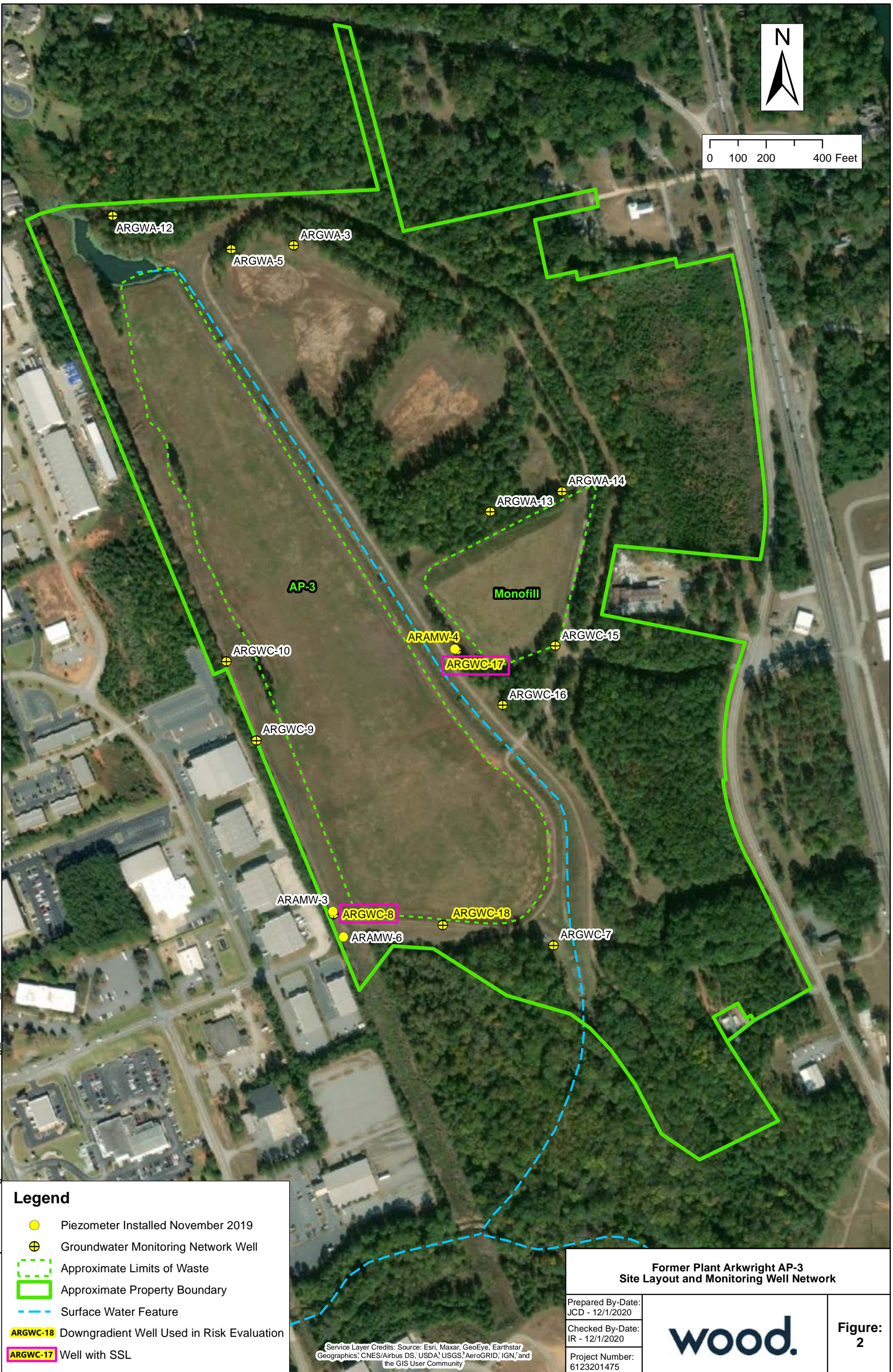
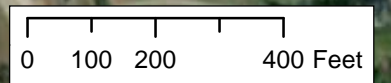
**Legend**

- Approximate Limits of Waste
- Approximate Property Boundary








<b>Former Plant Arkwright AP-3 Site Location</b>			<b>Figure: 1</b>
Prepared By-Date:	JCD - 12/1/2020		
Checked By-Date:	IR - 12/1/2020		
Project Number:	6123201475		

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed





**Legend**

-  Piezometer Installed November 2019
-  Groundwater Monitoring Network Well
-  Approximate Limits of Waste
-  Approximate Property Boundary
-  Surface Water Feature
-  ARGWC-18 Downgradient Well Used in Risk Evaluation
-  ARGWC-17 Well with SSL

**Former Plant Arkwright AP-3  
Site Layout and Monitoring Well Network**

Prepared By-Date:  
JCD - 12/1/2020

Checked By-Date:  
IR - 12/1/2020

Project Number:  
6123201475

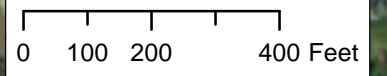


**Figure:  
2**

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar  
Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and  
the GIS User Community



Notes:  
 \* - Groundwater elevation was not used in contouring.  
 - Groundwater elevations calculated using top of casing measurements collected during the June 2020 site survey.



- 330.78 Groundwater Elevation (ft asml)
- Piezometer Installed November 2019
- ⊕ Groundwater Monitoring Network Well
- - - Approximate Limits of Waste
- ▭ Approximate Property Boundary
- Groundwater Elevation Contour (ft)
- - - Inferred Groundwater Elevation Contour (ft)
- ➔ Approximate Groundwater Flow Direction
- - - Surface Water Feature

**Former Plant Arkwright AP-3  
 Potentiometric Surface Elevation Contours (April 2020)**

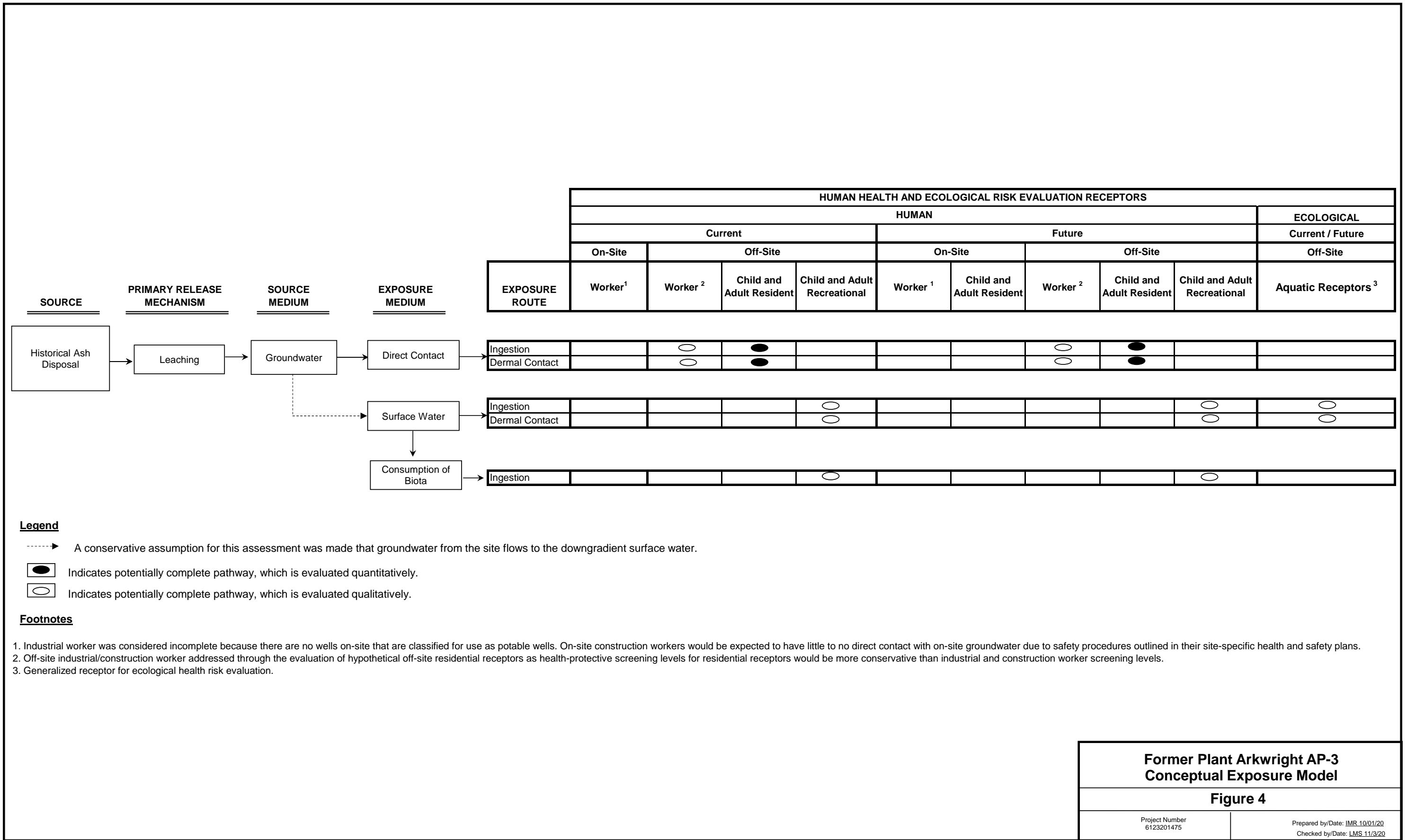
Prepared By-Date:  
 JCD - 12/1/2020  
 Checked By-Date:  
 IR - 12/1/2020  
 Project Number:  
 6123201475



**Figure:  
 3**

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HUMAN HEALTH AND ECOLOGICAL RISK EVALUATION RECEPTORS										
EXPOSURE ROUTE	HUMAN									ECOLOGICAL
	Current				Future				Current / Future	
	On-Site	Off-Site			On-Site	Off-Site			Off-Site	
	Worker <sup>1</sup>	Worker <sup>2</sup>	Child and Adult Resident	Child and Adult Recreational	Worker <sup>1</sup>	Child and Adult Resident	Worker <sup>2</sup>	Child and Adult Resident	Child and Adult Recreational	Aquatic Receptors <sup>3</sup>
Ingestion		○	●				○	●		
Dermal Contact		○	●				○	●		
Ingestion				○					○	○
Dermal Contact				○					○	○
Ingestion				○					○	

**Legend**

- > A conservative assumption for this assessment was made that groundwater from the site flows to the downgradient surface water.
- Indicates potentially complete pathway, which is evaluated quantitatively.
- Indicates potentially complete pathway, which is evaluated qualitatively.

**Footnotes**

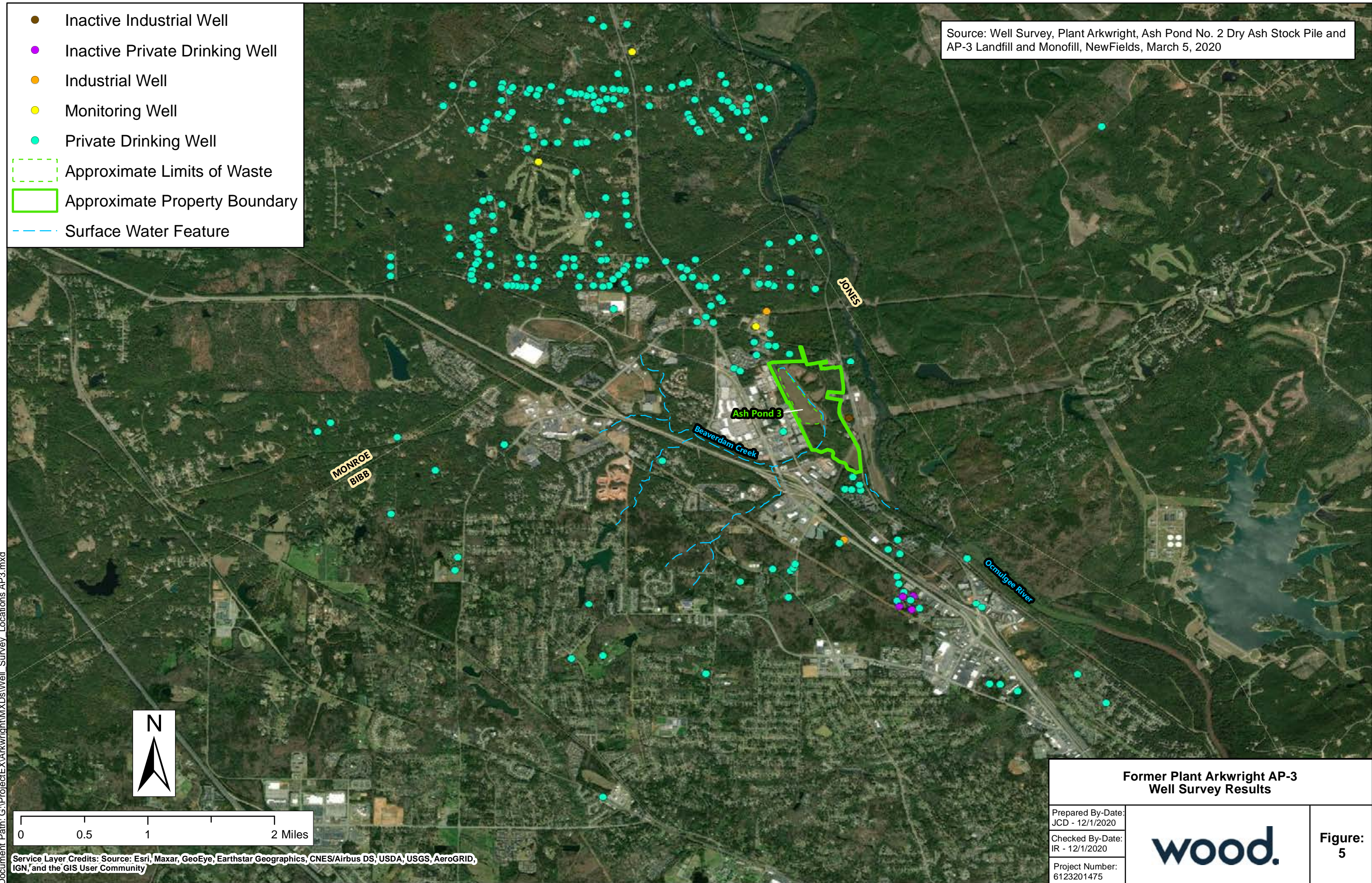
1. Industrial worker was considered incomplete because there are no wells on-site that are classified for use as potable wells. On-site construction workers would be expected to have little to no direct contact with on-site groundwater due to safety procedures outlined in their site-specific health and safety plans.
2. Off-site industrial/construction worker addressed through the evaluation of hypothetical off-site residential receptors as health-protective screening levels for residential receptors would be more conservative than industrial and construction worker screening levels.
3. Generalized receptor for ecological health risk evaluation.

<b>Former Plant Arkwright AP-3 Conceptual Exposure Model</b>	
<b>Figure 4</b>	
Project Number 6123201475	Prepared by/Date: IMR 10/01/20 Checked by/Date: LMS 11/3/20



Source: Well Survey, Plant Arkwright, Ash Pond No. 2 Dry Ash Stock Pile and AP-3 Landfill and Monofill, NewFields, March 5, 2020

- Inactive Industrial Well
- Inactive Private Drinking Well
- Industrial Well
- Monitoring Well
- Private Drinking Well
- Approximate Limits of Waste
- Approximate Property Boundary
- Surface Water Feature



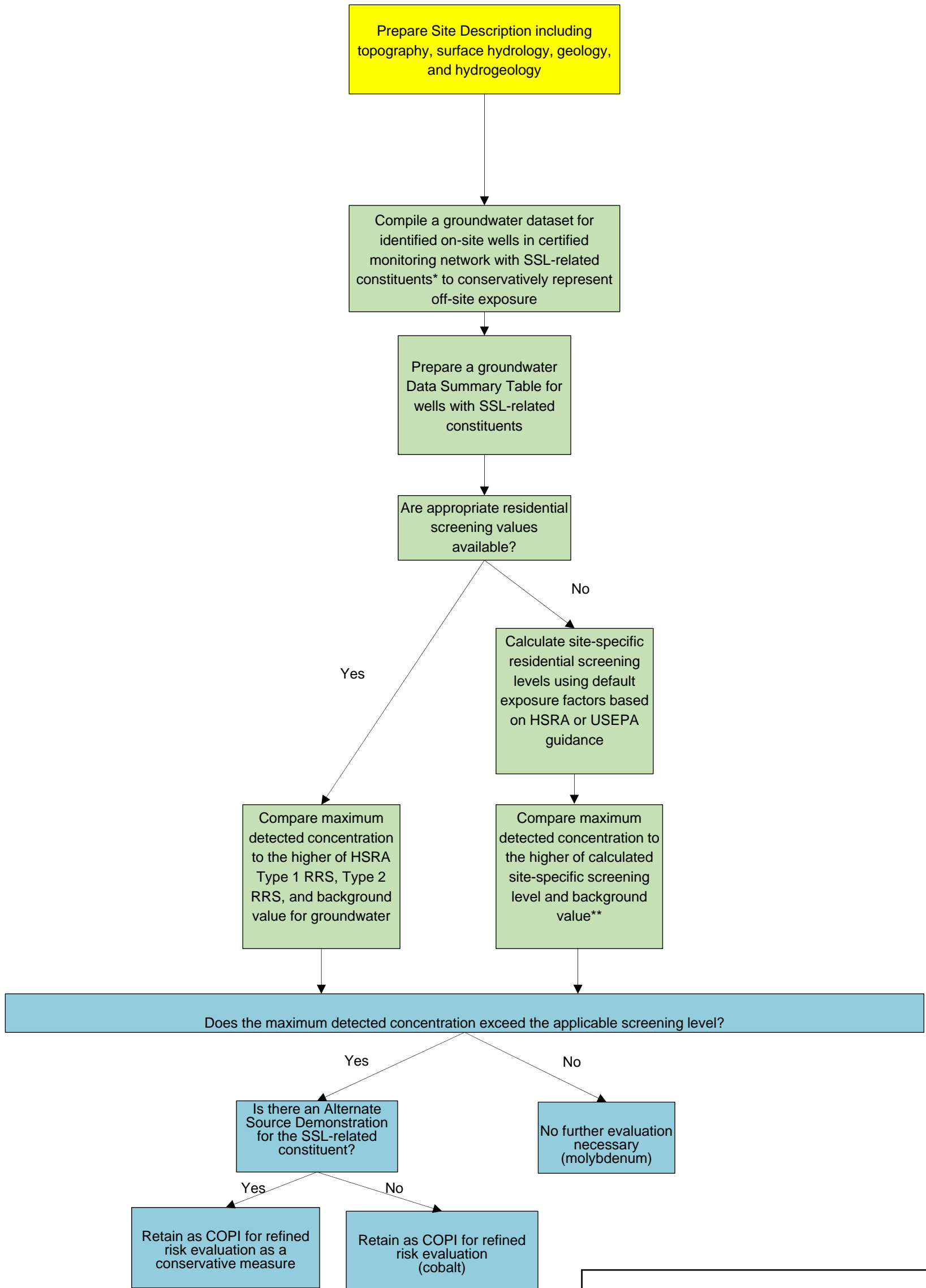
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Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<b>Former Plant Arkwright AP-3 Well Survey Results</b>		
Prepared By-Date: JCD - 12/1/2020		<b>Figure: 5</b>
Checked By-Date: IR - 12/1/2020		
Project Number: 6123201475		



## Risk Screening Approach (Groundwater) for AP-3



**Notes:**

\* Initial screen evaluates AP-3 wells with SSL-related constituents: cobalt (ARGWC-17), molybdenum (ARGWC-8).

SSL = Statistically Significant Level

COPI = Constituent of Potential Interest

HSRA = Hazardous Site Response Act

RRS = Risk Reduction Standard

USEPA = United States Environmental Protection Agency

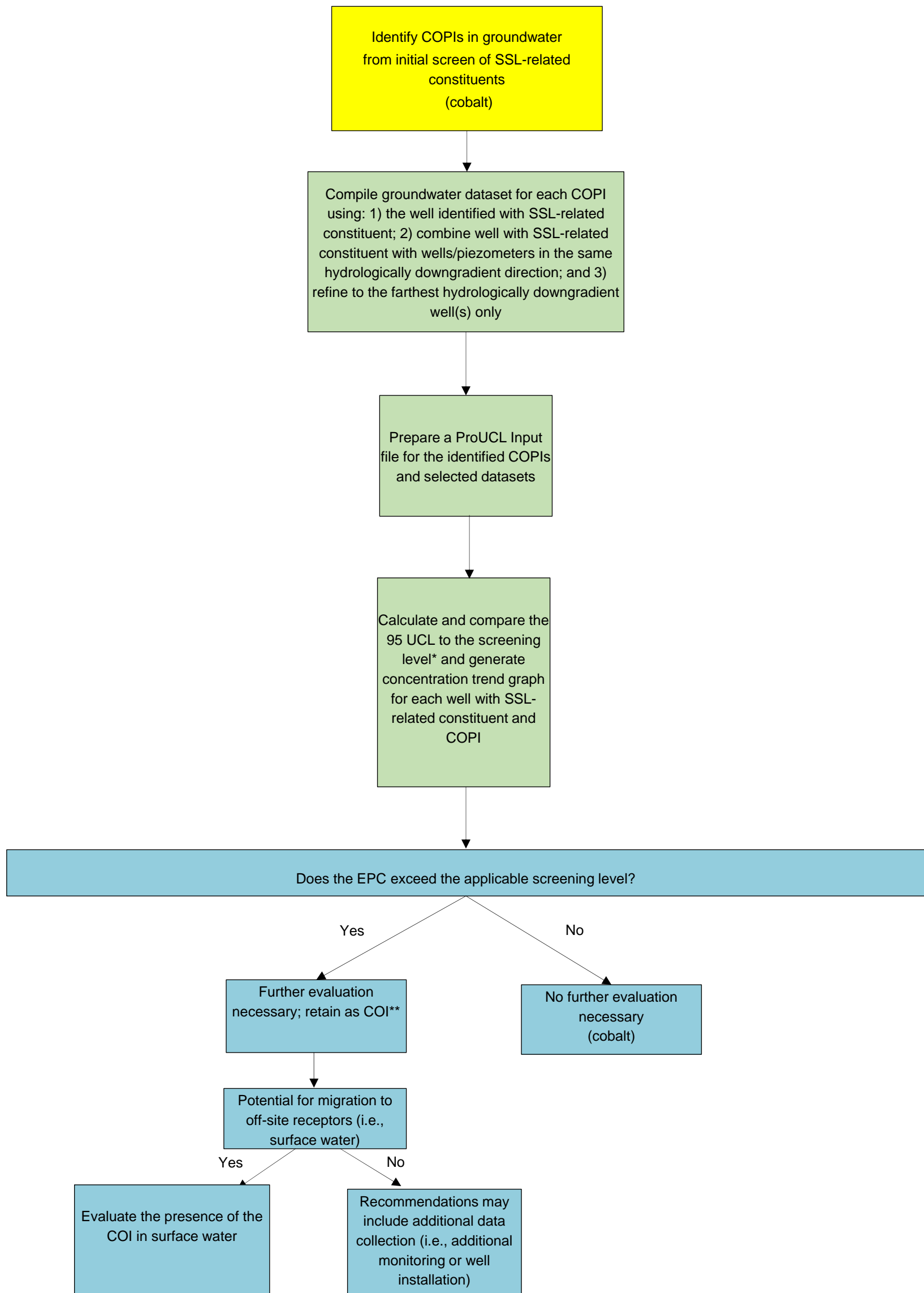
**Former Plant Arkwright AP-3  
Groundwater Risk Screening Approach**

**Figure 6**

Project Number  
6123201475

Prepared by/Date: IMR 09/01/20  
Checked by/Date: LMS 11/3/20

**Approach for Refined Risk Evaluation (Groundwater) for AP-3**



Notes:  
 \*If the 95 UCL exceeds the maximum concentration, use the maximum as the EPC.  
 \*\*This step is not necessary for Former Plant Arkwright AP-3.  
 SSL = Statistically Significant Level  
 COPI = Constituent of Potential Interest  
 EPC = Exposure Point Concentration  
 UCL = Upper Confidence Limit  
 COI = Constituent of Interest

<b>Former Plant Arkwright AP-3 Approach for Refined Groundwater Risk Evaluation</b>	
<b>Figure 7</b>	
Project Number 6123201475	Prepared by/Date: IMR 09/01/20 Checked by/Date: LMS 11/3/20



# **APPENDIX A**

## **Plant Arkwright Well Survey**

# **Well Survey**

**Plant Arkwright**

**Ash Pond No. 2 Dry Ash Stock Pile and AP-3 Landfill and  
Monofill**

**Macon, GA**

***Prepared for***

Georgia Power Company

241 Ralph McGill Blvd., Atlanta, GA 30308

***Prepared by***

NewFields

1349 W. Peachtree Street, Suite 2000

Atlanta, GA 30309

March 5, 2020

## Introduction

Plant Arkwright is located along the Ocmulgee River approximately six miles northwest of Macon, Ga. Plant Arkwright ceased electricity generation in 2002.

NewFields conducted a well survey of potential drinking water wells within a three-mile radius of the two CCR Units at Plant Arkwright: Ash Pond No. 2 Dry Ash Stock Pile (AP-2DAS) and AP-3 Landfill and Monofill (AP-3 Landfill). Both units received a closure certificate in 2010. This radius is referred to in this report as the Investigated Area, and is shown on Figure 1.

As part of this survey, NewFields accessed and reviewed information from a number of Federal, State, and County records and online sources, as well as a windshield survey of the Investigated Area. Information from each identified well was then compiled into a geographic information system (GIS) database.

## Information Collection

This section summarizes the sources utilized for identifying potential drinking water wells within the Investigated Area.

### 1. Federal Sources

- a. **United States Geological Survey (USGS).** USGS maintains an inventory database of wells sampled by a USGS-affiliated program for ground-water levels and/or water quality parameters at any time in the past.<sup>1</sup> Well information and coordinates were downloaded for the state of Georgia and compiled into the GIS database. The wells in the Investigated Area in the USGS database included several that are labelled 'monitoring wells' and one labelled 'private drinking'. Many of the monitoring wells appear to be co-located with drinking water wells and may in fact be private drinking water wells utilized for monitoring purposes by USGS. Some listings in this database are over 50 years old and may be inactive.
- b. **Safe Drinking Water Information System (SDWIS).** This EPA database has listings of public water systems but does not have well location information. SDWIS information was used to help identify the suppliers of public water in the vicinity of the facility. Public water in the Investigated Area is supplied primarily by the Macon Water Authority. Monroe and Jones counties have much smaller municipal water systems.

### 2. State Sources

- a. **Georgia Environmental Protection Division**
  - i. **Drinking Water Branch.** EPD maintains records about municipal and industrial wells, whose presence or absence within a radius of a site can be ascertained by contacting the agency. An email was sent to Michael Gillis of EPD on October 21<sup>st</sup>, 2019 requesting information about wells in the Investigated Area. Mr. Gillis confirmed that there are no public wells in the Investigated Area.

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<sup>1</sup> <http://waterdata.usgs.gov/ga/nwis/inventory?introduction>

- ii. **Hazardous Site Inventory (HSI) files.** EPD maintains the Hazardous Site Inventory files for sites which are undergoing state-led corrective action. These files usually contain groundwater data and well surveys. There are no HSI sites within the Investigated Area.
  - iii. **Hazardous Site Response Act (HSRA) notifications.** EPD maintains non-HSI HSRA notification reports (i.e., notifications submitted after releases of reportable substances). NewFields reviewed reports associated with sites Bibb, Jones, and Monroe Counties and identified a previous well survey conducted in 2003. The survey identified a public well at what is now the Brickyard Golf Course (approximately 2.25 miles to the northwest of AP-2DAS and AP-3 Landfill) that was active in 2003. NewFields determined that well is now inactive based on the results of the EPD search. The 2003 well survey also identified both active and inactive private wells, active industrial wells on the other side of Arkwright Road to the north of AP-2DAS and AP-3 Landfill, and an inactive industrial well at the former Stewart McElreath Lumber property. These were added to the database as inactive public or industrial wells.
- b. **Agricultural and Environmental Services Laboratory (AESL) records.** The University of Georgia's AESL Laboratory tests drinking water samples submitted by private individuals to their local county extension service. Maps of these sampling results can be viewed online.<sup>2</sup> Precise coordinates are not available, but NewFields was able to use online images to find approximate locations. For many of these points, the well appears to be located in the roadway and could not be placed on a real estate parcel.
  - c. **State Department of Public Health (DPH).** During July 2012 and January 2013, the Department of Public Health, DPH tested 64 wells in Monroe County as part of an assessment of uranium and radionuclides in the area. Street addresses of the wells sampled were obtained from the DPH with an Open Records Request.
3. County and Local Sources
- a. **Health Department Records.** The Macon-Bibb County Health Department County maintains records of known private wells within the County. NewFields provided the Health Department the coordinates of the plant and requested a search of a three-mile radius. The Health Department responded with a list of known private drinking water wells. NewFields also contacted the Monroe County Health Department to search septic permits, which typically indicate the water source for each property. Monroe County would not grant NewFields access to the septic permits.

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<sup>2</sup> <http://aesl.ces.uga.edu/water/map/>



- b. **Water Departments.** NewFields contacted the Macon Water Authority, which provided a shapefile of waterlines within Bibb County, including the dates of construction. Waterlines began to be constructed as far back as 1922, with most of the lines in the Investigated Area constructed in the 1970s. NewFields also contacted the Monroe County Water System, who indicated that their public water infrastructure does not extend into the Monroe County portion of the Investigated Area. Jones County Water stated that the River North area of the county, the neighborhood across the Ocmulgee River from Plant Arkwright, has public water.
- c. **Tax Assessor Records.** NewFields contacted the Middle Georgia Regional Commission and obtained parcel shapefiles and parcel improvement data dated January 2019 for Monroe County. The parcel data for Monroe County includes information about the water source for each parcel, and the majority of parcels in the Monroe County portion of the Investigated Area are identified as having a private well.

Parcel shapefiles and parcel improvement data from Bibb County, current as of July 2019, were available for download from the Internet. Parcel shapes for Jones County were downloaded from the county website. Due to the high cost and relatively small number of relevant parcels, the parcel improvement data for Jones County was not acquired.

#### 4. Windshield Surveys

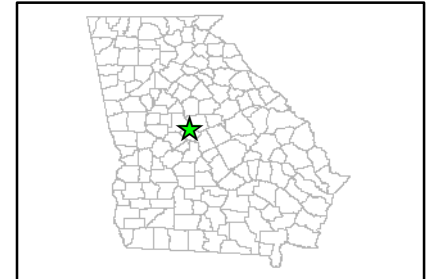
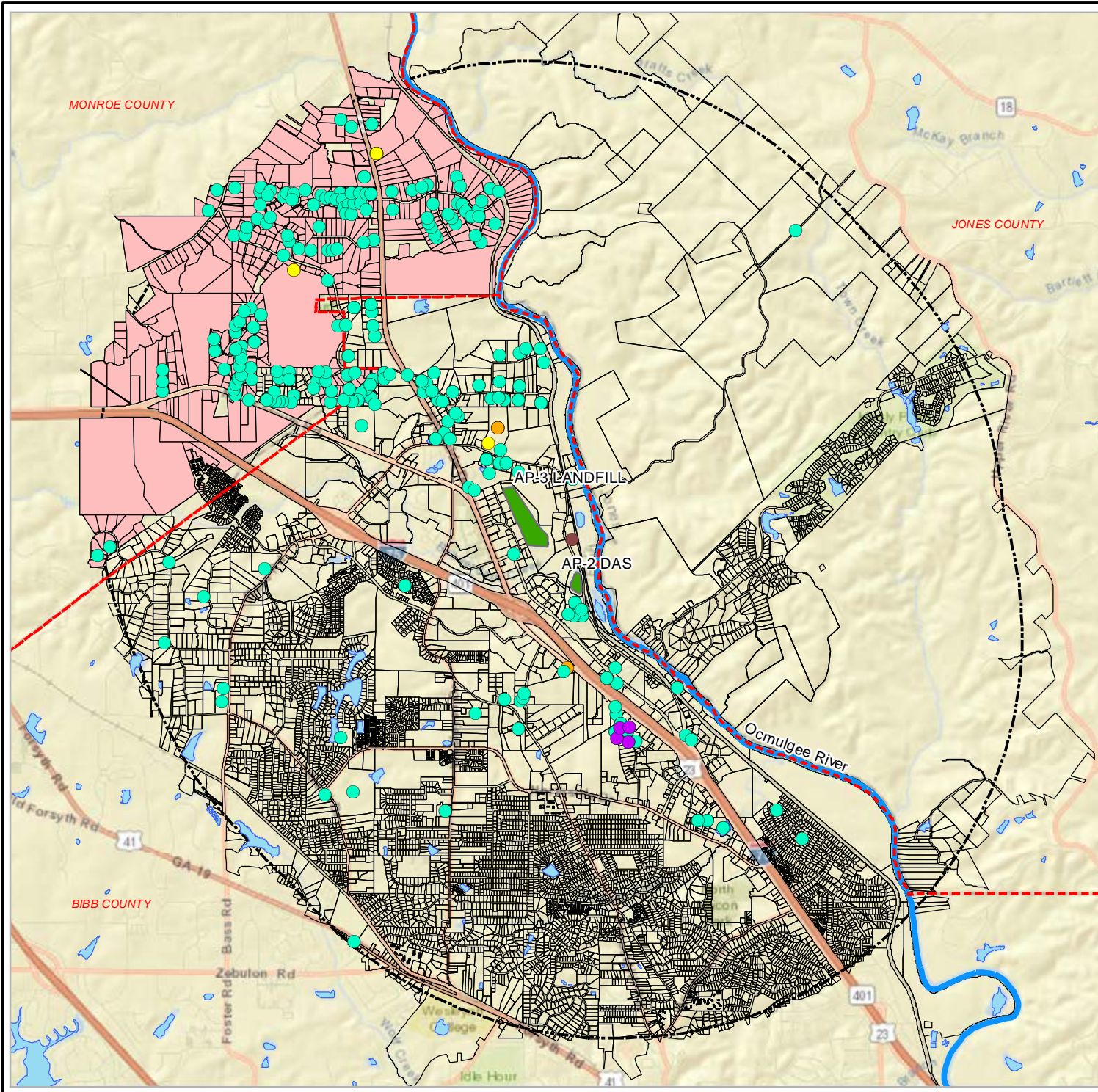
A windshield survey of the area was conducted on November 15, 2019. During the survey wells were visually identified and compiled into the GIS database. The majority of these wells were located near residences. The windshield survey could not be conducted in the area across the Ocmulgee River in Jones County, as the entire area is part of a gated community.

## Summary

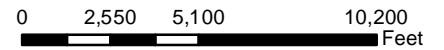
Municipal water from the Macon Water Authority is widely available throughout the Bibb County portion of the Investigated Area. Some water lines dates as far back as 1922, with the majority of the water lines around the plant being built in the 1970s, when the nearby homes were constructed. Municipal water is not available in the Monroe County part of the Investigated Area. The River North community, which constitutes the residential parcels in the Jones County portion of the Investigated Area (east of the Ocmulgee River), are all served by public water. There are no active public wells in the Investigated Area.

Combining well data from all sources with parcel data, NewFields identified 639 total parcels likely to be associated with an active or inactive private well within the Investigated Area. Of these, 515 were identified using parcel data. During the windshield survey, 127 wells were visually identified. Fifty-nine (59) parcels were identified by the Macon-Bibb County Health Department, and 7 parcels by the state Department of Public Health. Fifty-nine (59) wells were shown on a 2003 well survey found in non-HSI files, 40 wells were identified by UGA's AESL sampling program, and 7 wells were in the USGS database (including 3 on one parcel). Most wells were identified by multiple sources.

Figure 1 shows points for identified wells and shades parcels that were identified from parcel data as likely to contain wells. When viewed as a PDF file, the figure is interactive.



- Inactive Private Drinking Well
- Private Drinking Well
- Monitoring Well
- Industrial Well
- Inactive Industrial Well
- CCR Facilities
- Parcels identified as likely containing a well
- Parcels
- 3-Mile Radius
- Rivers
- Lakes & Ponds
- County Border



<b>Title</b>	<b>Plant Arkwright CCR Facilities</b>		
<b>Project</b>	<b>GPC Plants Georgia</b>		
	Two Midtown Plaza 1349 W. Peachtree St., #2000 Atlanta, Georgia 30309 Tel: 404-347-9050		
<b>Date</b>	02/14/2020	<b>Rev. No.</b>	00
<b>MXD</b>	GPC_ARKWRIGHT_01	<b>Figure No.</b>	01

**APPENDIX B**  
**Groundwater Data**



**Appendix B**  
**Arkwright AP-3 Risk Evaluation Report**  
**Groundwater Data for Evaluation of SSLs<sup>1</sup>**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

Well	Date	CAS	Constituent	Units	Obs	Flags	MDL	PQL
ARGWC-17	09/01/16	7440-48-4	Cobalt	mg/L	0.037		0.0004	0.0025
ARGWC-17	10/25/16	7440-48-4	Cobalt	mg/L	0.0144		0.0005	0.01
ARGWC-17	01/26/17	7440-48-4	Cobalt	mg/L	0.022		0.0004	0.0025
ARGWC-17	04/11/17	7440-48-4	Cobalt	mg/L	0.026		0.0004	0.0025
ARGWC-17	06/21/17	7440-48-4	Cobalt	mg/L	0.027		0.0004	0.0025
ARGWC-17	10/26/17	7440-48-4	Cobalt	mg/L	0.021		0.0004	0.0025
ARGWC-17	04/10/18	7440-48-4	Cobalt	mg/L	0.021		0.0004	0.0025
ARGWC-17	10/17/18	7440-48-4	Cobalt	mg/L	0.014		0.0004	0.0025
ARGWC-17	08/21/19	7440-48-4	Cobalt	mg/L	0.018		7.5E-05	0.0005
ARGWC-17	10/09/19	7440-48-4	Cobalt	mg/L	0.017		7.5E-05	0.0005
ARGWC-17	04/08/20	7440-48-4	Cobalt	mg/L	0.016		0.00013	0.0025
ARAMW-4	01/15/20	7440-48-4	Cobalt	mg/L	0.0064		0.00013	0.0005
ARGWC-18	09/01/16	7440-48-4	Cobalt	mg/L	0.0014	J	0.0004	0.0025
ARGWC-18	10/26/16	7440-48-4	Cobalt	mg/L	0.0013	J	0.0005	0.01
ARGWC-18	01/27/17	7440-48-4	Cobalt	mg/L	0.0021	J	0.0004	0.0025
ARGWC-18	04/12/17	7440-48-4	Cobalt	mg/L	0.0015	J	0.0004	0.0025
ARGWC-18	06/21/17	7440-48-4	Cobalt	mg/L	0.0018	J	0.0004	0.0025
ARGWC-18	10/25/17	7440-48-4	Cobalt	mg/L	0.0013	J	0.0004	0.0025
ARGWC-18	04/11/18	7440-48-4	Cobalt	mg/L	0.0014	J	0.0004	0.0025
ARGWC-18	10/17/18	7440-48-4	Cobalt	mg/L	0.0012	J	0.0004	0.0025
ARGWC-18	08/21/19	7440-48-4	Cobalt	mg/L	0.0012		7.5E-05	0.0005
ARGWC-18	10/09/19	7440-48-4	Cobalt	mg/L	0.00099		7.5E-05	0.0005
ARGWC-18	04/09/20	7440-48-4	Cobalt	mg/L	0.00091	J	0.00013	0.0025
ARGWC-8	08/31/16	7439-98-7	Molybdenum	mg/L	0.034		0.00085	0.015
ARGWC-8	10/26/16	7439-98-7	Molybdenum	mg/L	0.0377		0.0017	0.01
ARGWC-8	01/26/17	7439-98-7	Molybdenum	mg/L	0.04		0.00085	0.015
ARGWC-8	04/12/17	7439-98-7	Molybdenum	mg/L	0.035		0.00085	0.015
ARGWC-8	06/21/17	7439-98-7	Molybdenum	mg/L	0.038		0.00085	0.015
ARGWC-8	10/26/17	7439-98-7	Molybdenum	mg/L	0.041		0.00085	0.015
ARGWC-8	04/11/18	7439-98-7	Molybdenum	mg/L	0.037		0.00085	0.015
ARGWC-8	10/17/18	7439-98-7	Molybdenum	mg/L	0.036		0.002	0.015
ARGWC-8	08/21/19	7439-98-7	Molybdenum	mg/L	0.051		0.00061	0.005
ARGWC-8	10/09/19	7439-98-7	Molybdenum	mg/L	0.049		0.00061	0.005
ARGWC-8	04/09/20	7439-98-7	Molybdenum	mg/L	0.039		0.00061	0.015

**Notes:**

1) Highlighted rows indicate constituent identified in the well at a statistically significant level (SSL).

J - indicates an estimated value; the substance was detected between the laboratory MDL and PQL.

MDL - method detection limit

mg/L - milligrams per liter

n/a - not available

PQL - practical quantitation limit

Prepared by/Date: LO 11/03/20

Checked by/Date: IMR 11/04/20

## **APPENDIX C**

### **USEPA RSL Calculator Generated Residential Screening Levels**

**Appendix C-1**  
**Arkwright AP-3 Risk Evaluation Report**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

December 2020

**Appendix C-1**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

Variable	Value
THQ (target hazard quotient) unitless	1
TR (target risk) unitless	0.00001
LT (lifetime) years	70
K (volatilization factor of Andelman) L/m <sup>3</sup>	0.5
I <sub>sc</sub> (apparent thickness of stratum corneum) cm	0.001
ED <sub>res</sub> (exposure duration - resident) years	26
ED <sub>res-c</sub> (exposure duration - child) years	6
ED <sub>res-a</sub> (exposure duration - adult) years	20
ED <sub>0-2</sub> (mutagenic exposure duration first phase) years	2
ED <sub>2-6</sub> (mutagenic exposure duration second phase) years	4
ED <sub>6-16</sub> (mutagenic exposure duration third phase) years	10
ED <sub>16-26</sub> (mutagenic exposure duration fourth phase) years	10
EF <sub>res</sub> (exposure frequency) days/year	350
EF <sub>res-c</sub> (exposure frequency - child) days/year	350
EF <sub>res-a</sub> (exposure frequency - adult) days/year	350
EF <sub>0-2</sub> (mutagenic exposure frequency first phase) days/year	350
EF <sub>2-6</sub> (mutagenic exposure frequency second phase) days/year	350
EF <sub>6-16</sub> (mutagenic exposure frequency third phase) days/year	350
EF <sub>16-26</sub> (mutagenic exposure frequency fourth phase) days/year	350
ET <sub>event-res-adj</sub> (age-adjusted exposure time) hours/event	0.67077
ET <sub>event-res-madj</sub> (mutagenic age-adjusted exposure time) hours/event	0.67077
ET <sub>res</sub> (exposure time) hours/day	24
ET <sub>res-c</sub> (dermal exposure time - child) hours/event	0.54
ET <sub>res-a</sub> (dermal exposure time - adult) hours/event	0.71
ET <sub>res-c</sub> (inhalation exposure time - child) hours/day	24
ET <sub>res-a</sub> (inhalation exposure time - adult) hours/day	24
Appendix D-3	24
ET <sub>16-26</sub> (mutagenic inhalation exposure time fourth phase) hours/day	24
ET <sub>0-2</sub> (mutagenic dermal exposure time first phase) hours/event	0.54
ET <sub>2-6</sub> (mutagenic dermal exposure time second phase) hours/event	0.54
ET <sub>6-16</sub> (mutagenic dermal exposure time third phase) hours/event	0.71
ET <sub>16-26</sub> (mutagenic dermal exposure time fourth phase) hours/event	0.71
BW <sub>res-a</sub> (body weight - adult) kg	80

**Appendix C-1**  
**Arkwright AP-3 Risk Evaluation Report**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

December 2020

**Appendix C-1**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

Variable	Value
BW <sub>res-c</sub> (body weight - child) kg	15
BW <sub>0-2</sub> (mutagenic body weight) kg	15
BW <sub>2-6</sub> (mutagenic body weight) kg	15
BW <sub>6-16</sub> (mutagenic body weight) kg	80
BW <sub>16-26</sub> (mutagenic body weight) kg	80
IFW <sub>res-adj</sub> (adjusted intake factor) L/kg	327.95
IFW <sub>res-adj</sub> (adjusted intake factor) L/kg	327.95
IFWM <sub>res-adj</sub> (mutagenic adjusted intake factor) L/kg	1019.9
IFWM <sub>res-adj</sub> (mutagenic adjusted intake factor) L/kg	1019.9
IRW <sub>res-c</sub> (water intake rate - child) L/day	0.78
IRW <sub>res-a</sub> (water intake rate - adult) L/day	2.5
IRW <sub>0-2</sub> (mutagenic water intake rate) L/day	0.78
IRW <sub>2-6</sub> (mutagenic water intake rate) L/day	0.78
IRW <sub>6-16</sub> (mutagenic water intake rate) L/day	2.5
IRW <sub>16-26</sub> (mutagenic water intake rate) L/day	2.5
EV <sub>res-a</sub> (events - adult) per day	1
EV <sub>res-c</sub> (events - child) per day	1
EV <sub>0-2</sub> (mutagenic events) per day	1
EV <sub>2-6</sub> (mutagenic events) per day	1
EV <sub>6-16</sub> (mutagenic events) per day	1
EV <sub>16-26</sub> (mutagenic events) per day	1
DFW <sub>res-adj</sub> (age-adjusted dermal factor) cm <sup>2</sup> -event/kg	2610650
DFWM <sub>res-adj</sub> (mutagenic age-adjusted dermal factor) cm <sup>2</sup> -event/kg	8191633
SA <sub>res-c</sub> (skin surface area - child) cm <sup>2</sup>	6365
SA <sub>res-a</sub> (skin surface area - adult) cm <sup>2</sup>	19652
SA <sub>0-2</sub> (mutagenic skin surface area) cm <sup>2</sup>	6365
SA <sub>2-6</sub> (mutagenic skin surface area) cm <sup>2</sup>	6365
SA <sub>6-16</sub> (mutagenic skin surface area) cm <sup>2</sup>	19652
SA <sub>16-26</sub> (mutagenic skin surface area) cm <sup>2</sup>	19652



**Appendix C-2**  
**Arkwright AP-3 Risk Evaluation Report**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

**Appendix C-2**  
**Default**  
**Resident Risk-Based Regional Screening Levels (RSL) for Tap Water**  
 Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST;  
 D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer;  
 nc = noncancer; \* = where: nc SL < 100X ca SL; \*\* = where nc SL < 10X ca SL; SSL values are based on  
 DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	SF <sub>o</sub> (mg/kg-day) <sup>-1</sup>	SF <sub>o</sub> Ref	IUR (ug/m <sup>3</sup> ) <sup>-1</sup>	IUR Ref	RfD (mg/kg-day)	RfD Ref	RfC (mg/m <sup>3</sup> )	RfC Ref	GIABS	K <sub>p</sub> (cm/hr)	MW
Cobalt	7440-48-4	No	No	Inorganics	-		9.00E-03	P	3.00E-04	P	6.00E-06	P	1.00E+00	4.00E-04	5.89E+01
Molybdenum	7439-98-7	No	No	Inorganics	-		-		5.00E-03	I	-		1.00E+00	1.00E-03	9.59E+01

**Appendix C-2**  
**Arkwright AP-3 Risk Evaluation Report**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

**Appendix C-2**  
**Default**  
**Resident Risk-Based Regional Screening Levels (RSL) for Tap Water**  
 Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST;  
 D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer;  
 nc = noncancer; \* = where: nc SL < 100X ca SL; \*\* = where nc SL < 10X ca SL; SSL values are based on  
 DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	B (unitless)	t* (hr)	T <sub>event</sub> (hr/event)	FA (unitless)	In EPD?	DA <sub>event (ca)</sub>	DA <sub>event (nc child)</sub>	DA <sub>event (nc adult)</sub>	MCL (ug/L)
Cobalt	7440-48-4	No	No	Inorganics	1.18E-03	5.40E-01	2.25E-01	1.00E+00	Yes	-	7.37E-04	1.27E-03	-
Molybdenum	7439-98-7	No	No	Inorganics	3.77E-03	8.70E-01	3.62E-01	1.00E+00	Yes	-	1.23E-02	2.12E-02	-

**Appendix C-2**  
**Arkwright AP-3 Risk Evaluation Report**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

**Appendix C-2**  
**Default**  
**Resident Risk-Based Regional Screening Levels (RSL) for Tap Water**  
 Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST;  
 D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer;  
 nc = noncancer; \* = where: nc SL < 100X ca SL; \*\* = where nc SL < 10X ca SL; SSL values are based on  
 DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	Ingestion SL TR=1E-05 (ug/L)	Dermal SL TR=1E-05 (ug/L)	Inhalation SL TR=1E-05 (ug/L)	Carcinogenic SL TR=1E-05 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)
Cobalt	7440-48-4	No	No	Inorganics	-	-	-	-	6.02E+00	3.41E+03
Molybdenum	7439-98-7	No	No	Inorganics	-	-	-	-	1.00E+02	2.28E+04

**Appendix C-2**  
**Arkwright AP-3 Risk Evaluation Report**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

**Appendix C-2**  
**Default**  
**Resident Risk-Based Regional Screening Levels (RSL) for Tap Water**  
 Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST;  
 D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer;  
 nc = noncancer; \* = where: nc SL < 100X ca SL; \*\* = where nc SL < 10X ca SL; SSL values are based on  
 DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	Ingestion SL Adult THQ=1 (ug/L)	Dermal SL Adult THQ=1 (ug/L)	Inhalation SL Adult THQ=1 (ug/L)
Cobalt	7440-48-4	No	No	Inorganics	-	6.01E+00	1.00E+01	4.48E+03	-
Molybdenum	7439-98-7	No	No	Inorganics	-	9.98E+01	1.67E+02	2.99E+04	-



**Appendix C-2**  
**Arkwright AP-3 Risk Evaluation Report**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

<b>Appendix C-2</b> <b>Default</b> <b>Resident Risk-Based Regional Screening Levels (RSL) for Tap Water</b>						
Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.						
Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	Noncarcinogenic SL Adult THI=1 (ug/L)	Screening Level (ug/L)
Cobalt	7440-48-4	No	No	Inorganics	9.99E+00	6.01E+00 nc
Molybdenum	7439-98-7	No	No	Inorganics	1.66E+02	9.98E+01 nc

# **APPENDIX D**

## **Support for Refined Risk Evaluation**

**Appendix D-1**  
**Exposure Point Concentration**  
**Calculation Results**

**Appendix D-1**  
**Exposure Point Calculation Details<sup>1</sup>**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

CCR Rule Designation	Constituent	Well IDs Included	Maximum Concentration (mg/L)	Detection Frequency	Exceedance Frequency	EPC Step 1	EPC Step 2	EPC Step 3
						Individual Target Well(s) 2016-2020 (mg/L)	Target Well(s) & Downgradient Well(s) 2016-2020 (mg/L)	Farthest Downgradient Well(s) 2016-2020 (mg/L)
Appendix IV	Cobalt	ARGWC-17	0.037	11 / 11	11 / 11	0.025		
		ARAMW-4	0.037	23 / 23	12 / 23		0.021	
		ARGWC-17						
		ARGWC-18	0.0021	11 / 11	0 / 11			0.0016

**Notes:**

Highlighted value is the EPC selected for the refined screening.

1 - EPCs calculated in accordance with USEPA, 2014. Memorandum for Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. OSWER Directive 9283.1-42, February 2014. Located at <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236917>

**Definitions:**

EPC = Exposure Point Concentration

mg/L = milligrams per liter

Prepared by/Date: IMR 9/24/20

Checked by/Date: LMS 10/23/20



## **Appendix D-2**

### **Exposure Point Concentration Figure**



Document Path: G:\Project\EX\Arkwright\MXDs\AP-3 Monitoring Well Locations and April 2020 Pot Map Cobalt.mxd



- No Data for COPI
- Piezometer
- Individual Target Wells (Step 1)
- ⊕ Monitoring Well
- Target Wells and Downgradient Wells (Step 2)
- Farthest Downgradient Wells (Step 3)
- Groundwater Elevation Contour (ft)
- - - Inferred Groundwater Elevation Contour (ft)
- ➔ Approximate Groundwater Flow Direction
- - - Approximate Limits of Waste
- ▭ Approximate Property Boundary
- - - Surface Water Feature

<b>Former Plant Arkwright AP-3 Exposure Point Concentration for Cobalt</b>		
Prepared By-Date: JCD - 12/1/2020		<b>Figure: D-2</b>
Checked By-Date: IR - 12/1/2020		
Project Number: 6123201475		

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community  
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community



## **Appendix D-3**

### **Groundwater ProUCL Input/Output Files**

**Appendix D-3a  
Groundwater ProUCL Input - Cobalt  
Arkwright AP-3 Risk Evaluation Report  
Arkwright AP-3  
Former Plant Arkwright, Bibb County, GA**

<b>Step 1</b>				<b>Step 2</b>				<b>Step 3</b>			
Well(1)	Date(1)	Cobalt1	D_Cobalt1	Well(2)	Date(2)	Cobalt2	D_Cobalt2	Well(3)	Date(3)	Cobalt3	D_Cobalt3
ARGWC-17	09/01/16	0.037	1	ARGWC-17	09/01/16	0.037	1	1 ARGWC-18	09/01/16	0.0014	1
ARGWC-17	10/25/16	0.0144	1	ARGWC-17	10/25/16	0.014	1	1 ARGWC-18	10/26/16	0.0013	1
ARGWC-17	01/26/17	0.022	1	ARGWC-17	01/26/17	0.022	1	1 ARGWC-18	01/27/17	0.0021	1
ARGWC-17	04/11/17	0.026	1	ARGWC-17	04/11/17	0.026	1	1 ARGWC-18	04/12/17	0.0015	1
ARGWC-17	06/21/17	0.027	1	ARGWC-17	06/21/17	0.027	1	1 ARGWC-18	06/21/17	0.0018	1
ARGWC-17	10/26/17	0.021	1	ARGWC-17	10/26/17	0.021	1	1 ARGWC-18	10/25/17	0.0013	1
ARGWC-17	04/10/18	0.021	1	ARGWC-17	04/10/18	0.021	1	1 ARGWC-18	04/11/18	0.0014	1
ARGWC-17	10/17/18	0.014	1	ARGWC-17	10/17/18	0.014	1	1 ARGWC-18	10/17/18	0.0012	1
ARGWC-17	08/21/19	0.018	1	ARGWC-17	08/21/19	0.018	1	1 ARGWC-18	08/21/19	0.0012	1
ARGWC-17	10/09/19	0.017	1	ARGWC-17	10/09/19	0.017	1	1 ARGWC-18	10/09/19	0.00099	1
ARGWC-17	04/08/20	0.016	1	ARGWC-17	04/08/20	0.016	1	1 ARGWC-18	04/09/20	0.00091	1
				ARGWC-18	09/01/16	0.0014	1				
				ARGWC-18	10/26/16	0.0013	1				
				ARGWC-18	01/27/17	0.0021	1				
				ARGWC-18	04/12/17	0.0015	1				
				ARGWC-18	06/21/17	0.0018	1				
				ARGWC-18	10/25/17	0.0013	1				
				ARGWC-18	04/11/18	0.0014	1				
				ARGWC-18	10/17/18	0.0012	1				
				ARGWC-18	08/21/19	0.0012	1				
				ARGWC-18	10/09/19	0.00099	1				
				ARGWC-18	04/09/20	0.00091	1				
				ARAMW-4	01/15/20	0.0064	1				

**Notes:**

1) Concentrations in units of mg/L.

Prepared by/Date: IMR 10/01/20

Checked by/Date: LMS 10/23/20



**Appendix D-3b  
Groundwater ProUCL Output - Cobalt  
Arkwright AP-3 Risk Evaluation Report  
Arkwright AP-3  
Former Plant Arkwright, Bibb County, GA**

**UCL Statistics for Data Sets with Non-Detects**

User Selected Options

Date/Time of Computation ProUCL 5.111/6/2020 11:20:28 AM  
 From File WorkSheet.xls  
 Full Precision OFF  
 Confidence Coefficient 95%  
 Number of Bootstrap Operations 2000

**Cobalt1**

**General Statistics**

Total Number of Observations	11	Number of Distinct Observations	10
		Number of Missing Observations	0
Minimum	0.014	Mean	0.0212
Maximum	0.037	Median	0.021
SD	0.00678	Std. Error of Mean	0.00205
Coefficient of Variation	0.32	Skewness	1.289

**Normal GOF Test**

Shapiro Wilk Test Statistic 0.891  
 5% Shapiro Wilk Critical Value 0.85  
 Lilliefors Test Statistic 0.181  
 5% Lilliefors Critical Value 0.251

**Shapiro Wilk GOF Test**

Data appear Normal at 5% Significance Level

**Lilliefors GOF Test**

Data appear Normal at 5% Significance Level

**Data appear Normal at 5% Significance Level**

**Assuming Normal Distribution**

**95% Normal UCL**

95% Student's-t UCL 0.0249

**95% UCLs (Adjusted for Skewness)**

95% Adjusted-CLT UCL (Chen-1995) 0.0254  
 95% Modified-t UCL (Johnson-1978) 0.0251

**Gamma GOF Test**

A-D Test Statistic 0.294  
 5% A-D Critical Value 0.729  
 K-S Test Statistic 0.139  
 5% K-S Critical Value 0.255

**Anderson-Darling Gamma GOF Test**

Detected data appear Gamma Distributed at 5% Significance Level

**Kolmogorov-Smirnov Gamma GOF Test**

Detected data appear Gamma Distributed at 5% Significance Level

**Detected data appear Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

k hat (MLE)	12.22	k star (bias corrected MLE)	8.951
Theta hat (MLE)	0.00174	Theta star (bias corrected MLE)	0.00237
nu hat (MLE)	268.9	nu star (bias corrected)	196.9
MLE Mean (bias corrected)	0.0212	MLE Sd (bias corrected)	0.00709
		Approximate Chi Square Value (0.05)	165.5
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	160.8

**Appendix D-3b  
Groundwater ProUCL Output - Cobalt  
Arkwright AP-3 Risk Evaluation Report  
Arkwright AP-3  
Former Plant Arkwright, Bibb County, GA**

**Assuming Gamma Distribution**

95% Approximate Gamma UCL (use when n>=50))	0.0253	95% Adjusted Gamma UCL (use when n<50)	0.026
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**Lognormal GOF Test**

Shapiro Wilk Test Statistic	0.952	<b>Shapiro Wilk Lognormal GOF Test</b>
5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.123	<b>Lilliefors Lognormal GOF Test</b>
5% Lilliefors Critical Value	0.251	Data appear Lognormal at 5% Significance Level

**Data appear Lognormal at 5% Significance Level**

**Lognormal Statistics**

Minimum of Logged Data	-4.269	Mean of logged Data	-3.894
Maximum of Logged Data	-3.297	SD of logged Data	0.295

**Assuming Lognormal Distribution**

95% H-UCL	0.0255	90% Chebyshev (MVUE) UCL	0.0269
95% Chebyshev (MVUE) UCL	0.0294	97.5% Chebyshev (MVUE) UCL	0.033
99% Chebyshev (MVUE) UCL	0.0401		

**Nonparametric Distribution Free UCL Statistics**

**Data appear to follow a Discernible Distribution at 5% Significance Level**

**Nonparametric Distribution Free UCLs**

95% CLT UCL	0.0246	95% Jackknife UCL	0.0249
95% Standard Bootstrap UCL	0.0243	95% Bootstrap-t UCL	0.0265
95% Hall's Bootstrap UCL	0.0274	95% Percentile Bootstrap UCL	0.0247
95% BCA Bootstrap UCL	0.025		
90% Chebyshev(Mean, Sd) UCL	0.0274	95% Chebyshev(Mean, Sd) UCL	0.0301
97.5% Chebyshev(Mean, Sd) UCL	0.034	99% Chebyshev(Mean, Sd) UCL	0.0416

**Suggested UCL to Use**

**95% Student's-t UCL 0.0249**

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Cobalt2

**General Statistics**

Total Number of Observations	23	Number of Distinct Observations	18
		Number of Missing Observations	0
Minimum	9.1000E-4	Mean	0.0111
Maximum	0.037	Median	0.0064
SD	0.011	Std. Error of Mean	0.00229
Coefficient of Variation	0.991	Skewness	0.703

**Appendix D-3b  
Groundwater ProUCL Output - Cobalt  
Arkwright AP-3 Risk Evaluation Report  
Arkwright AP-3  
Former Plant Arkwright, Bibb County, GA**

**Normal GOF Test**

Shapiro Wilk Test Statistic	0.837
5% Shapiro Wilk Critical Value	0.914
Lilliefors Test Statistic	0.271
5% Lilliefors Critical Value	0.18

**Shapiro Wilk GOF Test**

Data Not Normal at 5% Significance Level

**Lilliefors GOF Test**

Data Not Normal at 5% Significance Level

**Data Not Normal at 5% Significance Level**

**Assuming Normal Distribution**

**95% Normal UCL**

95% Student's-t UCL	0.015
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**95% UCLs (Adjusted for Skewness)**

95% Adjusted-CLT UCL (Chen-1995)	0.0152
95% Modified-t UCL (Johnson-1978)	0.015

**Gamma GOF Test**

A-D Test Statistic	1.748
5% A-D Critical Value	0.78
K-S Test Statistic	0.255
5% K-S Critical Value	0.188

**Anderson-Darling Gamma GOF Test**

Data Not Gamma Distributed at 5% Significance Level

**Kolmogorov-Smirnov Gamma GOF Test**

Data Not Gamma Distributed at 5% Significance Level

**Data Not Gamma Distributed at 5% Significance Level**

**Gamma Statistics**

k hat (MLE)	0.798
Theta hat (MLE)	0.0139
nu hat (MLE)	36.69
MLE Mean (bias corrected)	0.0111
Adjusted Level of Significance	0.0389

k star (bias corrected MLE)	0.723
Theta star (bias corrected MLE)	0.0153
nu star (bias corrected)	33.24
MLE Sd (bias corrected)	0.013
Approximate Chi Square Value (0.05)	21.06
Adjusted Chi Square Value	20.36

**Assuming Gamma Distribution**

95% Approximate Gamma UCL (use when n>=50))	0.0175
---	--------

95% Adjusted Gamma UCL (use when n<50)	0.0181
--	--------

**Lognormal GOF Test**

Shapiro Wilk Test Statistic	0.819
5% Shapiro Wilk Critical Value	0.914
Lilliefors Test Statistic	0.239
5% Lilliefors Critical Value	0.18

**Shapiro Wilk Lognormal GOF Test**

Data Not Lognormal at 5% Significance Level

**Lilliefors Lognormal GOF Test**

Data Not Lognormal at 5% Significance Level

**Data Not Lognormal at 5% Significance Level**

**Lognormal Statistics**

Minimum of Logged Data	-7.002
Maximum of Logged Data	-3.297

Mean of logged Data	-5.248
SD of logged Data	1.385

**Assuming Lognormal Distribution**

95% H-UCL	0.034
95% Chebyshev (MVUE) UCL	0.032
99% Chebyshev (MVUE) UCL	0.0567

90% Chebyshev (MVUE) UCL	0.026
97.5% Chebyshev (MVUE) UCL	0.0404

**Nonparametric Distribution Free UCL Statistics**

**Data do not follow a Discernible Distribution (0.05)**

**Appendix D-3b  
Groundwater ProUCL Output - Cobalt  
Arkwright AP-3 Risk Evaluation Report  
Arkwright AP-3  
Former Plant Arkwright, Bibb County, GA**

**Nonparametric Distribution Free UCLs**

95% CLT UCL	0.0148	95% Jackknife UCL	0.015
95% Standard Bootstrap UCL	0.0147	95% Bootstrap-t UCL	0.0157
95% Hall's Bootstrap UCL	0.0151	95% Percentile Bootstrap UCL	0.0149
95% BCA Bootstrap UCL	0.0149		
90% Chebyshev(Mean, Sd) UCL	0.0179	95% Chebyshev(Mean, Sd) UCL	0.021
97.5% Chebyshev(Mean, Sd) UCL	0.0254	99% Chebyshev(Mean, Sd) UCL	0.0338

**Suggested UCL to Use**

95% Chebyshev (Mean, Sd) UCL 0.021

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**Cobalt3**

**General Statistics**

Total Number of Observations	11	Number of Distinct Observations	8
		Number of Missing Observations	0
Minimum	9.1000E-4	Mean	0.00137
Maximum	0.0021	Median	0.0013
SD	3.4059E-4	Std. Error of Mean	1.0269E-4
Coefficient of Variation	0.248	Skewness	0.924

**Normal GOF Test**

Shapiro Wilk Test Statistic	0.929
5% Shapiro Wilk Critical Value	0.85
Lilliefors Test Statistic	0.195
5% Lilliefors Critical Value	0.251

**Shapiro Wilk GOF Test**

Data appear Normal at 5% Significance Level

**Lilliefors GOF Test**

Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

**Assuming Normal Distribution**

**95% Normal UCL**

95% Student's-t UCL 0.00156

**95% UCLs (Adjusted for Skewness)**

95% Adjusted-CLT UCL (Chen-1995) 0.00157

95% Modified-t UCL (Johnson-1978) 0.00156

**Gamma GOF Test**

A-D Test Statistic	0.285
5% A-D Critical Value	0.729
K-S Test Statistic	0.163
5% K-S Critical Value	0.255

**Anderson-Darling Gamma GOF Test**

Detected data appear Gamma Distributed at 5% Significance Level

**Kolmogorov-Smirnov Gamma GOF Test**

Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level



**Appendix D-3b  
Groundwater ProUCL Output - Cobalt  
Arkwright AP-3 Risk Evaluation Report  
Arkwright AP-3  
Former Plant Arkwright, Bibb County, GA**

**Gamma Statistics**

k hat (MLE)	19.02	k star (bias corrected MLE)	13.9
Theta hat (MLE)	7.2160E-5	Theta star (bias corrected MLE)	9.8787E-5
nu hat (MLE)	418.5	nu star (bias corrected)	305.7
MLE Mean (bias corrected)	0.00137	MLE Sd (bias corrected)	3.6825E-4
		Approximate Chi Square Value (0.05)	266.2
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	260.2

**Assuming Gamma Distribution**

95% Approximate Gamma UCL (use when n>=50))	0.00158	95% Adjusted Gamma UCL (use when n<50)	0.00161
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**Lognormal GOF Test**

Shapiro Wilk Test Statistic	0.966
5% Shapiro Wilk Critical Value	0.85
Lilliefors Test Statistic	0.151
5% Lilliefors Critical Value	0.251

**Shapiro Wilk Lognormal GOF Test**

Data appear Lognormal at 5% Significance Level

**Lilliefors Lognormal GOF Test**

Data appear Lognormal at 5% Significance Level

**Data appear Lognormal at 5% Significance Level**

**Lognormal Statistics**

Minimum of Logged Data	-7.002	Mean of logged Data	-6.617
Maximum of Logged Data	-6.166	SD of logged Data	0.239

**Assuming Lognormal Distribution**

95% H-UCL	0.00159	90% Chebyshev (MVUE) UCL	0.00167
95% Chebyshev (MVUE) UCL	0.00181	97.5% Chebyshev (MVUE) UCL	0.00199
99% Chebyshev (MVUE) UCL	0.00236		

**Nonparametric Distribution Free UCL Statistics**

**Data appear to follow a Discernible Distribution at 5% Significance Level**

**Nonparametric Distribution Free UCLs**

95% CLT UCL	0.00154	95% Jackknife UCL	0.00156
95% Standard Bootstrap UCL	0.00154	95% Bootstrap-t UCL	0.00163
95% Hall's Bootstrap UCL	0.00177	95% Percentile Bootstrap UCL	0.00154
95% BCA Bootstrap UCL	0.00155		
90% Chebyshev(Mean, Sd) UCL	0.00168	95% Chebyshev(Mean, Sd) UCL	0.00182
97.5% Chebyshev(Mean, Sd) UCL	0.00201	99% Chebyshev(Mean, Sd) UCL	0.00239

**Suggested UCL to Use**

**95% Student's-t UCL 0.00156**

**Appendix D-3b**  
**Groundwater ProUCL Output - Cobalt**  
**Arkwright AP-3 Risk Evaluation Report**  
**Arkwright AP-3**  
**Former Plant Arkwright, Bibb County, GA**

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**Lognormal GOF Test**

Shapiro Wilk Test Statistic	0.966
5% Shapiro Wilk Critical Value	0.85
Lilliefors Test Statistic	0.151
5% Lilliefors Critical Value	0.251

**Shapiro Wilk Lognormal GOF Test**

Data appear Lognormal at 5% Significance Level

**Lilliefors Lognormal GOF Test**

Data appear Lognormal at 5% Significance Level

**Data appear Lognormal at 5% Significance Level**

**Lognormal Statistics**

Minimum of Logged Data	-7.002	Mean of logged Data	-6.617
Maximum of Logged Data	-6.166	SD of logged Data	0.239

**Assuming Lognormal Distribution**

95% H-UCL	0.00159	90% Chebyshev (MVUE) UCL	0.00167
95% Chebyshev (MVUE) UCL	0.00181	97.5% Chebyshev (MVUE) UCL	0.00199
99% Chebyshev (MVUE) UCL	0.00236		

**Nonparametric Distribution Free UCL Statistics**

**Data appear to follow a Discernible Distribution at 5% Significance Level**

**Nonparametric Distribution Free UCLs**

95% CLT UCL	0.00154	95% Jackknife UCL	0.00156
95% Standard Bootstrap UCL	0.00153	95% Bootstrap-t UCL	0.00161
95% Hall's Bootstrap UCL	0.00177	95% Percentile Bootstrap UCL	0.00154
95% BCA Bootstrap UCL	0.00156		
90% Chebyshev(Mean, Sd) UCL	0.00168	95% Chebyshev(Mean, Sd) UCL	0.00182
97.5% Chebyshev(Mean, Sd) UCL	0.00201	99% Chebyshev(Mean, Sd) UCL	0.00239

**Suggested UCL to Use**

95% Student's-t UCL 0.00156

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

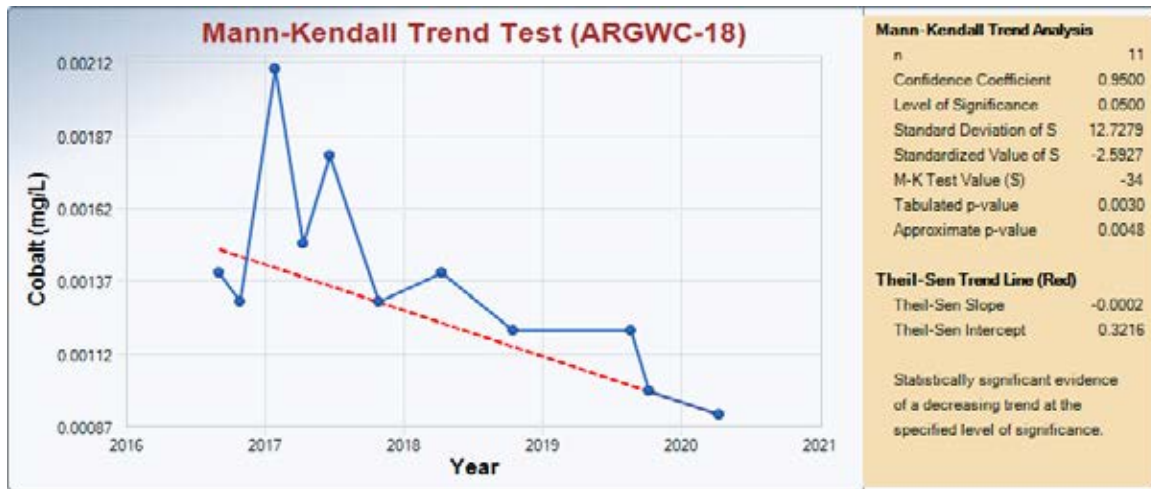
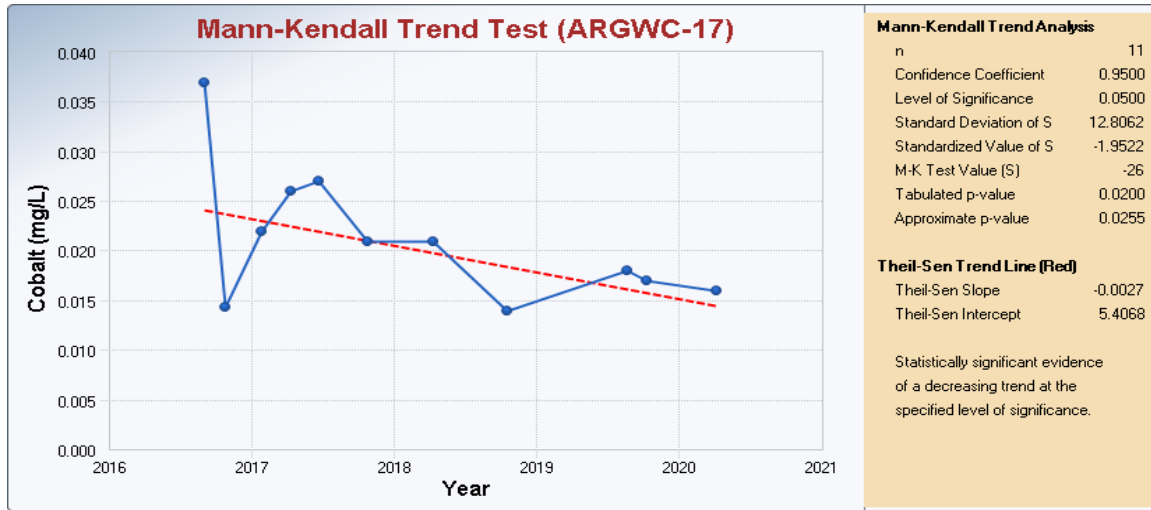
Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

**Appendix D-4**  
**Groundwater Trend Graph**

**Appendix D-4  
Groundwater Mann-Kendall Trend Graph  
Arkwright AP-3 Risk Evaluation Report  
Arkwright AP-3  
Former Plant Arkwright, Bibb County, GA**





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# **APPENDIX B**

## **Boring and Well Construction Logs**

# Southern Company Services, Inc. Soil Boring Log



Project: **PLANT ARKWRIGHT ASH MONOFILL**  
 Location: **MACON, GEORGIA**  
 Purpose: **GROUNDWATER MONITORING WELLS**

**HOLE No. GWA-3**

**SHEET 1 OF 2**

Position: \_\_\_\_\_ Surface Elevation: **387.15**

Rig Type: **CME 75** Contractor: **SCS ATLANTA** Driller: **KIRK ROBINS**

Drilling Method: **HOLLOW STEM AUGER** Boring Depth: **45.0** No. SPT: **8** No. UD Samples: **0**

Date Started: **12/9/92** Date Completed: **12/9/92** Logged By: **J. C. REDWINE** Date Logged: **12/9/92**

Hole Closure: \_\_\_\_\_

WATER TABLE	DEPTH AND ELEV. (FT)	SYMBOLIC LOG	SAMPLE				COMMENTS	TEST RESULTS										
			NUMBER	LEGEND	RECOVERY (%)	SPT VALUES BLOWS/6" (N)		MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	K (cm/s)							
	0																	
	387.15		Red to orange micaceous (biotite) sandy silty CLAY															
	5			SS-1			3-5-7 (12)		Clay relatively stiff above 5.0'									
	380.15		Red to orange sandy silty CLAY															
	10			SS-2			2-2-3 (5)		Mica (biotite) not present in SS-2 Original rock type not discernable above 10.0'									
	375.15		Yellow to orange to red sandy silty CLAY to clayey silty fine SAND (biotite SCHIST to biotite hornblende quartzfeldspathic GNEISS)															
	15			SS-3			2-3-5 (8)		Sample begins to get moist at approximately 12.0'									
	20			SS-4			3-4-5 (9)											
	363.65		Gray-green to white to red hornblende GNEISS SAPROLITE (40% amphibole, 60% plag) (clayey silty very fine SAND)															
	25			SS-5			10-12-14 (25)		Foliation near horizontal									
	358.95		Biotite quartzfeldspathic GNEISS SAPROLITE (clayey silty fine to medium-grained SAND)															
	30			SS-6			7-13-12 (25)		Tends to be alternating layers of biotite and quartzfeldspathic gneiss "zebra rock"									
	35			SS-7			11-10-17 (27)		SS-7 similar to sample at 23.5' in GWA-2									
	348.65		AMPHIBOLITE (metagabbro?) to hornblende															
	40			SS-8			14-50/5											

SS = Split Spoon; ST = Shelby Tube;  
 D = Dennonson; P = Pitcher; O = Other

35.0 while drilling  after 24 hours  
 after drilling

Hole No. **GWA-3**

# Southern Company Services, Inc. Soil Boring Log Continuation Sheet



Project: **PLANT ARKWRIGHT ASH MONOFILL**  
 Location: **MACON, GEORGIA**  
 Purpose: **GROUNDWATER MONITORING WELLS**

**HOLE No. GWA-3**

**SHEET 2 OF 2**

Position: \_\_\_\_\_ Surface Elevation: **387.15**

WATER TABLE	DEPTH AND ELEV. (FT)	SYMBOLIC LOG	SOIL DESCRIPTION	SAMPLE			COMMENTS	TEST RESULTS				
				NUMBER	LEGEND	RECOVERY (%)		SPT VALUES BLOWS/6" (N)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	K (cm/s)
	40		GNEISS SAPROLITE (clayey silty fine to coarse-grained SAND)									
	45		Boring Terminated									

SS = Split Spoon; ST = Shelby Tube;  
 D = Dennison; P = Pitcher; O = Other

35.0 while drilling  
 after drilling

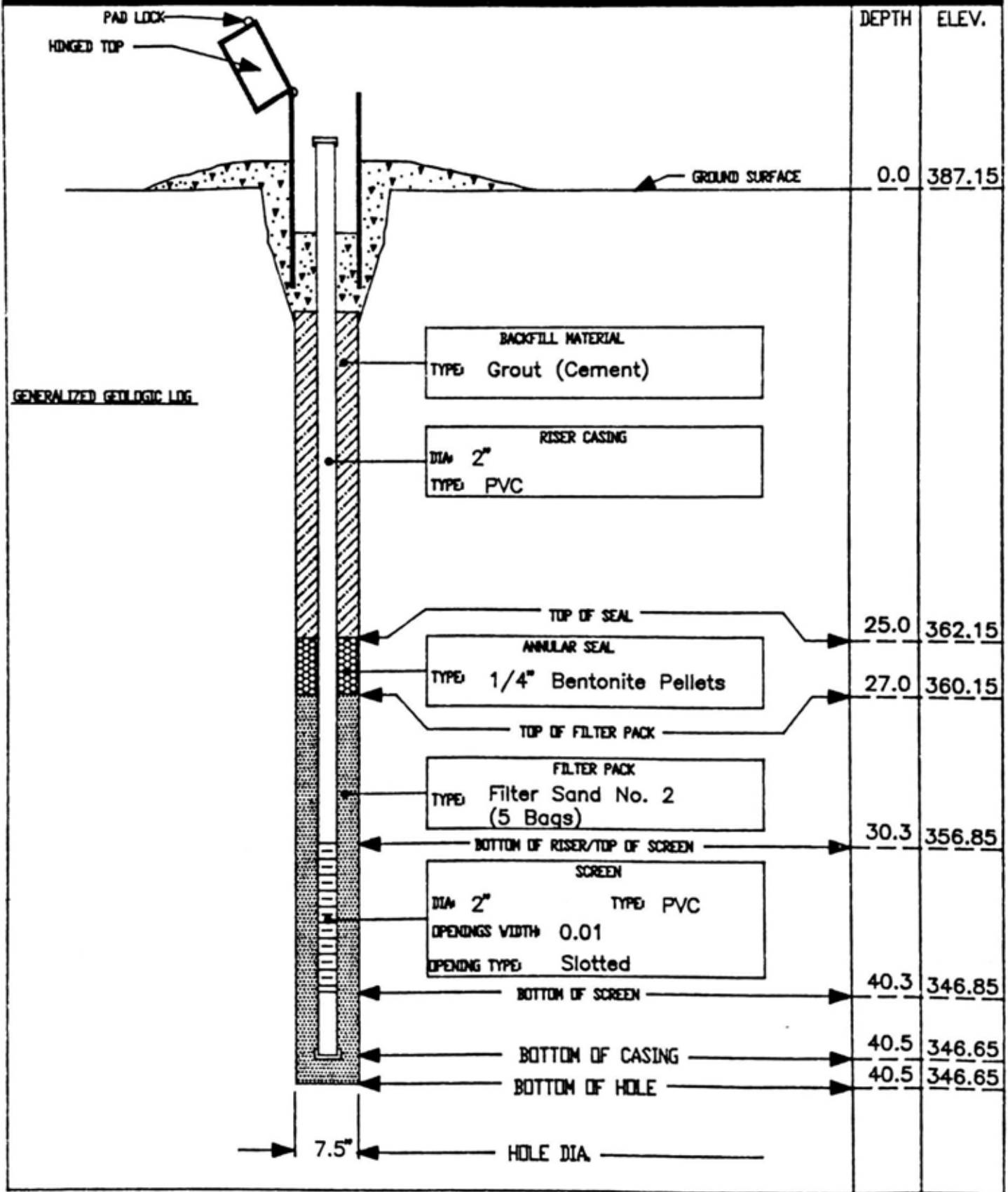
after 24 hours

Hole No.

GWA-3



<b>WELL CONSTRUCTION LOG</b>		PROJECT	Plant Arkwright Monofill	WELL NO.	GWA-3
SITE		LOCATION	Macon, GA		
BEGUN	COMPLETED	PREPARED BY	WATER TABLE LEVEL	CONTRACTOR	
12/9/92	12/8/92	J.C. Redwine	357.08 (1/14/93)	SCS Atlanta	





# Southern Company Service Inc. Soil Boring Log

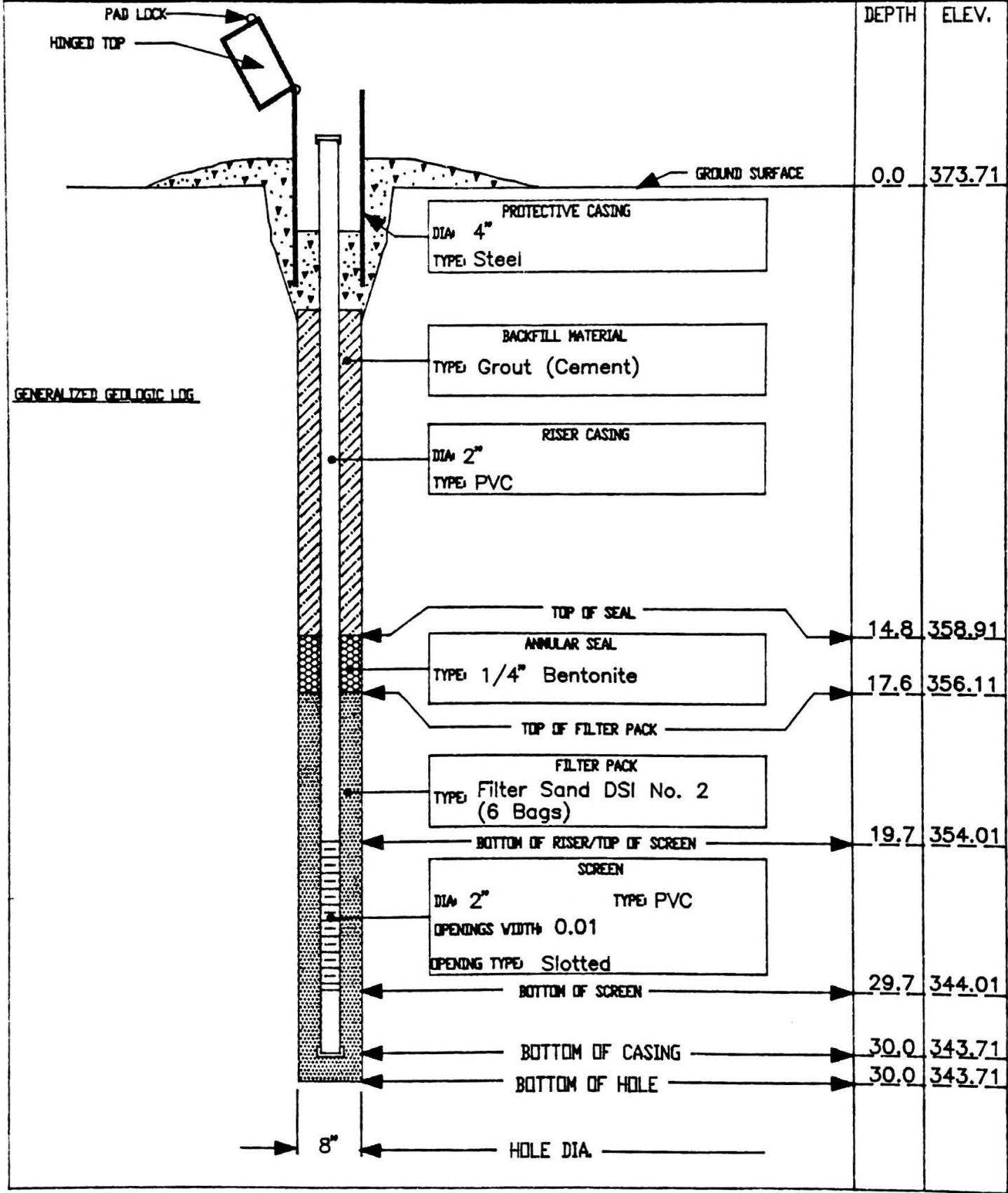


**Project:** PLANT ARKWRIGHT MONOFILL **HOLE No. GWC-5**  
**Location:** MACON, GA  
**Purpose:** GROUNDWATER MONITORING WELLS **SHEET 1 OF 1**  
**Position:** E 1,248.1 N 3,613.8 **Surface Elevation:** 373.71  
**Rig Type:** CME 850 **Contractor:** SCS ATLANTA **Driller:** JEFF GILREATH  
**Drilling Method:** HOLLOW STEM AUGER **Boring Depth:** 30.0 **No. SPT:** **No. UD Samples:**  
**Date Started:** 1/10/94 **Date Completed:** 1/10/94 **Logged By:** G.T. WATKINS **Date Logged:** 1/10/94

WATER TABLE	DEPTH AND ELEV. (FT)	SYMBOLIC LOG	SOIL DESCRIPTION	SAMPLE				COMMENTS	TEST RESULTS		
				NUMBER	LEGEND	RECOVERY (%)	SPT VALUES BLOWS/6" (N)		MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC LIMIT (%)
	0		Brown-Red Slightly Sandy Silty CLAY with Occasional Weathered Amphiboles, Micas								
	5										
	10										
	373.71										
	15		Brown-Red to Orange Micaceous Sandy SILT containing Abundant Weathered Amphiboles and Relict Foliation					TOP OF SAPROLITE			
	20		Tan to Buff-Colored Micaceous Sandy Silt to Silty Fine SAND (SAPROLITE) with Abundant Weathered Quartz, Mica, and Amphiboles.					Weathered Quartz Fragments to 1/4"			
	25		Tan to Buff Wet Silty Fine SAND (SAPROLITE)					Relict Texture Becomes More Apparent With Depth			
	351.71										
	30		Tan to Buff Micaceous Quartzose Weathered Rock (GNEISS) Weathered, Oxidized, Silty Zones (SAPROLITE) Interbedded with Zones of GNEISS					TOP OF WEATHERED ROCK  SAMPLE COLLECTED			
	348.71										
	30		Boring Terminated								

SS = Split Spoon; ST = Shelby Tube;  white drilling  after 24 hours  
 D = Dennison; P = Pitcher; O = Other  after drilling **Hole No. GWC-5**

<b>WELL CONSTRUCTION LOG</b>		PROJECT Plant Arkwright Monofill	WELL NO. GWC-5
SITE Arkwright Monofill		LOCATION Macon, GA	
BEGUN 1/10/94	COMPLETED 1/10/94	PREPARED BY G. T. Watkins	CONTRACTOR SCS Atlanta





## DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-12  
Sheet 1 of 2

SITE Former Plant Arkwright HOLE DEPTH 29 SURF. ELEV. 369.39  
 LOCATION Solid Waste Management Area COORDINATES N 1067003.666 E 2436787.918  
 ANGLE \_\_\_\_\_ BEARING \_\_\_\_\_ CONTRACTOR SCS, Inc. DRILL NO. \_\_\_\_\_  
 DRILLING METHOD HSA/HQ Rock core with water NO. SAMPLES 3 NO. U.D. SAMPLES 0  
 CASING SIZE \_\_\_\_\_ LENGTH \_\_\_\_\_ CORE SIZE \_\_\_\_\_ TOTAL % REC. \_\_\_\_\_  
 WATER TABLE DEPTH 14.2 ELEV. \_\_\_\_\_ TIME AFTER COMP. \_\_\_\_\_ DATE TAKEN 12/18/2008  
 TYPE GROUT \_\_\_\_\_ QUANTITY \_\_\_\_\_ MIX \_\_\_\_\_ DRILLING START DATE 11/18/2008  
 DRILLER S. Milam RECORDER D. Brooks/L. Garland APPROVED \_\_\_\_\_ DRILLING COMP. DATE 12/9/2008

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	369.39								
1	368.39								
2	367.39								
3	366.39								
4	365.39								
5	364.39	Reddish brown silty CLAY, damp, stiff	1	4.5-6	4-7-7	14			
6	363.39								
7	362.39								
8	361.39								
9	360.39								
10	359.39	Reddish yellow silty CLAY, with very fine grained sand	2	9.5-11	4-3-6	9			
11	358.39								
12	357.39								
13	356.39								
14	355.39								
15	354.39	Reddish yellow silty SAND, with clay, micaceous, saprolite	3	14.5-16	5-8-10	18			
16	353.39								
17	352.39								
18	351.39	Auger refusal at 18.7'							
19	350.39	Biotite gneiss, slightly to moderately weathered, slightly to heavily fractured with moderately to highly weathered fracture faces							
20	349.39								
21	348.39	19.1- fracture		19-24				98	
22	347.39	19.75 - fracture							
23	346.39	21.7- fracture							
24	345.39								



**DRILLING LOG**  
**GEOLOGICAL SERVICES**

Hole No. GWA-12

Sheet 2 of 2

SITE **Former Plant Arkwright** TOTAL DEPTH **29** SURF.ELEV. **369.394**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	344.39	Same as above							
26	343.39	25.4- fracture		24	29			98	
27	342.39	26.7- fracture							
28	341.39								
29	340.39								
30	339.39	29' - Bottom of boring							
31	338.39								
32	337.39								
33	336.39								
34	335.39								
35	334.39								
36	333.39								
37	332.39								
38	331.39								
39	330.39								
40	329.39								
41	328.39								
42	327.39								
43	326.39								
44	325.39								
45	324.39								
46	323.39								
47	322.39								
48	321.39								
49	320.39								
50	319.39								
51	318.39								
52	317.39								
53	316.39								
54	315.39								
55	314.39								
56	313.39								



**WELL CONSTRUCTION LOG**

Southern Company Generation

PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.	WELL NAME
Solid Waste Management Unit	DRILLER: S. Milam	
LOCATION: Ash Ponds 1, 2, 3	RIG TYPE: CME 550	
LOGGER: L. Garland	DRILLING METHODS: HSA, HQ Rock Core	GWA-12
DATE CONSTRUCTED: 12/10/2008		

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 4-ft x 4-ft x 4" concrete pad 2" Threaded Riser Cap Pea Gravel in annular space PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING	TOP OF RISER 3.17 0.00	372.56 369.39
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 5 bags @ 1.3 cf/bag = 6.5 cf RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	16.04	353.35
ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK	18.04	351.35
FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 2.5 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	20.04	349.35
SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	32.04	337.35
BOTTOM OF CASING	32.34	337.05
HOLE DIA: 9"		



## DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-13  
Sheet 1 of 2

SITE Former Plant Arkwright HOLE DEPTH 40 SURF. ELEV. 368.94  
 LOCATION Solid Waste Management Area COORDINATES N 1065951.025 E 2438129.945  
 ANGLE \_\_\_\_\_ BEARING \_\_\_\_\_ CONTRACTOR SCS, Inc. DRILL NO. \_\_\_\_\_  
 DRILLING METHOD HSA/ HQ Rock Core NO. SAMPLES 4 NO. U.D. SAMPLES 0  
 CASING SIZE \_\_\_\_\_ LENGTH \_\_\_\_\_ CORE SIZE \_\_\_\_\_ TOTAL % REC. \_\_\_\_\_  
 WATER TABLE DEPTH 21.8 ELEV. \_\_\_\_\_ TIME AFTER COMP. \_\_\_\_\_ DATE TAKEN 12/18/2008  
 TYPE GROUT \_\_\_\_\_ QUANTITY \_\_\_\_\_ MIX \_\_\_\_\_ DRILLING START DATE 12/3/2008  
 DRILLER S. Milam RECORDER L. Garland APPROVED \_\_\_\_\_ DRILLING COMP. DATE 12/10/2008

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	368.94								
1	367.94								
2	366.94								
3	365.94								
4	364.94								
5	363.94	Light reddish brown sandy SILT, micaceous fine grained sand	1	4.5-6	4-4-4	8			
6	362.94								
7	361.94								
8	360.94								
9	359.94								
10	358.94	Tan silty SAND, fine grained, micaceous	2	9.5-11	4-4-5	9			
11	357.94								
12	356.94								
13	355.94								
14	354.94								
15	353.94	Same as above	3	14.5-16	3-3-5	8			
16	352.94								
17	351.94								
18	350.94								
19	349.94								
20	348.94	Same as above	4	19.5-21	5-7-13	20			
21	347.94								
22	346.94								
23	345.94								
24	344.94								



**DRILLING LOG**  
**GEOLOGICAL SERVICES**

Hole No. GWA-13

Sheet 2 of 2

SITE **Former Plant Arkwright** TOTAL DEPTH **40** SURF.ELEV. **368.94066**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	343.94	24.5' - Auger refusal							
26	342.94	Biotite gneiss, moderatly weathered to decomposed, slightly to heavily fractured		24.5	28			88	
27	341.94								
28	340.94		28.6- fracture						
29	339.94	Biotite gneiss, unweathered, slightly to heavily fractured, slightly weathered fracture faces		28	33			90	
30	338.94								
31	337.94								
32	336.94								
33	335.94	Same as above		33	38			100	
34	334.94								
35	333.94								
36	332.94	Same as above		38	40			100	
37	331.94								
38	330.94								
39	329.94								
40	328.94	40' - Bottom of boring							
41	327.94								
42	326.94								
43	325.94								
44	324.94								
45	323.94								
46	322.94								
47	321.94								
48	320.94								
49	319.94								
50	318.94								
51	317.94								
52	316.94								
53	315.94								
54	314.94								
55	313.94								
56	312.94								

**WELL CONSTRUCTION LOG**

Southern Company Generation

PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.	WELL NAME
Solid Waste Management Unit	DRILLER: S. Milam/ S. Denty	
LOCATION: Ash Ponds 1, 2, 3	RIG TYPE: CME 550	
LOGGER: L. Garland	DRILLING METHODS: HSA, HQ Rock Core	GWA-13
DATE CONSTRUCTED: 12/11/2008		

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	2.87	371.81
	GROUND SURFACE	0.00	368.94
<p><b>PROTECTIVE CASING</b>                      SIZE: 4x4-inch                      TYPE: Anodized Aluminum</p> <p>BOTTOM OF PROTECTIVE CASING</p>			
<p><b>BACKFILL MATERIAL</b>                      TYPE: Portland Cement Grout                      AMOUNT: 5 bags @ 1.3 cf/bag = 6.5 cf</p> <p><b>RISER CASING</b>                      DIA: 2-inch                      TYPE: Schedule 40 PVC                      JOINT TYPE: Flush Threaded</p>	TOP OF SEAL	26.00	342.94
<p><b>ANNULAR SEAL</b>                      TYPE: 1/4-inch coated bentonite pellets                      5-gal buckets                      AMOUNT: 0.5 bucket                      PLACEMENT: Tremie</p>	TOP OF FILTER PACK	28.44	340.50
<p><b>FILTER PACK</b>                      TYPE: DSI Sand - 1A (20/30)                      Drillers Services, Inc.                      AMOUNT: 2 bags; 50 lbs/bag                      PLACEMENT: Tremie; wash with water</p>	BOTTOM OF RISER / TOP OF SCREEN	30.44	338.50
<p><b>SCREEN</b>                      DIA: 2-inch                      TYPE: Schedule 40 PVC Prepack                      OPENING WIDTH: 0.01-inch                      OPENING TYPE: Slotted                      SLOT SPACING: 0.25-inch                      SLOT LENGTH: 1.5-inch</p>	BOTTOM OF SCREEN	40.44	328.50
	BOTTOM OF CASING	40.74	328.20
HOLE DIA: 9"			





## DRILLING LOG GEOLOGICAL SERVICES

Hole No. **GWA-14**

Sheet 1 of 2

SITE <b>Former Plant Arkwright</b>		HOLE DEPTH <b>54.4</b>	SURF.ELEV. <b>385.374</b>
LOCATION <b>Solid Waste Management Area</b>		COORDINATES N <b>1066023.905</b>	E <b>2438385.174</b>
ANGLE _____	BEARING _____	CONTRACTOR <b>SCS, Inc.</b>	DRILL NO. <b>CME-55</b>
DRILLING METHOD <b>HSA/ HQ Rock Core</b>	NO. SAMPLES <b>5</b>	NO. U.D. SAMPLES <b>0</b>	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <b>32.5</b>	ELEV. _____	TIME AFTER COMP. _____	DATE TAKEN <b>2/9/2009</b>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <b>2/4/2009</b>
DRILLER <b>Brandon Poe</b>	RECORDER <b>Luke Garland</b>	APPROVED _____	DRILLING COMP. DATE <b>2/4/2009</b>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	385.37								
1	384.37								
2	383.37								
3	382.37								
4	381.37								
5	380.37								
6	379.37	Dark reddish brown clayey SAND with some organic material, medium to fine grained	1	4.5-6	3-5-8	13			
7	378.37								
8	377.37								
9	376.37	Reddish brown sandy SILT, micaceous fine grained sand	2	9.5-11	5-4-5	9			
10	375.37								
11	374.37								
12	373.37								
13	372.37								
14	371.37	Reddish brown clayey SILT with some sand	3	14.5-16	3-3-3	6			
15	370.37								
16	369.37								
17	368.37								
18	367.37	Yellowish brown silty SAND, medium to fine grained	4	19.5-21	7-10-4	14			
19	366.37								
20	365.37								
21	364.37								
22	363.37								
23	362.37								
24	361.37								



# DRILLING LOG

## GEOLOGICAL SERVICES

Hole No. GWA-14

Sheet 2 of 2

SITE **Former Plant Arkwright** TOTAL DEPTH **54.4** SURF.ELEV. **385.374**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25	360.37	yellowish brown silty medium to fine SAND	5	24.5-26	50/4	R			
26	359.37								
27	358.37								
28	357.37								
29	356.37								
30	355.37								
31	354.37								
32	353.37								
33	352.37								
34	351.37								
35	350.37	Drilled through highly weathered rock from approx. 25 feet to 36 feet.							
36	349.37								
37	348.37	Auger Refusal @ 35.4 feet							
38	347.37	BIOTITE GNEISS, unweathered to slightly weathered, very hard to medium hard, highly to slightly fractured with slightly to moderately weathered fracture faces		35.4-39.4				78	
39	346.37								
40	345.37	BIOTITE GNEISS, unweathered to weathered, very hard, medium to fine grained, highly to slightly fractured, with slightly weathered fracture faces		39.4-44.4				100	
41	344.37								
42	343.37	BIOTITE GNEISS, unweathered weathered, very hard, fine grained, highly to moderately fractured, slightly weathered fracture faces		44.4-49.4				100	
43	342.37								
44	341.37	BIOTITE GNEISS unweathered weathered, very hard, fine grained, intensely to moderately fractured, with moderately weathered joints		49.4-54.4				100	
45	340.37								
46	339.37	51.4 - 52.1 - nearly vertical fracture							
47	338.37								
48	337.37	54.1 - nearly vertical fracture							
49	336.37								
50	335.37	54.4' - Bottom of boring							
51	334.37								
52	333.37								
53	332.37								
54	331.37								
55	330.37								
56	329.37								

**WELL CONSTRUCTION LOG**

Southern Company Generation

PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.	WELL NAME
Solid Waste Management Unit	DRILLER: B. Poe	
LOCATION: Ash Ponds 1, 2, 3	RIG TYPE: CME 55	
LOGGER: L. Garland	DRILLING METHODS: HSA, HQ Rock Core	GWA-14
DATE CONSTRUCTED: 2/4/2009		

	DEPTH FEET	ELEVATION FT, MSL
<p>Locking Hinged Top</p> <p>1/4-inch Vent</p> <p>1/4-inch Weep Hole</p> <p>4-ft x 4-ft x 4" concrete pad</p> <p>2" Threaded Riser Cap</p> <p>Pea Gravel in annular space</p> <p>GROUND SURFACE</p> <p><b>PROTECTIVE CASING</b> SIZE: 4x4-inch TYPE: Anodized Aluminum</p> <p><b>BACKFILL MATERIAL</b> TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 cf/bag = 5.2 cf</p> <p><b>RISER CASING</b> DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p> <p><b>ANNULAR SEAL</b> TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 0.5 bucket PLACEMENT: Tremie</p> <p><b>FILTER PACK</b> TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 2.5 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water</p> <p><b>SCREEN</b> DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p> <p>HOLE DIA: 9"</p>	<p>TOP OF RISER 2.79</p> <p>GROUND SURFACE 0.00</p> <p>TOP OF SEAL 40.50</p> <p>TOP OF FILTER PACK 43.56</p> <p>BOTTOM OF RISER / TOP OF SCREEN 45.66</p> <p>BOTTOM OF SCREEN 55.66</p> <p>BOTTOM OF CASING 55.96</p>	<p>388.16</p> <p>385.37</p> <p>344.87</p> <p>341.81</p> <p>339.71</p> <p>329.71</p> <p>329.41</p>



## DRILLING LOG GEOLOGICAL SERVICES

GWA - 7

Sheet 1 of 2

SITE <u>Plant Arkwright, Pond #3 SAR</u>		HOLE DEPTH <u>45</u>	SURF. ELEV. <u>349.003</u>
LOCATION <u>Southeastern End of Pond</u>		COORDINATES N <u>1064410.279</u>	E <u>2438355.107</u>
ANGLE <u>90</u>	BEARING _____	CONTRACTOR <u>SCS</u>	DRILL NO. <u>CME 550</u>
OVERBURDEN DEPTH _____	NO. PENT. TESTS <u>8</u>	NO. U.D. SAMPLES <u>2</u>	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <u>19.3</u>	ELEV. _____	TIME AFTER COMP. <u>TOB</u>	DATE TAKEN <u>12/11/2003</u>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <u>12/11/2003</u>
DRILLER <u>Brad Fillpovich</u>	RECORDER <u>Stacy Sprayberry</u>	APPROVED _____	DRILLING COMP. DATE <u>12/11/2003</u>

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Pen. Test			Sample No.	Fluid Chg. %	Rec. %	RCD
				From To	Blows	N				
	0	349.0								
	1		Reddish brown, silty CLAY (CL) FILL with wood and rock fragments	0-1.5	1-3-4	7	S-1			
	2									
	3									
	4									
	5									
	6		Hit hard object at 5.5'. Could not push tube deeper.	5.0-7.5	TUBE					
	7									
	8	341.0								
	9		Reddish brown, clayey SILT (ML/CL) with SAPROLITE	10-11.5	2-4-4	8	S-2			
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17		Becoming Sandier with depth	15-16.5	2-2-3	5	S-3			
	18	331.0								
	19		Tan to white, elastic SILT (MH) with SAPROLITE	20-22	TUBE					
	20									
	21									
	22									
	23									
	24									



**DRILLING LOG**  
**GEOLOGICAL SERVICES**

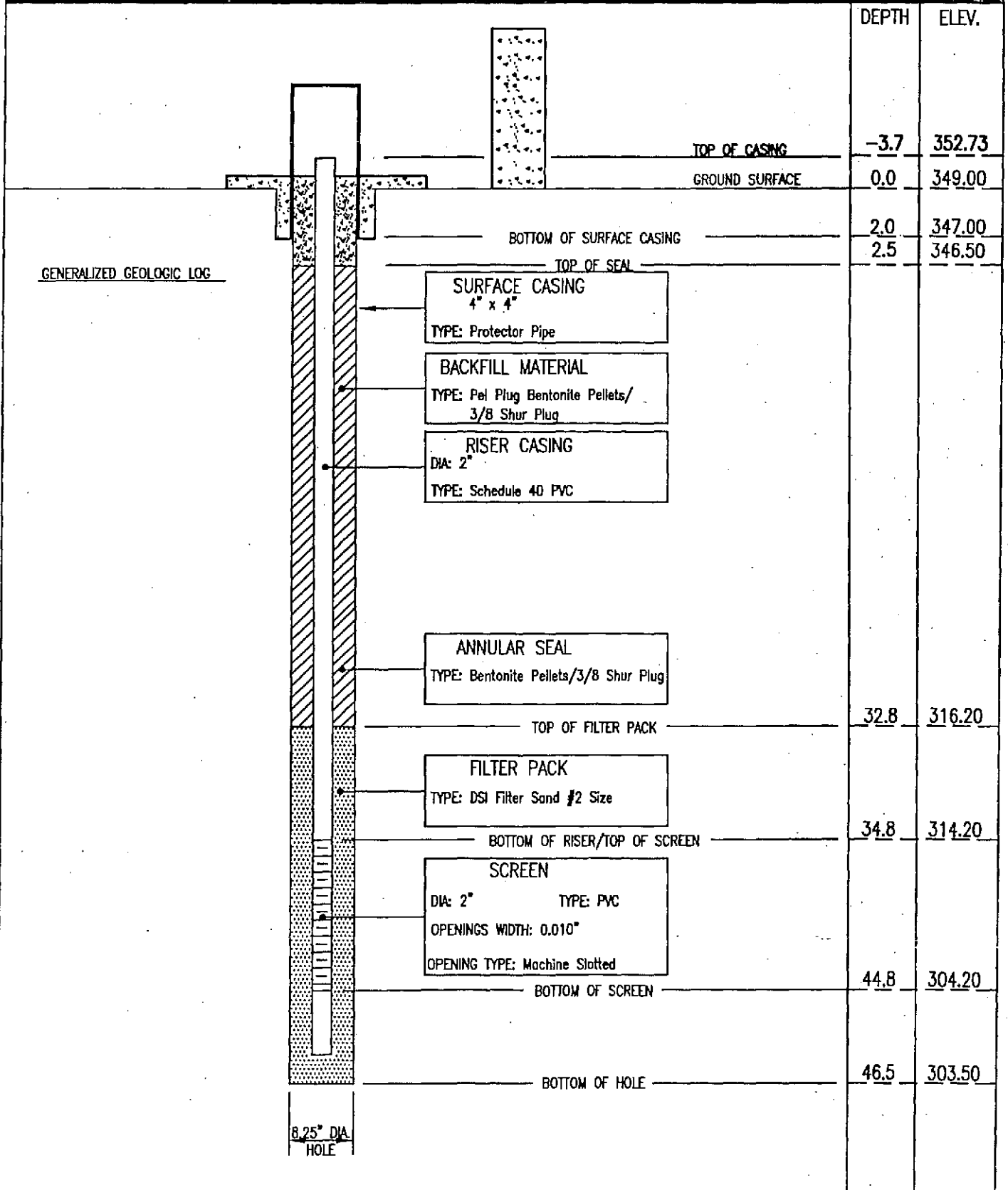
GWA - 7

Sheet 2 of 2

SITE **Plant Arkwright, Pond #3 SAR** TOTAL DEPTH **46.5** SURF.ELEV. **349.003**

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Pen. Test			Sample No.	Fluid Chg. %	Rec. %	ROD.
				From To	Blows	N				
	25		Free Water in 25 foot sample	25-26.5	3-4-5	9	S-4			
	26									
	27									
	28									
	29									
	30	319.0								
	31		Tan to white, sandy SILT (ML) with MICA and SAPROLITE	30-31.5	3-5-13	18	S-5			
	32									
	33									
	34									
	35									
	36									
	36		Tan to white, silty SAND (SM) with SAPROLITE	35-36.5	4-8-9	17	S-6			
	37	312.0								
	38		Reddish brown to brown, silty SAND (SM) with SAPROLITE	40-40.5	9-22-23	45	S-7			
	39									
	40	309.0								
	41		Well screened from 34.6 feet to 44.8 feet below ground surface	40-40.5	9-22-23	45	S-7			
	42									
	43									
	44									
	45									
	46									
	46		Boring Terminated at 46.5 Feet	45-46.5	12-23-32	55	S-8			
	47	302.5								
	48		Boring Terminated at 46.5 Feet							
	49									
	50									
	51									
	52									
	53									
	54									
	55									
	56									

<b>WELL CONSTRUCTION LOG</b>		PROJECT Arkwright Ash Pond #3 SAR	WELL NO. GWA-7
SITE Plant Arkwright		LOCATION Ash Pond #3, N 1064410.279, E 2438355.107	
BEGUN 12/11/03	COMPLETED 12/11/03	PREPARED BY Stacy Sprayberry	CONTRACTOR SCS
		WATER LEVEL ~19.3 ft.	





## DRILLING LOG GEOLOGICAL SERVICES

**GWA - 8**  
Sheet 1 of 2

SITE	Plant Arkwright, Pond #3 SAR	HOLE DEPTH	40	SURF. ELEV.	352.169
LOCATION	Southwestern Edge of Dike	COORDINATES N	1064521.654	E	2437572.442
ANGLE	90	BEARING		CONTRACTOR	SCS
				DRILL NO.	CME 550
OVERBURDEN DEPTH		NO. PENT. TESTS	7	NO. U.D. SAMPLES	2
CASING SIZE		LENGTH		CORE SIZE	
				TOTAL % REC.	
WATER TABLE DEPTH	23 / 21.1	ELEV.		TIME AFTER COMP.	TOB / 24 hours
				DATE TAKEN	12/10-11/2003
TYPE GROUT		QUANTITY		MIX	
				DRILLING START DATE	12/10/2003
DRILLER	Brad Filipovich	RECORDER	Stacy Sprayberry	APPROVED	
				DRILLING COMP. DATE	12/10/2003

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Pen. Test			Sample No.	Fluid Chg. %	Rec. %	ROD
				From To	Blows	N				
	0	352.2								
	1		Reddish brown, silty CLAY (CL/ML) with MICA FILL	0-1.5	3-3-8	11	S-1			
	2									
	3									
	4									
	5									
	6				5-6.5	4-5-7	12	S-2		
	7									
	8									
	9	343.2								
	10		Reddish brown, clayey SILT (ML/CL) FILL							
	11									
	12									
	13	339.2								
	14		Tan to orange SILT (ML) with SAPROLITE; non-plastic  K=6.4E-5 cm/sec							
	15									
	16				15-17	TUBE				
	17									
	18									
	19									
	20	332.2								
	21		Tan to orange to white, damp to wet, silty SAND (SM) with SAPROLITE	20-21.5	2-4-3	7	S-4			
	22									
	23									
	24									



# DRILLING LOG GEOLOGICAL SERVICES

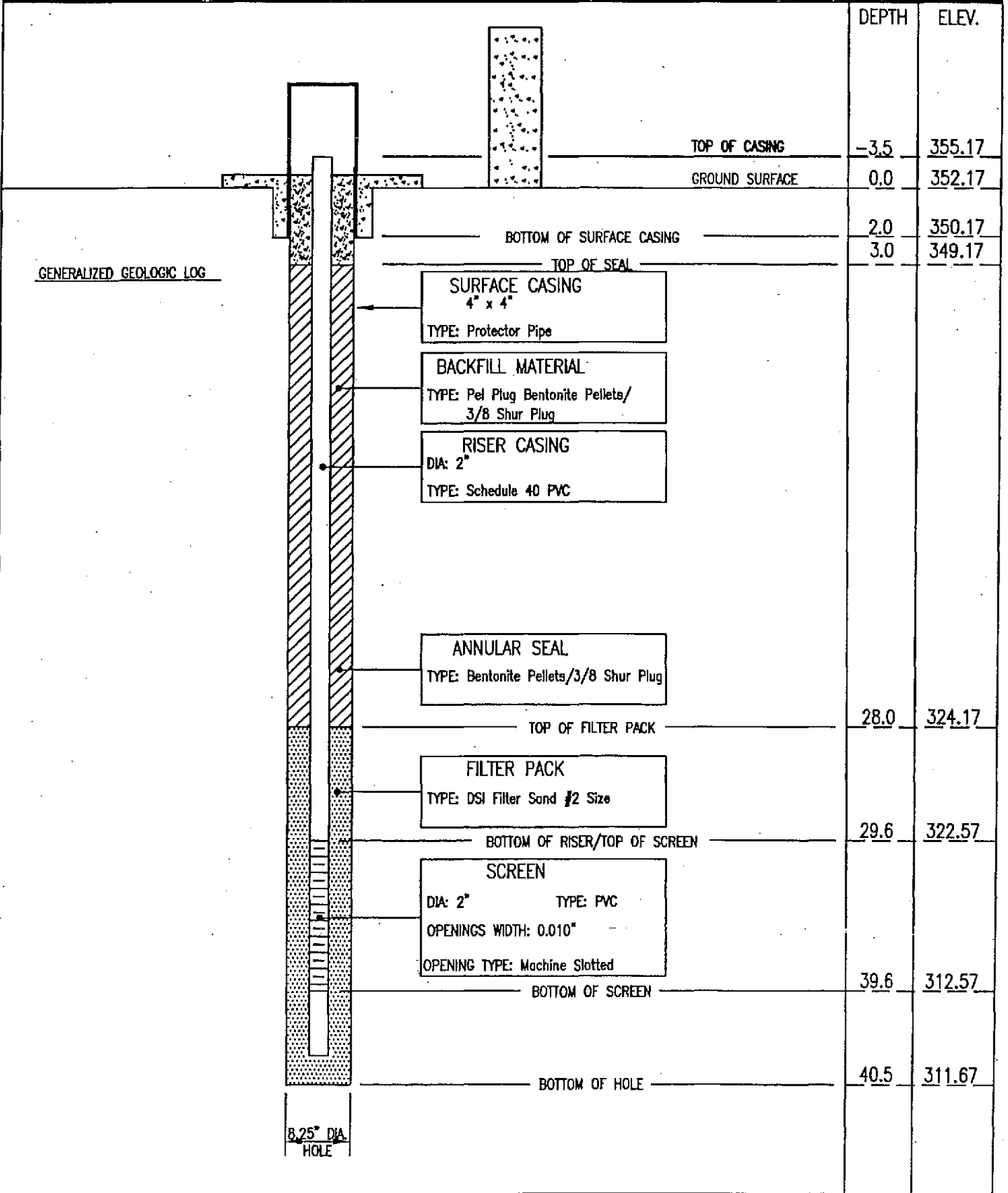
GWA - 8

Sheet 2 of 2

SITE **Plant Arkwright, Pond #3 SAR** TOTAL DEPTH **40.5** SURF.ELEV. **352.169**

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Pen. Test			Sample No.	Fluid Chg. %	Rec. %	RQD
				From To	Blows	N				
	25									
	26		Brown, wet, silty SAND (SM) with MICA; non-plastic K=6.4E-5 cm/sec	25-27	TUBE					
	27									
	28									
	29									
	30									
	31			30-31.5	2-6-8	14	S-5			
	32		Well screened from 29.6 feet to 39.6 feet below ground surface							
	33									
	34									
	35									
	36			35-36.5	3-5-8	13	S-6			
	37									
	38									
	39									
	40									
	41	311.7	Boring Terminated at 40.5 Feet	40-40.5	8-11-18	29	S-7			
	42									
	43									
	44									
	45									
	46									
	47									
	48									
	49									
	50									
	51									
	52									
	53									
	54									
	55									
	56									

<b>WELL CONSTRUCTION LOG</b>		PROJECT	Arkwright Ash Pond #3 SAR	WELL NO.	GWA-8
SITE		LOCATION	Ash Pond #3, N 1064521.654, E 2437572.442		
BEGUN	COMPLETED	PREPARED BY	WATER LEVEL	CONTRACTOR	
12/10/03	12/10/03	Stacy Sprayberry	~21.1	SCS	







## DRILLING LOG GEOLOGICAL SERVICES

**GWA - 9**  
Sheet 1 of 2

SITE <b>Plant Arkwright, Pond #3 SAR</b>		HOLE DEPTH <b>35</b>	SURF. ELEV. <b>363.937</b>
LOCATION <b>Western Edge of Pond</b>		COORDINATES N <b>1065139.294</b>	E <b>2437297.327</b>
ANGLE <b>90</b>	BEARING _____	CONTRACTOR <b>SCS</b>	DRILL NO. <b>CME 550</b>
OVERBURDEN DEPTH _____	NO. PENT. TESTS <b>7</b>	NO. U.D. SAMPLES <b>1</b>	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <b>14.8 / 13.9</b>	ELEV. _____	TIME AFTER COMP. <b>TOB / 24 hours</b>	DATE TAKEN <b>12/9-10/2003</b>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <b>12/9/2003</b>
DRILLER <b>Brad Filipovich</b>	RECORDER <b>Stacy Sprayberry</b>	APPROVED _____	DRILLING COMP. DATE <b>12/9/2003</b>

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Pen. Test			Sample No.	Fluid Chg. %	Rec. %	ROD
				From To	Blows	N				
	0	363.9								
	1		Reddish brown, silty SAND (SM) with MICA FILL	0-1.5	2-4-4	8	S-1			
	2									
	3									
	4									
	5	358.9								
	6		Reddish brown, sandy CLAY (CL/SM) with ASH and WOOD FILL	5-6.5	2-2-3	5	S-2			
	7									
	8									
	9									
	10	353.9								
	11		Reddish brown to orange, silty SAND (SM) with MICA K=5.2E-5 cm/sec	10-12	TUBE					
	12									
	13									
	14	349.9								
	15		White, medium to coarse grain, wet, silty SAND (SM) with SAPROLITE							
	16									
	17									
	18									
	19									
	20	343.9								
	21		Tan to brown, silty SAND (SM) with SAPROLITE	20-21.5	2-3-5	8	S-4			
	22									
	23									
	24									



**DRILLING LOG**  
**GEOLOGICAL SERVICES**

**GWA - 9**

Sheet 2 of 2

SITE Plant Arkwright, Pond #3 SAR TOTAL DEPTH 36.5 SURF.ELEV. 363.937

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Pen. Test			Sample No.	Fluid Chg. %	Rec. %	RQD
				From To	Blows	N				
	25		Tan to brown, silty SAND (SM) with SAPROLITE							
	26			25-26.5	4-6-8	14	S-5			
	27									
	28									
	29									
	30			Well screened from 24.8 feet to 34.8 feet below ground surface						
	31			30-31.5	4-7-11	18	S-6			
	32									
	33									
	34		Becoming white with depth							
	35									
	36			35-36.5	7-10-17	27	S-7			
	37		Boring Terminated at 36.5 Feet							
	38									
	39									
	40									
	41									
	42									
	43									
	44									
	45									
	46									
	47									
	48									
	49									
	50									
	51									
	52									
	53									
	54									
	55									
	56									

<b>WELL CONSTRUCTION LOG</b>		PROJECT Arkwright Ash Pond #3 SAR	WELL NO. GWA-9
SITE Plant Arkwright		LOCATION Ash Pond #3, N 1065139.294, E 2437297.327	
BEGUN 12/9/03	COMPLETED 12/9/03	PREPARED BY Stacy Sprayberry	WATER LEVEL ~13.9
		CONTRACTOR SCS	

GENERALIZED GEOLOGIC LOG		DEPTH	ELEV.
		TOP OF CASING	-3.4 363.94
		GROUND SURFACE	0.0 363.94
		BOTTOM OF SURFACE CASING	2.0 361.94
		TOP OF SEAL	3.0 360.94
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>SURFACE CASING</b>                      4" x 4"                      TYPE: Protector Pipe                 </div>			
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>BACKFILL MATERIAL</b>                      TYPE: Pel Plug Bentonite Pellets/                      3/8 Shur Plug                 </div>			
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>RISER CASING</b>                      DIA: 2"                      TYPE: Schedule 40 PVC                 </div>			
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ANNULAR SEAL</b>                      TYPE: Bentonite Pellets/3/8 Shur Plug                 </div>			
		TOP OF FILTER PACK	22.0 341.94
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>FILTER PACK</b>                      TYPE: DSI Filter Sand #2 Size                 </div>			
		BOTTOM OF RISER/TOP OF SCREEN	24.8 339.14
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>SCREEN</b>                      DIA: 2"                      TYPE: PVC                      OPENINGS WIDTH: 0.010"                      OPENING TYPE: Machine Slotted                 </div>			
		BOTTOM OF SCREEN	34.8 329.14
		BOTTOM OF HOLE	36.5 327.44

8.25" DIA.  
HOLE



## DRILLING LOG GEOLOGICAL SERVICES

GWA - 10

Sheet 1 of 2

SITE	Plant Arkwright, Pond #3 SAR	HOLE DEPTH	40	SURF. ELEV.	367.659
LOCATION	Northwestern Edge of Pond	COORDINATES N	1065419.082	E	2437191.693
ANGLE	90	BEARING		CONTRACTOR	SCS
				DRILL NO.	CME 550
OVERBURDEN DEPTH		NO. PENT. TESTS	9	NO. U.D. SAMPLES	
CASING SIZE		LENGTH		CORE SIZE	
				TOTAL % REC.	
WATER TABLE DEPTH	19 / 13.6	ELEV.		TIME AFTER COMP.	TOB / 24 hours
				DATE TAKEN	12/8-9/2003
TYPE GROUT		QUANTITY		MIX	
				DRILLING START DATE	12/8/2003
DRILLER	Brad Fillpovich	RECORDER	Stacy Sprayberry	APPROVED	
				DRILLING COMP. DATE	12/9/2003

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Pen. Test			Sample No.	Fluid Chg. %	Rec. %	ROD
				From To	Blows	N				
	0	367.7								
	1		Reddish brown, sandy CLAY (CL/SM) with ASH FILL	0-1.5	3-4-7	11	S-1			
	2									
	3									
	4									
	5	362.7								
	6		White to reddish brown, silty CLAY (CL) with MICA and ASH FILL	5-6.5	7-5-6	11	S-2			
	7									
	8									
	9									
	10	357.7	Reddish brown, silty SAND (SM/ML) with MICA	10-11.5	2-3-5	8	S-3			
	11									
	12									
	13									
	14		Tan to brown, wet silty SAND (SM) with MICA and PYRITES	15-16.5	1-1-1	2	S-4			
	15	352.7								
	16									
	17									
	18									
	19									
	20									
	21		SAA with SAPROLITE and Free Water	20-21.5	2-2-3	5	S-5			
	22									
	23									
	24									

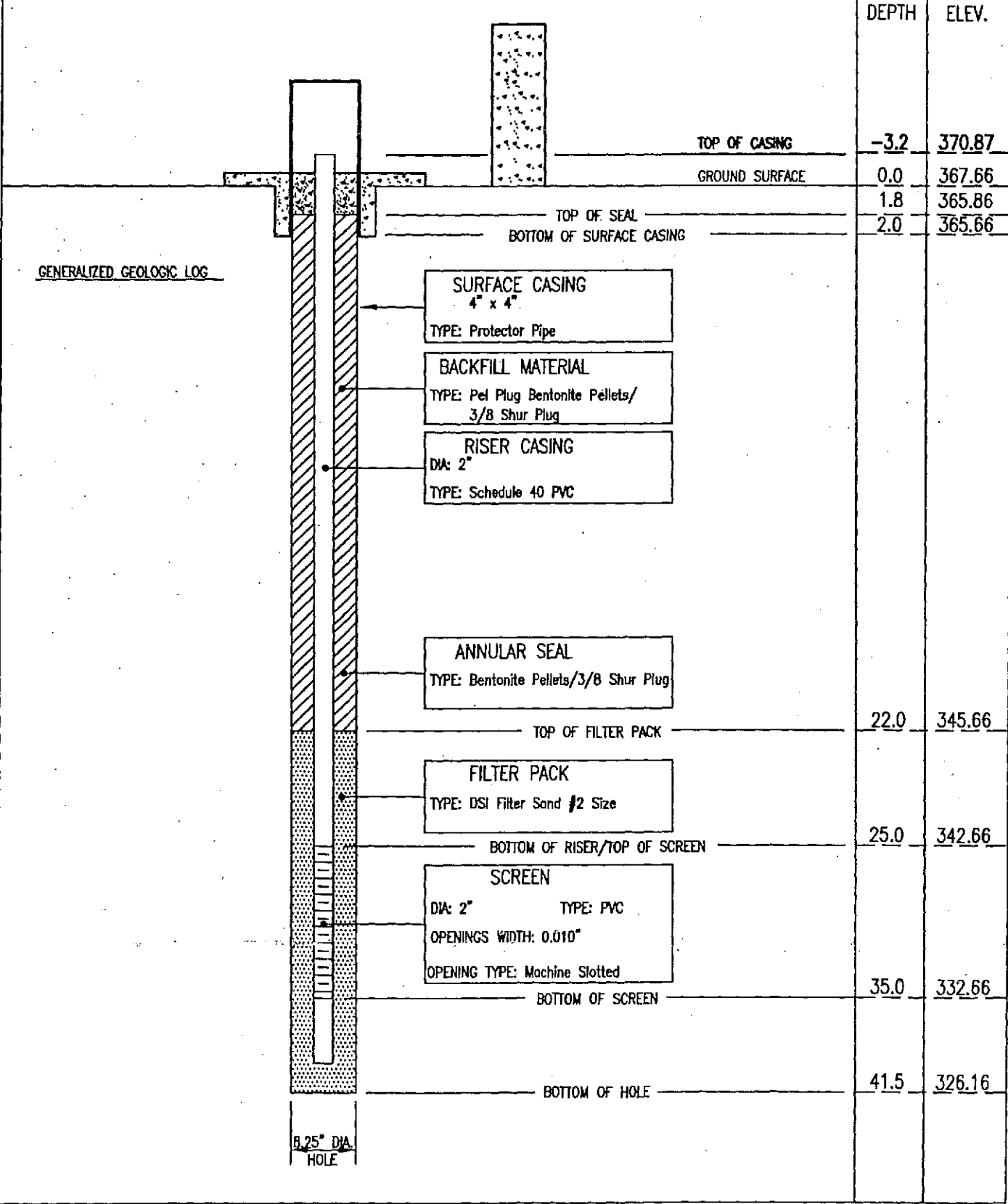
**DRILLING LOG**  
**GEOLOGICAL SERVICES**

SITE Plant Arkwright, Pond #3 SAR TOTAL DEPTH 40 SURF.ELEV. 367.65

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Pen. Test			Sample No.	Fluid Ctg. %	Rec. %
				From To	Blows	N			
	25								
	26			25-26.5	3-6-9	15	S-6		
	27								
	28								
	29								
	30	337.7							
	31		White to brown, silty SAND (SM) with MICA and SAPROLITE	30-31.5	11-12-16	28	S-7		
	32								
	33								
	34								
	35								
	36		Well screened from 25 feet to 35 feet below ground surface	35-36.5	9-16-30	46	S-8		
	37								
	38								
	39								
	40								
	41			40-41.5	48-50/2*	100+	S-9		
	42	326.2	Boring Terminated at 40 Feet						
	43								
	44								
	45								
	46								
	47								
	48								
	49								
	50								
	51								
	52								
	53								
	54								
	55								
	56								



<b>WELL CONSTRUCTION LOG</b>		PROJECT Arkwright Ash Pond #3 SAR	WELL NO. GWA-10
SITE Plant Arkwright		LOCATION Ash Pond #3, N 1065419.082, E 2437191.693	
BEGUN 12/8/03	COMPLETED 12/9/03	PREPARED BY Stacy Sprayberry	WATER LEVEL ~13.6
			CONTRACTOR SCS





**DRILLING LOG  
GEOLOGICAL SERVICES**

Hole No. GWC-15  
Sheet 1 of 2

SITE Former Plant Arkwright HOLE DEPTH 40.5 SURF.ELEV. 372.88  
 LOCATION Solid Waste Management Area COORDINATES N 1065475.493 E 2438360.991  
 ANGLE \_\_\_\_\_ BEARING \_\_\_\_\_ CONTRACTOR SCS, Inc. DRILL NO. \_\_\_\_\_  
 DRILLING METHOD HSA/ HQ Rock Core NO. SAMPLES 4 NO. U.D. SAMPLES 0  
 CASING SIZE \_\_\_\_\_ LENGTH \_\_\_\_\_ CORE SIZE \_\_\_\_\_ TOTAL % REC. \_\_\_\_\_  
 WATER TABLE DEPTH 26.9 ELEV. \_\_\_\_\_ TIME AFTER COMP. \_\_\_\_\_ DATE TAKEN 12/18/2008  
 TYPE GROUT \_\_\_\_\_ QUANTITY \_\_\_\_\_ MIX \_\_\_\_\_ DRILLING START DATE 11/18/2008  
 DRILLER S. Milam/S. Denty RECORDER D. Brooks/L. Garland APPROVED \_\_\_\_\_ DRILLING COMP. DATE 12/4/2008

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	372.88								
1	371.88								
2	370.88								
3	369.88								
4	368.88								
5	367.88	Reddish brown SILT, sandy, micaceous	1	4.5-6	9-7-9	16			
6	366.88								
7	365.88								
8	364.88								
9	363.88								
10	362.88	Gray and brown silty SAND, medium to fine grained	2	9.5-11	7-7-8	15			
11	361.88								
12	360.88								
13	359.88								
14	358.88								
15	357.88	Dark yellowish brown SILT, sandy, micaceous	3	14.5-16	4-4-4	8			
16	356.88								
17	355.88								
18	354.88								
19	353.88								
20	352.88	Gray and brown sandy SILT	4	19.5-21	10-9-11	20			
21	351.88								
22	350.88	Auger refusal at 22'							
23	349.88								
24	348.88								



## DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWC-15

Sheet 2 of 2

SITE **Former Plant Arkwright** TOTAL DEPTH **40.5** SURF.ELEV. **372.88399**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25	347.88	Unweathered biotite gneiss, very hard, fine grained		22-25.5			3.5/3.5	100	
26	346.88								
27	345.88								
28	344.88								
29	343.88								
30	342.88	Slightly weathered to unweathered biotite gneiss, fine to medium grained, slightly to highly fractured with slight to moderate weathering in fractures		25.5-30.5			5.0/5.0	100	
31	341.88								
32	340.88								
33	339.88								
34	338.88								
35	337.88	Same as above		30.5-35.5			5.0/5.0	100	
36	336.88								
37	335.88								
38	334.88								
39	333.88								
40	332.88	Unweathered biotite gneiss, fine to medium grained, slightly to moderately fractured, clean to slightly weathered fractures		35.5-40.5			5.0/5.0	100	
41	331.88								
42	330.88								
43	329.88								
44	328.88								
45	327.88								
46	326.88								
47	325.88								
48	324.88								
49	323.88								
50	322.88								
51	321.88								
52	320.88								
53	319.88								
54	318.88								
55	317.88								
56	316.88								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.	WELL NAME
Solid Waste Management Unit	DRILLER: S. Milam	
LOCATION: Ash Ponds 1, 2, 3	RIG TYPE: CME 550	
LOGGER: L. Garland	DRILLING METHODS: HSA, HQ Rock Core	GWC-15
DATE CONSTRUCTED: 12/4/2008		

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	3.02	375.90
	GROUND SURFACE	0.00	372.88
<p><b>PROTECTIVE CASING</b>                      SIZE: 4x4-inch                      TYPE: Anodized Aluminum</p> <p>BOTTOM OF PROTECTIVE CASING</p>			
<p><b>BACKFILL MATERIAL</b>                      TYPE: Portland Cement Grout                      AMOUNT: 5.5 bags @ 1.3 cf/bag = 7.15 cf</p> <p><b>RISER CASING</b>                      DIA: 2-inch                      TYPE: Schedule 40 PVC                      JOINT TYPE: Flush Threaded</p>	TOP OF SEAL	24.68	348.20
<p><b>ANNULAR SEAL</b>                      TYPE: 1/4-inch coated bentonite pellets                      5-gal buckets                      AMOUNT: 0.5 bucket                      PLACEMENT: Tremie</p>	TOP OF FILTER PACK	27.68	345.20
<p><b>FILTER PACK</b>                      TYPE: DSI Sand - 1A (20/30)                      Drillers Services, Inc.                      AMOUNT: 1.75 bags; 50 lbs/bag                      PLACEMENT: Tremie; wash with water</p>	BOTTOM OF RISER / TOP OF SCREEN	29.68	343.20
<p><b>SCREEN</b>                      DIA: 2-inch                      TYPE: Schedule 40 PVC Prepack                      OPENING WIDTH: 0.01-inch                      OPENING TYPE: Slotted                      SLOT SPACING: 0.25-inch                      SLOT LENGTH: 1.5-inch</p>	BOTTOM OF SCREEN	39.68	333.20
	BOTTOM OF CASING	39.98	332.90
HOLE DIA: 9"			



**DRILLING LOG  
GEOLOGICAL SERVICES**

Hole No. GWC-16

Sheet 1 of 2

SITE Former Plant Arkwright HOLE DEPTH 45 SURF.ELEV. 365.57  
 LOCATION Solid Waste Management Area COORDINATES N 1065458.377 E 2438010.027  
 ANGLE \_\_\_\_\_ BEARING \_\_\_\_\_ CONTRACTOR SCS, Inc. DRILL NO. \_\_\_\_\_  
 DRILLING METHOD HSA/ HQ Rock Core NO. SAMPLES 5 NO. U.D. SAMPLES 0  
 CASING SIZE \_\_\_\_\_ LENGTH \_\_\_\_\_ CORE SIZE \_\_\_\_\_ TOTAL % REC. \_\_\_\_\_  
 WATER TABLE DEPTH 17.5 ELEV. \_\_\_\_\_ TIME AFTER COMP. \_\_\_\_\_ DATE TAKEN 12/18/2008  
 TYPE GROUT \_\_\_\_\_ QUANTITY \_\_\_\_\_ MIX \_\_\_\_\_ DRILLING START DATE 11/18/2008  
 DRILLER S. Milam/S. Denty RECORDER D. Brooks/L. Garland APPROVED \_\_\_\_\_ DRILLING COMP. DATE 12/15/2008

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	365.57								
1	364.57								
2	363.57								
3	362.57								
4	361.57								
5	360.57	Reddish brown silty CLAY, damp, stiff, with medium to fine grained sand	1	4.5-6	5-6-7	13			
6	359.57								
7	358.57								
8	357.57								
9	356.57								
10	355.57	Reddish yellow silty CLAY, damp, micaceous	2	9.5-11	2-2-3	5			
11	354.57								
12	353.57								
13	352.57								
14	351.57								
15	350.57	Reddish yellow to black silty CLAY, micaceous	3	14.5-16	3-2-4	6			
16	349.57								
17	348.57								
18	347.57								
19	346.57								
20	345.57	Reddish yellow to black sandy CLAY, moist, medium grained sand	4	19.5-21	2-3-3	6			
21	344.57								
22	343.57								
23	342.57								
24	341.57								





## DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWC-16

Sheet 2 of 2

SITE **Former Plant Arkwright** TOTAL DEPTH **45** SURF.ELEV. **365.56602**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25	340.57	Reddish brown, white, and black sandy CLAY, moist, medium to coarse grained sand, micaceous Auger refusal at 25.5'	5	24.5-26	7-50/4	R			
26	339.57								
27	338.57	28.7- fracture		25.5-30				100	
28	337.57								
29	336.57	Biotite gneiss, unweathered to slightly weathered, slightly to heavily fractured, slightly to moderately weathered fracture faces		30-35				100	
30	335.57								
31	334.57								
32	333.57	31.4- fracture		35-40				100	
33	332.57								
34	331.57	Same as above		40-45				100	
35	330.57								
36	329.57	Same as above						100	
37	328.57								
38	327.57	Same as above						100	
39	326.57								
40	325.57	Same as above						100	
41	324.57								
42	323.57	Same as above						100	
43	322.57								
44	321.57	45' - Bottom of boring							
45	320.57								
46	319.57								
47	318.57								
48	317.57								
49	316.57								
50	315.57								
51	314.57								
52	313.57								
53	312.57								
54	311.57								
55	310.57								
56	309.57								

**WELL CONSTRUCTION LOG**

Southern Company Generation

PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.	WELL NAME
Solid Waste Management Unit	DRILLER: S. Milam	
LOCATION: Ash Ponds 1, 2, 3	RIG TYPE: CME 550	
LOGGER: L. Garland	DRILLING METHODS: HSA, HQ Rock Core	GWC-16
DATE CONSTRUCTED: 12/15/2008		

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 2" Threaded Riser Cap Pea Gravel in annular space 4-ft x 4-ft x 4" concrete pad TOP OF RISER	2.90	365.21
GROUND SURFACE 0.00 362.31	0.00	362.31
<b>PROTECTIVE CASING</b> SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING		
<b>BACKFILL MATERIAL</b> TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 cf/bag = 5.2 cf <b>RISER CASING</b> DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	17.00	345.31
<b>ANNULAR SEAL</b> TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK	19.20	343.11
<b>FILTER PACK</b> TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 2 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	21.28	341.03
<b>SCREEN</b> DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	31.28	331.03
BOTTOM OF CASING	31.58	330.73
HOLE DIA: 9"		



## DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWC-17  
Sheet 1 of 2

SITE Former Plant Arkwright HOLE DEPTH 30.8 SURF. ELEV. 365.57  
 LOCATION Solid Waste Management Area COORDINATES N 1065458.377 E 2438010.027  
 ANGLE \_\_\_\_\_ BEARING \_\_\_\_\_ CONTRACTOR SCS, Inc. DRILL NO. \_\_\_\_\_  
 DRILLING METHOD HSA NO. SAMPLES 6 NO. U.D. SAMPLES 0  
 CASING SIZE \_\_\_\_\_ LENGTH \_\_\_\_\_ CORE SIZE \_\_\_\_\_ TOTAL % REC. \_\_\_\_\_  
 WATER TABLE DEPTH 19.1 ELEV. \_\_\_\_\_ TIME AFTER COMP. \_\_\_\_\_ DATE TAKEN 12/18/2008  
 TYPE GROUT \_\_\_\_\_ QUANTITY \_\_\_\_\_ MIX \_\_\_\_\_ DRILLING START DATE 12/3/2008  
 DRILLER S. Milam RECORDER L. Garland APPROVED \_\_\_\_\_ DRILLING COMP. DATE 12/4/2008

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	365.57								
1	364.57								
2	363.57								
3	362.57								
4	361.57								
5	360.57	Reddish brown sandy SILT, with clay, micaceous fine grained sand	1	4.5-6	5-8-8	16			
6	359.57								
7	358.57								
8	357.57								
9	356.57								
10	355.57	Same as above	2	9.5-11	4-3-3	6			
11	354.57								
12	353.57								
13	352.57								
14	351.57								
15	350.57	Same as above	3	14.5-16	3-2-3	5			
16	349.57								
17	348.57								
18	347.57								
19	346.57								
20	345.57	Orange brown silty SAND, micaceous	4	19.5-21	2-2-2	4			
21	344.57								
22	343.57								
23	342.57								
24	341.57								



**DRILLING LOG**  
**GEOLOGICAL SERVICES**

Hole No. GWC-17

Sheet 2 of 2

SITE **Former Plant Arkwright** TOTAL DEPTH **30.8** SURF.ELEV. **365.56602**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25	340.57	Brown sandy SILT, micaceous	5	24.5-26	3-4-5	9			
26	339.57								
27	338.57								
28	337.57								
29	336.57								
30	335.57	Gray, white, and black silty SAND, fine grained Auger refusal at 30.8'	6	29.5-31	8-50/2	R			
31	334.57								
32	333.57	30.8' - Bottom of boring							
33	332.57								
34	331.57								
35	330.57								
36	329.57								
37	328.57								
38	327.57								
39	326.57								
40	325.57								
41	324.57								
42	323.57								
43	322.57								
44	321.57								
45	320.57								
46	319.57								
47	318.57								
48	317.57								
49	316.57								
50	315.57								
51	314.57								
52	313.57								
53	312.57								
54	311.57								
55	310.57								
56	309.57								

**WELL CONSTRUCTION LOG**

Southern Company Generation

PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.	WELL NAME
Solid Waste Management Unit	DRILLER: S. Milam	
LOCATION: Ash Ponds 1, 2, 3	RIG TYPE: CME 550	
LOGGER: L. Garland	DRILLING METHODS: HSA, HQ Rock Core	GWC-17
DATE CONSTRUCTED: 12/4/2008		

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 2" Threaded Riser Cap Pea Gravel in annular space 4-ft x 4-ft x 4" concrete pad TOP OF RISER	2.96	368.52
GROUND SURFACE 0.00 365.57	0.00	365.57
<b>PROTECTIVE CASING</b> SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING		
<b>BACKFILL MATERIAL</b> TYPE: Portland Cement Grout AMOUNT: 5.5 bags @ 1.3 cf/bag = 7.15 cf <b>RISER CASING</b> DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	16.00	349.57
<b>ANNULAR SEAL</b> TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK	18.30	347.27
<b>FILTER PACK</b> TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 4 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	20.59	344.98
<b>SCREEN</b> DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	30.59	334.98
BOTTOM OF CASING	30.89	334.67
HOLE DIA: 9"		





## DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWC-18  
Sheet 1 of 2

SITE Former Plant Arkwright HOLE DEPTH 47.5 SURF. ELEV. 352.25  
 LOCATION Solid Waste Management Area COORDINATES N 1064482.185 E 2437961.021  
 ANGLE \_\_\_\_\_ BEARING \_\_\_\_\_ CONTRACTOR SCS, Inc. DRILL NO. \_\_\_\_\_  
 DRILLING METHOD HSA NO. SAMPLES 9 NO. U.D. SAMPLES 0  
 CASING SIZE \_\_\_\_\_ LENGTH \_\_\_\_\_ CORE SIZE \_\_\_\_\_ TOTAL % REC. \_\_\_\_\_  
 WATER TABLE DEPTH 22.9 ELEV. \_\_\_\_\_ TIME AFTER COMP. \_\_\_\_\_ DATE TAKEN 12/18/2008  
 TYPE GROUT \_\_\_\_\_ QUANTITY \_\_\_\_\_ MIX \_\_\_\_\_ DRILLING START DATE 11/18/2005  
 DRILLER S. Milam RECORDER D. Brooks APPROVED \_\_\_\_\_ DRILLING COMP. DATE 11/18/2005

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	352.25								
1	351.25								
2	350.25								
3	349.25								
4	348.25								
5	347.25	Reddish brown silty CLAY, damp, with some medium grained sand	1	4.5-6	3-3-7	10			
6	346.25								
7	345.25								
8	344.25								
9	343.25								
10	342.25	Same as above, yellowish red, micaceous	2	9.5-11	4-3-5	8			
11	341.25								
12	340.25								
13	339.25								
14	338.25								
15	337.25	Yellowish red silty CLAY, damp, micaceous, with fine to medium grained sand	3	14.5-16	6-4-6	10			
16	336.25								
17	335.25								
18	334.25								
19	333.25								
20	332.25	Yellowish red silty CLAY, damp, with sand	4	19.5-21	2-4-7	11			
21	331.25								
22	330.25								
23	329.25								
24	328.25								

**DRILLING LOG**  
**GEOLOGICAL SERVICES**

Hole No. GWC-18

Sheet 2 of 2

SITE **Former Plant Arkwright** TOTAL DEPTH **47.5** SURF.ELEV. **352.25**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25	327.25	Yellowish red sandy CLAY, damp, with silt and mica	5	24.5-26	3-4-5	10			
26	326.25								
27	325.25								
28	324.25								
29	323.25								
30	322.25	Same as above with medium grained sand	6	29.5-31	3-5-5	10			
31	321.25								
32	320.25								
33	319.25								
34	318.25	Brown sandy CLAY, damp, fine to medium grained sand, with black organic matter	7	34.5-36	3-5-7	12			
35	317.25								
36	316.25								
37	315.25								
38	314.25								
39	313.25	Brown silty CLAY, damp, with sand	8	39.5-41	5-6-7	13			
40	312.25								
41	311.25								
42	310.25								
43	309.25								
44	308.25	Black and white silty SAND, moist, saproplite	9	44.5-46	31-50/2	R			
45	307.25								
46	306.25								
47	305.25								
48	304.25								
49	303.25	Auger refusal at 47.5' 47.5' - Bottom of boring							
50	302.25								
51	301.25								
52	300.25								
53	299.25								
54	298.25								
55	297.25								
56	296.25								

**WELL CONSTRUCTION LOG**

Southern Company Generation

PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.	WELL NAME
Solid Waste Management Unit	DRILLER: S. Milam	
LOCATION: Ash Ponds 1, 2, 3	RIG TYPE: CME 550	
LOGGER: L. Garland	DRILLING METHODS: HSA	GWC-18
DATE CONSTRUCTED: 11/19/2008		

		DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top	→		
1/4-inch Vent	→		
1/4-inch Weep Hole	→		
	TOP OF RISER	2.74	354.99
	2" Threaded Riser Cap		
	Pea Gravel in annular space		
4-ft x 4-ft x 4" concrete pad	→		
	GROUND SURFACE	0.00	352.25
	<b>PROTECTIVE CASING</b> SIZE: 4x4-inch TYPE: Anodized Aluminum		
	BOTTOM OF PROTECTIVE CASING		
	<b>BACKFILL MATERIAL</b> TYPE: Portland Cement Grout AMOUNT: 6.5 bags @ 1.3 cf/bag = 8.45 cf		
	<b>RISER CASING</b> DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded		
	TOP OF SEAL	34.50	317.75
	<b>ANNULAR SEAL</b> TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie		
	TOP OF FILTER PACK	36.50	315.75
	<b>FILTER PACK</b> TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water		
	BOTTOM OF RISER / TOP OF SCREEN	37.81	314.44
	<b>SCREEN</b> DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch		
	BOTTOM OF SCREEN	47.81	304.44
	BOTTOM OF CASING	48.11	304.14
HOLE DIA: 9"			





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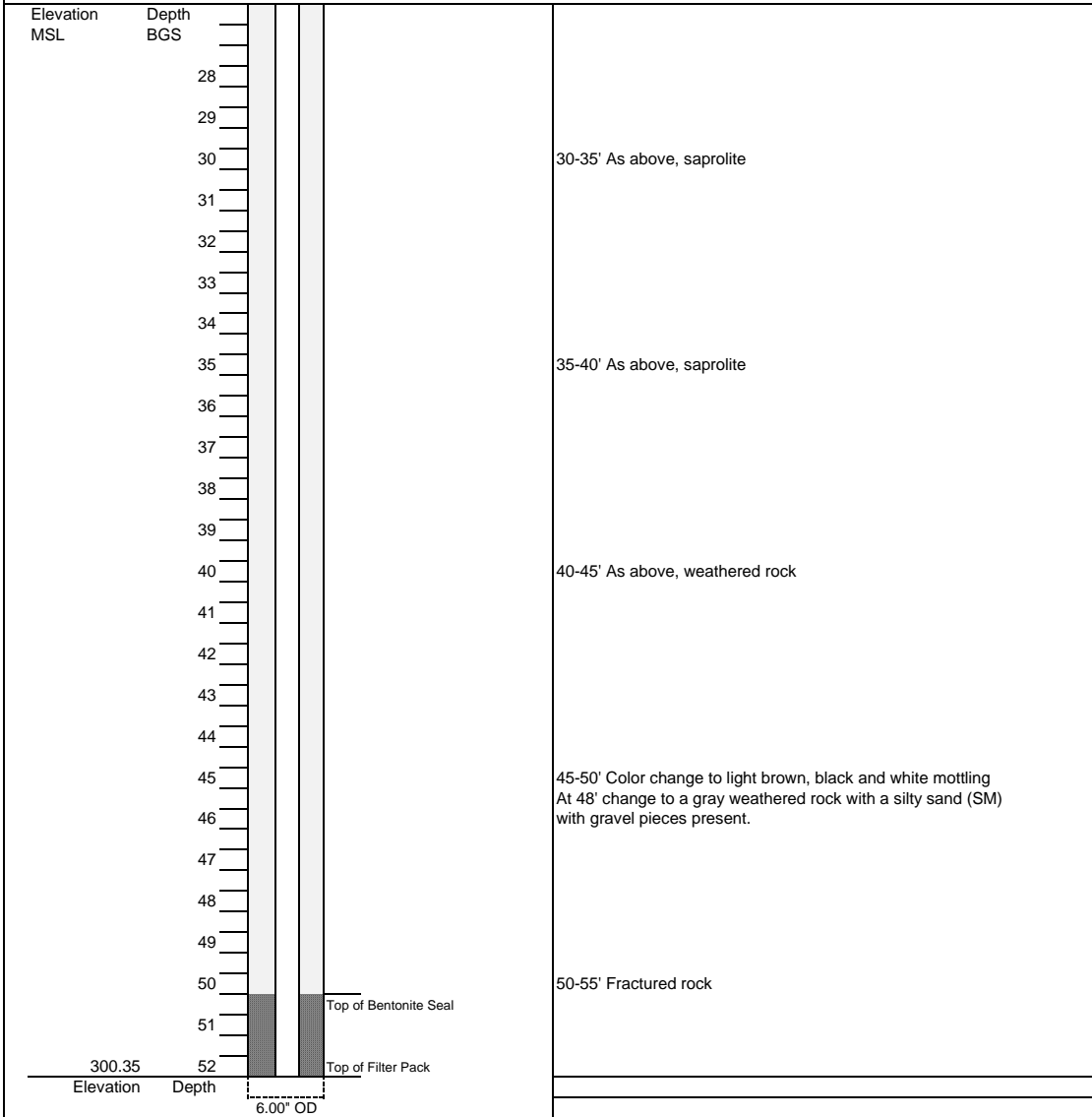
# Draft Attorney Client Privilege

**ARAMW-3**

BORING ID

<b>PROJECT:</b> Plant Arkwright	<b>PROJECT NO.:</b> 1054-110
<b>TOTAL DEPTH:</b> 68.61 ft. BTOC	<b>SITE LOCATION:</b> Macon, Georgia
<b>DATE BEGIN:</b> 25-Nov-2019	<b>DRILLER:</b> Chris Ruffer
<b>DATE COMPLETE:</b> 25-Nov-2019	<b>RIG TYPE:</b> T-300 Rotosonic
<b>INSTALLED BY:</b> Cascade	<b>METHOD:</b> Rotosonic
<b>SUPERVISED BY:</b> Jordan Berisford	
<b>WATER 1ST ENCOUNTERED:</b> 23' BGS	
<b>WATER AFTER 48 HOURS:</b> 25.32' BTOC	

Core Photos



**MATERIALS:**

GROUT:		Bentonite Grout
MANUFACTURER:		AquaGuard
BENTONITE SEAL:		3/8" Bentonite Pellets
MANUFACTURER:		Pel-Plug
FILTER PACK SAND:		20/30 Mesh
MANUFACTURER:		Filter Media
WELL SCREEN:		Sch. 40 - 2" PVC
MANUFACTURER:		Silver-Line
SLOT SIZE:		0.010-Inch Slot
WELL CASING:		Sch. 40 - 2" PVC
MANUFACTURER:		Silver-Line

TOC - Top of Casing  
 ID - Inside Diameter; OD - Outside Diameter  
 MSL - Mean Sea Level  
 BGS - Below Ground Surface





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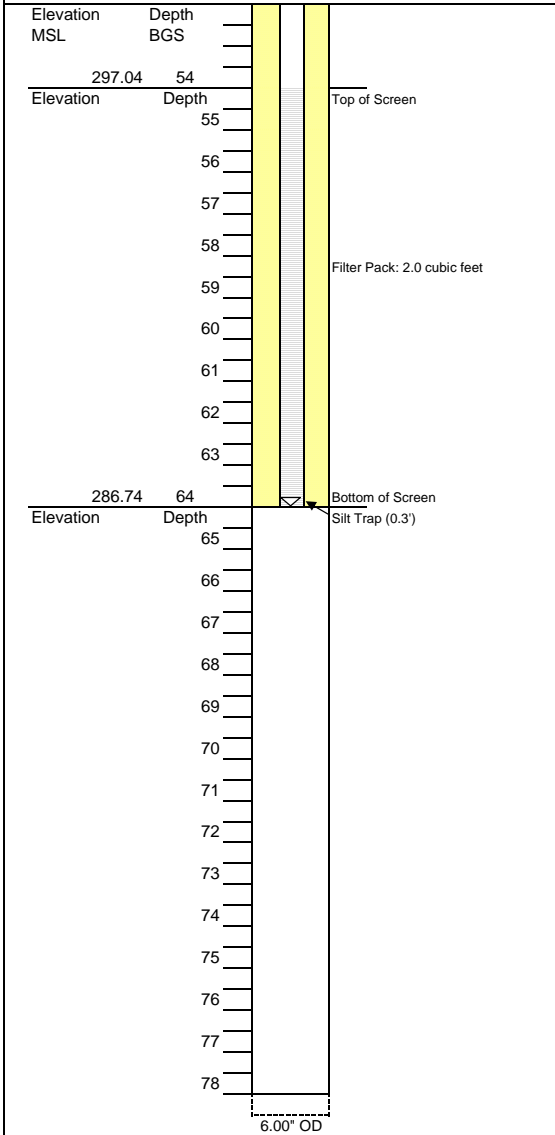
# Draft Attorney Client Privilege

**ARAMW-3**

BORING ID

<b>PROJECT:</b> Plant Arkwright	<b>PROJECT NO.:</b> 1054-110
<b>TOTAL DEPTH:</b> 68.61 ft. BTOC	<b>SITE LOCATION:</b> Macon, Georgia
<b>DATE BEGIN:</b> 25-Nov-2019	<b>DRILLER:</b> Chris Ruffer
<b>DATE COMPLETE:</b> 25-Nov-2019	<b>RIG TYPE:</b> T-300 Rotosonic
<b>INSTALLED BY:</b> Cascade	<b>METHOD:</b> Rotosonic
<b>SUPERVISED BY:</b> Jordan Berisford	
<b>WATER 1ST ENCOUNTERED:</b> 23' BGS	
<b>WATER AFTER 48 HOURS:</b> 25.32' BTOC	

Core Photos



55-60' Dark gray weathered rock with a silty sand with gravel pieces present (SM)

60-64' Weathered gneiss/schist with iron staining. Gneiss becomes more competent and fracturing disappears starting at 62'.

Total well depth 64.0' BGS



**MATERIALS:**

- |                   |  |                        |
|-------------------|--|------------------------|
| GROUT:            |  | Bentonite Grout        |
| MANUFACTURER:     |  | AquaGuard              |
| BENTONITE SEAL:   |  | 3/8" Bentonite Pellets |
| MANUFACTURER:     |  | Pel-Plug               |
| FILTER PACK SAND: |  | 20/30 Mesh             |
| MANUFACTURER:     |  | Filter Media           |
| WELL SCREEN:      |  | Sch. 40 - 2" PVC       |
| MANUFACTURER:     |  | Silver-Line            |
| SLOT SIZE:        |  | 0.010-Inch Slot        |
| WELL CASING:      |  | Sch. 40 - 2" PVC       |
| MANUFACTURER:     |  | Silver-Line            |

TOC - Top of Casing  
 ID - Inside Diameter; OD - Outside Diameter  
 MSL - Mean Sea Level  
 BGS - Below Ground Surface





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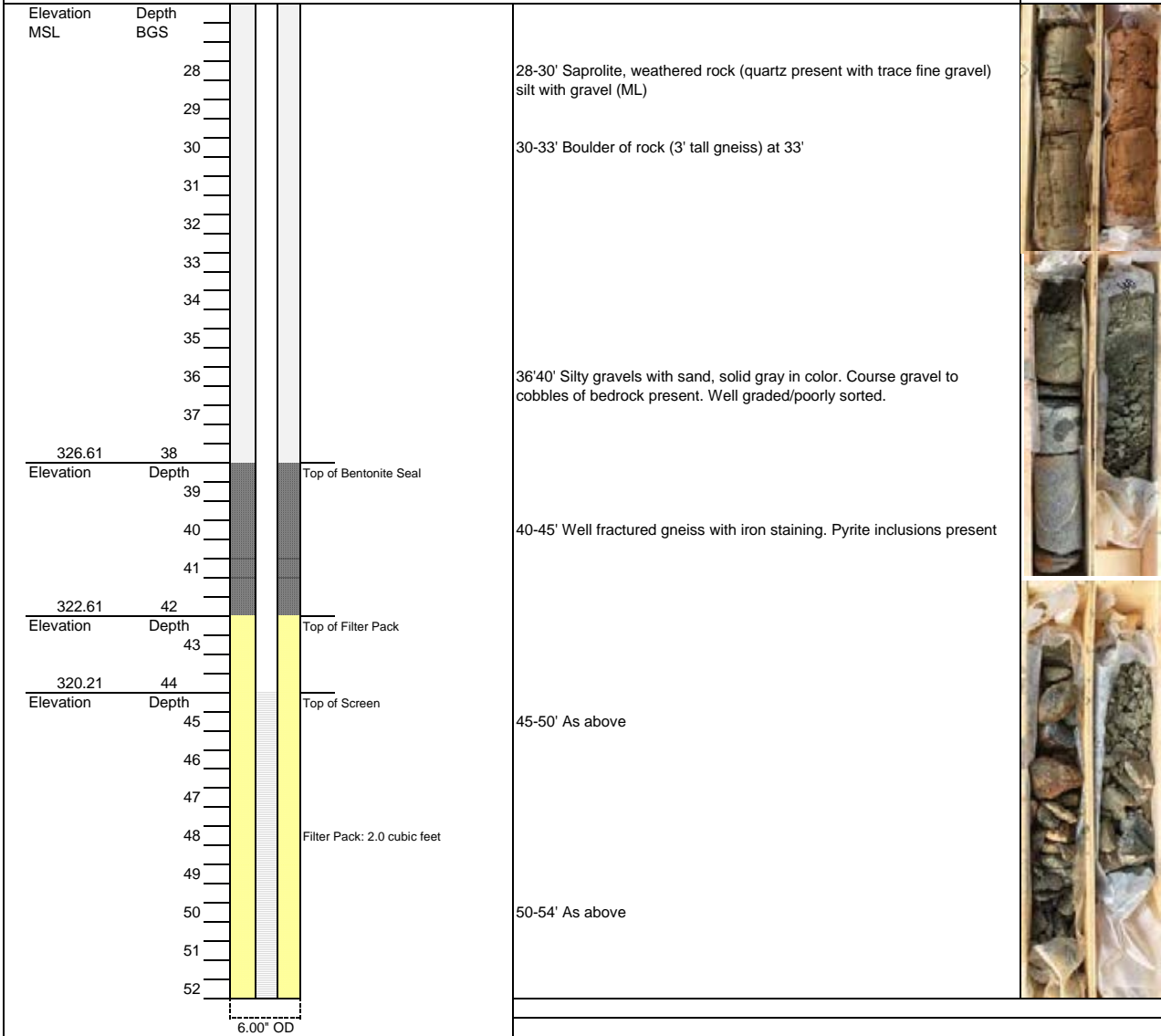
# Draft Attorney Client Privilege

**ARAMW-4**

BORING ID

<b>PROJECT:</b> Plant Arkwright	<b>PROJECT NO.:</b> 1054-110
<b>TOTAL DEPTH:</b> 57.70 ft. BTOC	<b>SITE LOCATION:</b> Macon, Georgia
<b>DATE BEGIN:</b> 21-Nov-2019	<b>DRILLER:</b> Chris Ruffer
<b>DATE COMPLETE:</b> 21-Nov-2019	<b>RIG TYPE:</b> T-300 Rotosonic
<b>INSTALLED BY:</b> Cascade	<b>METHOD:</b> Rotosonic
<b>SUPERVISED BY:</b> Jordan Berisford	
<b>WATER 1ST ENCOUNTERED:</b> 25' BGS	
<b>WATER AFTER 48 HOURS:</b> 22.46' BTOC	

Core Photos



**MATERIALS:**

- |                   |  |                        |
|-------------------|--|------------------------|
| GROUT:            |  | Bentonite Grout        |
| MANUFACTURER:     |  | AquaGuard              |
| BENTONITE SEAL:   |  | 3/8" Bentonite Pellets |
| MANUFACTURER:     |  | Pel-Plug               |
| FILTER PACK SAND: |  | 20/30 Mesh             |
| MANUFACTURER:     |  | Filter Media           |
| WELL SCREEN:      |  | Sch. 40 - 2" PVC       |
| MANUFACTURER:     |  | Silver-Line            |
| SLOT SIZE:        |  | 0.010-Inch Slot        |
| WELL CASING:      |  | Sch. 40 - 2" PVC       |
| MANUFACTURER:     |  | Silver-Line            |

TOC - Top of Casing  
 ID - Inside Diameter; OD - Outside Diameter  
 MSL - Mean Sea Level  
 BGS - Below Ground Surface



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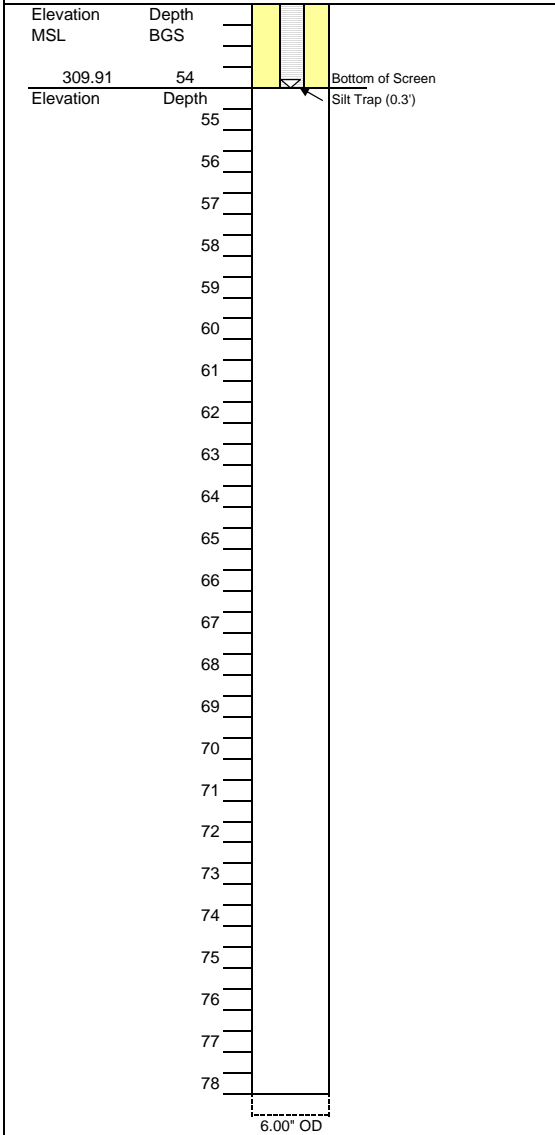
# Draft Attorney Client Privilege

**ARAMW-4**

BORING ID

<b>PROJECT:</b> Plant Arkwright	<b>PROJECT NO.:</b> 1054-110
<b>TOTAL DEPTH:</b> 57.70 ft. BTOC	<b>SITE LOCATION:</b> Macon, Georgia
<b>DATE BEGIN:</b> 21-Nov-2019	<b>DRILLER:</b> Chris Ruffer
<b>DATE COMPLETE:</b> 21-Nov-2019	<b>RIG TYPE:</b> T-300 Rotosonic
<b>INSTALLED BY:</b> Cascade	<b>METHOD:</b> Rotosonic
<b>SUPERVISED BY:</b> Jordan Berisford	
<b>WATER 1ST ENCOUNTERED:</b> 25' BGS	
<b>WATER AFTER 48 HOURS:</b> 22.46' BTOC	

Core Photos



Total well depth 54.0' BGS



**MATERIALS:**

- |                   |  |                        |
|-------------------|--|------------------------|
| GROUT:            |  | Bentonite Grout        |
| MANUFACTURER:     |  | AquaGuard              |
| BENTONITE SEAL:   |  | 3/8" Bentonite Pellets |
| MANUFACTURER:     |  | Pel-Plug               |
| FILTER PACK SAND: |  | 20/30 Mesh             |
| MANUFACTURER:     |  | Filter Media           |
| WELL SCREEN:      |  | Sch. 40 - 2" PVC       |
| MANUFACTURER:     |  | Silver-Line            |
| SLOT SIZE:        |  | 0.010-Inch Slot        |
| WELL CASING:      |  | Sch. 40 - 2" PVC       |
| MANUFACTURER:     |  | Silver-Line            |

TOC - Top of Casing  
 ID - Inside Diameter; OD - Outside Diameter  
 MSL - Mean Sea Level  
 BGS - Below Ground Surface



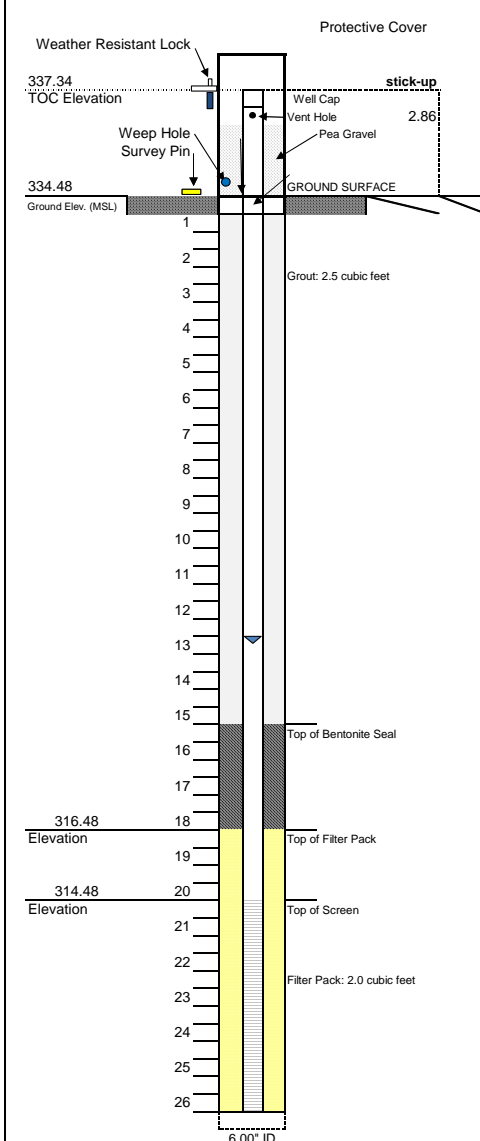
ATLANTIC COAST CONSULTING, INC.

Draft Attorney Client Privilege

ARAMW-6

BORING ID

PROJECT:	Plant Arkwright	PROJECT NO.:	I054-110
TOTAL DEPTH:	32.37 ft. BTOC	SITE LOCATION:	Macon, Georgia
DATE BEGIN:	25-Nov-2019	DRILLER:	Isaac Young
DATE COMPLETE:	25-Nov-2019	RIG TYPE:	T-300 Rotosonic
INSTALLED BY:	Cascade	METHOD:	Rotosonic
SUPERVISED BY:	Taylor Goble		
WATER 1ST ENCOUNTERED:	10.70' BGS		
WATER AFTER 48 HOURS:	12.45' BTOC		

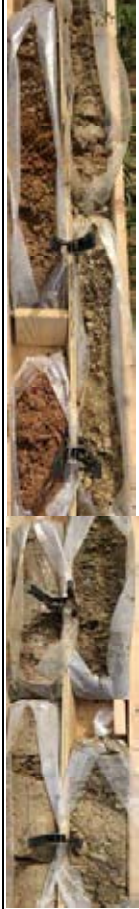


Northing: 1064439.75  
 Easting: 2437607.875

**SURFACE COMPLETION:**  
 4"x4" Aluminum Protective Casing  
 4'x4' Concrete Pad  
 Weather Resistant Lock  
 Survey Pin

**SOIL DESCRIPTION**  
 0-5' Red silty clay (CL). Micaceous. Dry. Some organics present. Hand augered  
  
 5-10' As above. Transition to a light brown silty clay at ~8'. Hand augered  
  
 10-15' Light brown silty sand (SC) with white and black mottling. Moist  
  
 15-20' As above. Mottling disappears around 18'.  
  
 20-25' Mottled white and black silty sand (SC). Moist. Some large gravel pieces. High plasticity red clay lenses present.  
  
 25-30' As above except more clay present. Wet.

Core Photos



**MATERIALS:**

GROUT:		Bentonite Grout
MANUFACTURER:		AquaGuard
BENTONITE SEAL:		3/8" Bentonite Pellets
MANUFACTURER:		Pel-Plug
FILTER PACK SAND:		20/30 Mesh
MANUFACTURER:		Filter Media
WELL SCREEN:		Sch. 40 - 2" PVC
MANUFACTURER:		Campbell Monoflex
SLOT SIZE:		0.010-Inch Slot
WELL CASING:		Sch. 40 - 2" PVC
MANUFACTURER:		Campbell Monoflex

Soil Descriptions from Unified Soil Classification System

BTOC - Below Top of Casing  
 ID - Inside Diameter; OD - Outside Diameter  
 MSL - Mean Sea Level  
 BGS - Below Ground Surface





ATLANTIC COAST CONSULTING, INC.

Draft Attorney Client Privilege

ARAMW-6

BORING ID

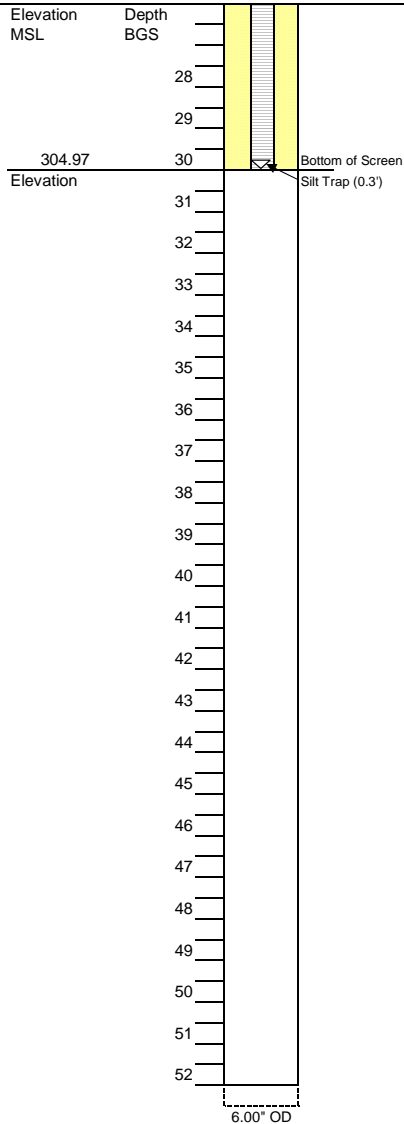
PROJECT:	Plant Arkwright	PROJECT NO.:	I054-110
TOTAL DEPTH:	32.37 ft. BTOC	SITE LOCATION:	Macon, Georgia
DATE BEGIN:	25-Nov-2019	DRILLER:	Isaac Young
DATE COMPLETE:	25-Nov-2019	RIG TYPE:	T-300 Rotosonic
INSTALLED BY:	Cascade	METHOD:	Rotosonic

SUPERVISED BY: Taylor Goble

WATER 1ST ENCOUNTERED: 10.70' BGS

WATER AFTER 48 HOURS: 12.45' BTOC

Core Photos



Total well depth 30' BGS



**MATERIALS:**

GROUT:		Bentonite Grout
MANUFACTURER:		AquaGuard
BENTONITE SEAL:		3/8" Bentonite Pellets
MANUFACTURER:		Pel-Plug
FILTER PACK SAND:		20/30 Mesh
MANUFACTURER:		Filter Media
WELL SCREEN:		Sch. 40 - 2" PVC
MANUFACTURER:		Silver-Line
SLOT SIZE:		0.010-Inch Slot
WELL CASING:		Sch. 40 - 2" PVC
MANUFACTURER:		Silver-Line

TOC - Top of Casing  
 ID - Inside Diameter; OD - Outside Diameter  
 MSL - Mean Sea Level  
 BGS - Below Ground Surface

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# **APPENDIX C**

## **Laboratory Reports**

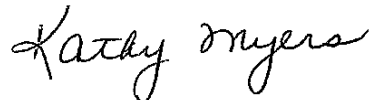
## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-101058-1  
Client Project/Site: CCR - Plant Arkwright

For:  
Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
1/20/2020 2:13:00 PM  
Kathy Myers, Project Management Assistant I  
(412)963-2447  
[kathy.myers@testamericainc.com](mailto:kathy.myers@testamericainc.com)

Designee for  
Veronica Bortot, Senior Project Manager  
(412)963-2435  
[veronica.bortot@testamericainc.com](mailto:veronica.bortot@testamericainc.com)

### LINKS

Review your project  
results through  
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Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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Sample Summary . . . . .	6
Method Summary . . . . .	7
Lab Chronicle . . . . .	8
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QC Sample Results . . . . .	10
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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-101058-1

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**Job ID: 180-101058-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

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**Job Narrative**  
**180-101058-1**

## Comments

No additional comments.

## Receipt

The samples were received on 1/16/2020 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0° C.

## Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-101058-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-101058-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	01-31-20
Wisconsin	State	998027800	08-31-20

# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-101058-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-101058-1	ARAMW-3	Water	01/15/20 11:13	01/16/20 08:30	
180-101058-2	ARAMW-6	Water	01/15/20 12:45	01/16/20 08:30	
180-101058-3	ARAMW-4	Water	01/15/20 10:20	01/16/20 08:30	

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# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-101058-1

Method	Method Description	Protocol	Laboratory
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-101058-1

## Client Sample ID: ARAMW-3

Date Collected: 01/15/20 11:13

Date Received: 01/16/20 08:30

## Lab Sample ID: 180-101058-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	304164	01/16/20 11:43	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1	1.0 mL	1.0 mL	304363	01/18/20 01:16	WTR	TAL PIT
Instrument ID: M										

## Client Sample ID: ARAMW-6

Date Collected: 01/15/20 12:45

Date Received: 01/16/20 08:30

## Lab Sample ID: 180-101058-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	304164	01/16/20 11:43	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1	1.0 mL	1.0 mL	304363	01/18/20 01:21	WTR	TAL PIT
Instrument ID: M										

## Client Sample ID: ARAMW-4

Date Collected: 01/15/20 10:20

Date Received: 01/16/20 08:30

## Lab Sample ID: 180-101058-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	304164	01/16/20 11:43	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1	1.0 mL	1.0 mL	304363	01/18/20 01:36	WTR	TAL PIT
Instrument ID: M										

### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

### Analyst References:

Lab: TAL PIT

Batch Type: Prep

RJR = Ron Rosenbaum

Batch Type: Analysis

WTR = Bill Reinheimer



# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-101058-1

## Client Sample ID: ARAMW-3

Date Collected: 01/15/20 11:13

Date Received: 01/16/20 08:30

## Lab Sample ID: 180-101058-1

Matrix: Water

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0053		0.0050	0.00061	mg/L		01/16/20 11:43	01/18/20 01:16	1
Boron	1.0		0.080	0.039	mg/L		01/16/20 11:43	01/18/20 01:16	1

## Client Sample ID: ARAMW-6

Date Collected: 01/15/20 12:45

Date Received: 01/16/20 08:30

## Lab Sample ID: 180-101058-2

Matrix: Water

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.00065	J	0.0050	0.00061	mg/L		01/16/20 11:43	01/18/20 01:21	1
Boron	0.96		0.080	0.039	mg/L		01/16/20 11:43	01/18/20 01:21	1

## Client Sample ID: ARAMW-4

Date Collected: 01/15/20 10:20

Date Received: 01/16/20 08:30

## Lab Sample ID: 180-101058-3

Matrix: Water

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0064		0.00050	0.00013	mg/L		01/16/20 11:43	01/18/20 01:36	1
Boron	0.32		0.080	0.039	mg/L		01/16/20 11:43	01/18/20 01:36	1

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-101058-1

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-304164/1-A**  
**Matrix: Water**  
**Analysis Batch: 304363**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 304164**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00013		0.00050	0.00013	mg/L		01/16/20 11:43	01/18/20 00:36	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		01/16/20 11:43	01/18/20 00:36	1
Boron	<0.039		0.080	0.039	mg/L		01/16/20 11:43	01/18/20 00:36	1

**Lab Sample ID: LCS 180-304164/2-A**  
**Matrix: Water**  
**Analysis Batch: 304363**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 304164**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cobalt	0.500	0.478		mg/L		96	80 - 120
Molybdenum	0.500	0.496		mg/L		99	80 - 120
Boron	1.25	1.11		mg/L		89	80 - 120



# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-101058-1

## Metals

### Prep Batch: 304164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101058-1	ARAMW-3	Total Recoverable	Water	3005A	
180-101058-2	ARAMW-6	Total Recoverable	Water	3005A	
180-101058-3	ARAMW-4	Total Recoverable	Water	3005A	
MB 180-304164/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-304164/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 304363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101058-1	ARAMW-3	Total Recoverable	Water	EPA 6020B	304164
180-101058-2	ARAMW-6	Total Recoverable	Water	EPA 6020B	304164
180-101058-3	ARAMW-4	Total Recoverable	Water	EPA 6020B	304164
MB 180-304164/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	304164
LCS 180-304164/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	304164





# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101058-1

**Login Number: 101058**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Say, Thomas C**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		



Product Name: Low-Flow System

Date: 2020-01-15 11:14:21

Project Information:

Operator Name Ryan Walker  
Company Name Atlantic Coast Consulting  
Project Name Plant Arkwright - Ash Pond 3  
Site Name Plant Arkwright  
Latitude 32° 55' 33.2"  
Longitude -83° -42' -25.82"  
Sonde SN 369557  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump  
Tubing Type poly  
Tubing Diameter 0.17 in  
Tubing Length 68 ft

Pump placement from TOC 63 ft

Well Information:

Well ID ARAMW-3  
Well diameter 2 in  
Well Total Depth 68.90 ft  
Screen Length 10 ft  
Depth to Water 24.55 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.3935128 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 19 in  
Total Volume Pumped 4.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 0.3	+/- 10
Last 5	10:53:45	600.01	19.54	6.77	436.98	2.17	25.90	0.44	-116.75
Last 5	10:58:45	900.01	19.54	6.77	437.40	5.88	26.00	0.31	-117.97
Last 5	11:03:45	1200.00	19.54	6.77	435.24	5.57	26.10	0.28	-118.85
Last 5	11:08:45	1500.00	19.58	6.77	435.54	2.21	26.10	0.28	-120.32
Last 5	11:13:45	1799.99	19.67	6.77	436.58	2.74	26.10	0.25	-121.51
Variance 0			-0.00	0.00	-2.16			-0.03	-0.88
Variance 1			0.04	0.00	0.31			-0.00	-1.47
Variance 2			0.09	-0.00	1.04			-0.03	-1.20

Notes

Sampled at 11:13. Cloudy, 60's.

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-15 10:18:58

Project Information:

Operator Name Ryan Walker  
Company Name Atlantic Coast Consulting  
Project Name Plant Arkwright - Ash Pond 3  
Site Name Plant Arkwright  
Latitude 32° 55' 42.2"  
Longitude -83° -42' -20.78"  
Sonde SN 369557  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump  
Tubing Type poly  
Tubing Diameter .17 in  
Tubing Length 57 ft

Pump placement from TOC 52 ft

Well Information:

Well ID ARAMW-4  
Well diameter 2 in  
Well Total Depth 57.70 ft  
Screen Length 10 ft  
Depth to Water 21.07 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.3444151 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 3 in  
Total Volume Pumped 3.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 0.3	+/- 10
Last 5	09:58:09	300.04	18.76	6.21	1425.61	4.35	21.30	0.25	-68.07
Last 5	10:03:09	600.01	18.83	6.15	1415.40	4.00	21.30	0.26	-61.26
Last 5	10:08:09	900.01	18.87	6.17	1412.85	4.10	21.30	0.24	-65.63
Last 5	10:13:09	1200.00	18.91	6.10	1404.73	3.73	21.30	0.22	-58.14
Last 5	10:18:09	1499.99	18.95	6.09	1410.57	3.50	21.30	0.21	-57.82
Variance 0			0.04	0.02	-2.55			-0.02	-4.37
Variance 1			0.03	-0.07	-8.13			-0.02	7.49
Variance 2			0.05	-0.02	5.84			-0.01	0.33

Notes

Sampled at 10:20. Cloudy, 60's.

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-15 12:46:15

Project Information:

Operator Name Ryan Walker  
Company Name Atlantic Coast Consulting  
Project Name Plant Arkwright - Ash Pond 3  
Site Name Plant Arkwright  
Latitude 32° 55' 32.27"  
Longitude -83° -42' -25.34"  
Sonde SN 369557  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump  
Tubing Type poly  
Tubing Diameter 0.17 in  
Tubing Length 32 ft

Pump placement from TOC 27 ft

Well Information:

Well ID ARAMW-6  
Well diameter 2 in  
Well Total Depth 32.37 ft  
Screen Length 10 ft  
Depth to Water 12.73 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.2328295 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 8 in  
Total Volume Pumped 10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 0.3	+/- 10
Last 5	12:25:35	2999.98	20.67	6.38	368.19	8.69	13.30	0.61	-20.75
Last 5	12:30:35	3299.97	20.65	6.37	367.42	4.87	13.30	0.41	-19.83
Last 5	12:35:35	3600.01	20.61	6.36	367.74	4.81	13.40	0.33	-19.49
Last 5	12:40:35	3899.99	20.56	6.36	367.09	3.77	13.40	0.30	-20.14
Last 5	12:45:35	4199.96	20.48	6.36	367.56	2.38	13.40	0.30	-20.22
Variance 0			-0.04	-0.01	0.32			-0.07	0.34
Variance 1			-0.04	0.00	-0.64			-0.03	-0.65
Variance 2			-0.08	0.00	0.46			0.00	-0.08

Notes

Sampled at 12:45. Sunny, 70's.

Grab Samples

## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-102294-1

Client Project/Site: CCR - Plant Arkwright

**For:**

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



*Authorized for release by:  
2/17/2020 3:07:48 PM*

Jill Colussy, Project Manager I

(412)963-2444

[jill.colussy@testamericainc.com](mailto:jill.colussy@testamericainc.com)

Designee for

Veronica Bortot, Senior Project Manager

(412)963-2435

[veronica.bortot@testamericainc.com](mailto:veronica.bortot@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-102294-1

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**Job ID: 180-102294-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

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**Job Narrative**  
**180-102294-1**

## Receipt

The sample was received on 2/13/2020 9:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.4° C.

## Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-102294-1

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-102294-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20 *
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-102294-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-102294-1	ARAMW-4	Water	02/11/20 17:10	02/13/20 09:00	

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# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-102294-1

Method	Method Description	Protocol	Laboratory
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-102294-1

**Client Sample ID: ARAMW-4**

**Lab Sample ID: 180-102294-1**

**Date Collected: 02/11/20 17:10**

**Matrix: Water**

**Date Received: 02/13/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307077	02/14/20 10:06	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1	1.0 mL	1.0 mL	307216	02/15/20 19:39	WTR	TAL PIT

Instrument ID: M

### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

### Analyst References:

Lab: TAL PIT

Batch Type: Prep

JL = James Lyu

Batch Type: Analysis

WTR = Bill Reinheimer

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-102294-1

**Client Sample ID: ARAMW-4**

**Lab Sample ID: 180-102294-1**

Date Collected: 02/11/20 17:10

Matrix: Water

Date Received: 02/13/20 09:00

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0042		0.00050	0.00013	mg/L		02/14/20 10:06	02/15/20 19:39	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-102294-1

## Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 180-307077/1-A  
 Matrix: Water  
 Analysis Batch: 307216

Client Sample ID: Method Blank  
 Prep Type: Total Recoverable  
 Prep Batch: 307077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/14/20 10:06	02/15/20 18:34	1

Lab Sample ID: LCS 180-307077/2-A  
 Matrix: Water  
 Analysis Batch: 307216

Client Sample ID: Lab Control Sample  
 Prep Type: Total Recoverable  
 Prep Batch: 307077

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cobalt	0.500	0.482		mg/L		96	80 - 120



# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-102294-1

## Metals

### Prep Batch: 307077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102294-1	ARAMW-4	Total Recoverable	Water	3005A	
MB 180-307077/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-307077/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 307216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102294-1	ARAMW-4	Total Recoverable	Water	EPA 6020B	307077
MB 180-307077/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	307077
LCS 180-307077/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	307077





# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-102294-1

**Login Number: 102294**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Say, Thomas C**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Product Name: Low-Flow System

Date: 2020-02-11 17:08:56

Project Information:

Operator Name C Parker  
Company Name ACC  
Project Name Plant Arkwright  
Site Name Plant Arkwright  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 445707  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peri Pump  
Tubing Type poly  
Tubing Diameter .17 in  
Tubing Length 57 ft

Pump placement from TOC 52 ft

Well Information:

Well ID ARAMW-4  
Well diameter 2 in  
Well Total Depth 57.70 ft  
Screen Length 10 ft  
Depth to Water 20.78 ft

Pumping Information:

Final Pumping Rate 130 mL/min  
Total System Volume 0.34444151 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 3 in  
Total Volume Pumped 17 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 2	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 100
Last 5	16:47:31	6313.90	21.37	6.13	1560.16	5.99	20.90	0.12	-96.93
Last 5	16:52:31	6613.90	21.20	6.00	1559.29	5.76	20.90	0.15	-84.05
Last 5	16:57:34	6916.89	21.19	5.95	1557.48	5.19	20.90	0.13	-77.84
Last 5	17:02:38	7220.87	21.10	6.00	1564.07	5.32	20.90	0.15	-74.27
Last 5	17:07:39	7521.88	21.37	5.98	1551.89	4.88	20.90	0.14	-72.29
Variance 0			-0.01	-0.05	-1.80			-0.02	6.21
Variance 1			-0.09	0.05	6.58			0.02	3.58
Variance 2			0.27	-0.02	-12.17			-0.01	1.97

Notes

Sampled at 17:10. Cloudy 70s

Grab Samples

## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-104498-1

Client Project/Site: CCR - Plant Arkwright Ash Pond 3

**For:**

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
4/30/2020 7:43:54 AM

Veronica Bortot, Senior Project Manager  
(412)963-2435  
[veronica.bortot@testamericainc.com](mailto:veronica.bortot@testamericainc.com)

Designee for

Shali Brown, Project Manager II  
(615)301-5031  
[shali.brown@testamericainc.com](mailto:shali.brown@testamericainc.com)

### LINKS

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results through  
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Expert**

Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416





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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

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**Job ID: 180-104498-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

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**Narrative**

**Job Narrative  
180-104498-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 4/10/2020 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.2° C, 1.3° C, 2.3° C and 3.3° C.

**GC Semi VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Field Service**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-104498-1	ARGWA-3	Water	04/07/20 10:45	04/10/20 08:15	
180-104498-2	ARGWA-5	Water	04/07/20 11:46	04/10/20 08:15	
180-104498-3	ARGWA-12	Ground Water	04/07/20 13:46	04/10/20 08:15	
180-104498-4	ARGWA-13	Water	04/07/20 15:32	04/10/20 08:15	
180-104498-5	ARGWA-14	Water	04/06/20 15:57	04/10/20 08:15	
180-104498-6	ARGWC-7	Water	04/08/20 09:55	04/10/20 08:15	
180-104498-7	ARGWC-8	Water	04/09/20 12:35	04/10/20 08:15	
180-104498-8	ARGWC-9	Water	04/09/20 10:25	04/10/20 08:15	
180-104498-9	ARGWC-10	Water	04/08/20 17:09	04/10/20 08:15	
180-104498-10	ARGWC-15	Water	04/08/20 16:15	04/10/20 08:15	
180-104498-11	ARGWC-16	Water	04/08/20 11:15	04/10/20 08:15	
180-104498-12	ARGWC-17	Water	04/08/20 14:30	04/10/20 08:15	
180-104498-13	ARGWC-18	Water	04/09/20 09:40	04/10/20 08:15	
180-104498-14	EB-1-4-9-20	Water	04/09/20 10:40	04/10/20 08:15	
180-104498-15	FB-1-4-7-20	Water	04/07/20 16:00	04/10/20 08:15	
180-104498-16	DUP-1	Water	04/08/20 00:00	04/10/20 08:15	

# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

#### Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Client Sample ID: ARGWA-3

## Lab Sample ID: 180-104498-1

Date Collected: 04/07/20 10:45

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313212	04/19/20 02:11	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 11:37	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 17:53	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/07/20 10:45	FDS	TAL PIT

## Client Sample ID: ARGWA-5

## Lab Sample ID: 180-104498-2

Date Collected: 04/07/20 11:46

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313212	04/19/20 02:26	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 11:54	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 17:54	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/07/20 11:46	FDS	TAL PIT

## Client Sample ID: ARGWA-12

## Lab Sample ID: 180-104498-3

Date Collected: 04/07/20 13:46

Matrix: Ground Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313212	04/19/20 03:58	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 11:57	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 17:55	NAM	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Client Sample ID: ARGWA-12

Date Collected: 04/07/20 13:46

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/07/20 13:46	FDS	TAL PIT

## Client Sample ID: ARGWA-13

Date Collected: 04/07/20 15:32

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313212	04/19/20 04:13	SAC	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		5			313212	04/19/20 04:28	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:08	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 17:56	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/07/20 15:32	FDS	TAL PIT

## Client Sample ID: ARGWA-14

Date Collected: 04/06/20 15:57

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313212	04/19/20 04:44	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:11	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312736	04/13/20 16:39	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 17:27	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/06/20 15:57	FDS	TAL PIT

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Client Sample ID: ARGWC-7

## Lab Sample ID: 180-104498-6

Date Collected: 04/08/20 09:55

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313212	04/19/20 04:59	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:15	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312968	04/15/20 15:19	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			313001	04/15/20 19:05	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/08/20 09:55	FDS	TAL PIT

## Client Sample ID: ARGWC-8

## Lab Sample ID: 180-104498-7

Date Collected: 04/09/20 12:35

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313212	04/19/20 05:14	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:18	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312968	04/15/20 15:19	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			313001	04/15/20 19:06	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/09/20 12:35	FDS	TAL PIT

## Client Sample ID: ARGWC-9

## Lab Sample ID: 180-104498-8

Date Collected: 04/09/20 10:25

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313354	04/21/20 13:31	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:22	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 17:57	NAM	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Client Sample ID: ARGWC-9

Lab Sample ID: 180-104498-8

Date Collected: 04/09/20 10:25

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/09/20 10:25	FDS	TAL PIT

## Client Sample ID: ARGWC-10

Lab Sample ID: 180-104498-9

Date Collected: 04/08/20 17:09

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313354	04/21/20 18:37	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:25	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 18:00	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/08/20 17:09	FDS	TAL PIT

## Client Sample ID: ARGWC-15

Lab Sample ID: 180-104498-10

Date Collected: 04/08/20 16:15

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313354	04/21/20 18:52	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:29	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 18:01	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/08/20 16:15	FDS	TAL PIT

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Client Sample ID: ARGWC-16

## Lab Sample ID: 180-104498-11

Date Collected: 04/08/20 11:15

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313354	04/21/20 19:07	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		5			313534	04/22/20 17:39	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:32	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 18:02	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/08/20 11:15	FDS	TAL PIT

## Client Sample ID: ARGWC-17

## Lab Sample ID: 180-104498-12

Date Collected: 04/08/20 14:30

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313354	04/21/20 19:23	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:36	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 18:03	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			313430	04/08/20 14:30	FDS	TAL PIT

## Client Sample ID: ARGWC-18

## Lab Sample ID: 180-104498-13

Date Collected: 04/09/20 09:40

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313354	04/21/20 19:38	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:39	RSK	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Client Sample ID: ARGWC-18

Date Collected: 04/09/20 09:40

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	312968	04/15/20 15:19	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			313001	04/15/20 19:09	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	Field Sampling		1			313430	04/09/20 09:40	FDS	TAL PIT
		Instrument ID: NOEQUIP								

## Client Sample ID: EB-1-4-9-20

Date Collected: 04/09/20 10:40

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			313354	04/21/20 17:20	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Total/NA	Analysis	EPA 300.0 R2.1		1			313536	04/22/20 19:30	MJH	TAL PIT
		Instrument ID: CHICS2000								
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			313608	04/22/20 12:49	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	312968	04/15/20 15:19	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			313001	04/15/20 19:10	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
		Instrument ID: NOEQUIP								

## Client Sample ID: FB-1-4-7-20

Date Collected: 04/07/20 16:00

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			313354	04/21/20 17:36	MJH	TAL PIT
		Instrument ID: CHIC2100A								
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			313608	04/22/20 12:53	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			312866	04/14/20 18:04	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT
		Instrument ID: NOEQUIP								



# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: DUP-1**

**Lab Sample ID: 180-104498-16**

**Date Collected: 04/08/20 00:00**

**Matrix: Water**

**Date Received: 04/10/20 08:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			313354	04/21/20 20:24	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		5			313534	04/22/20 18:25	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312798	04/14/20 09:33	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313608	04/22/20 12:56	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	312737	04/13/20 16:43	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			312866	04/14/20 18:04	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312644	04/11/20 08:52	AVS	TAL PIT

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Prep

KEM = Kimberly Mahoney

NAM = Nicole Marfisi

Batch Type: Analysis

AVS = Abbey Smith

FDS = Sampler Field

MJH = Matthew Hartman

NAM = Nicole Marfisi

RSK = Robert Kurtz

SAC = Shawn Clemente



# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: ARGWA-3**

**Lab Sample ID: 180-104498-1**

Date Collected: 04/07/20 10:45

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.9		1.0	0.32	mg/L			04/19/20 02:11	1
Fluoride	0.098	J	0.10	0.026	mg/L			04/19/20 02:11	1
Sulfate	0.67	J	1.0	0.38	mg/L			04/19/20 02:11	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 11:37	1
Barium	0.018		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 11:37	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 11:37	1
Boron	<0.039	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 11:37	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 11:37	1
Calcium	5.5		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 11:37	1
Chromium	0.0023		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 11:37	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 11:37	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 11:37	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 11:37	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 11:37	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 11:37	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 11:37	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 11:37	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 11:37	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00016	J	0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 17:53	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	64		10	10	mg/L			04/11/20 08:52	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.90				SU			04/07/20 10:45	1

**Client Sample ID: ARGWA-5**

**Lab Sample ID: 180-104498-2**

Date Collected: 04/07/20 11:46

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.7		1.0	0.32	mg/L			04/19/20 02:26	1
Fluoride	0.072	J	0.10	0.026	mg/L			04/19/20 02:26	1
Sulfate	<0.38		1.0	0.38	mg/L			04/19/20 02:26	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 11:54	1
Barium	0.020		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 11:54	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 11:54	1
Boron	<0.039	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 11:54	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 11:54	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: ARGWA-5**

**Lab Sample ID: 180-104498-2**

Date Collected: 04/07/20 11:46

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	4.0		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 11:54	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 11:54	1
Cobalt	0.00014	J	0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 11:54	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 11:54	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 11:54	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 11:54	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 11:54	1
Thallium	0.00015	J	0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 11:54	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 11:54	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 11:54	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 17:54	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	65		10	10	mg/L			04/11/20 08:52	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.86				SU			04/07/20 11:46	1

**Client Sample ID: ARGWA-12**

**Lab Sample ID: 180-104498-3**

Date Collected: 04/07/20 13:46

Matrix: Ground Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		1.0	0.32	mg/L			04/19/20 03:58	1
Fluoride	0.082	J	0.10	0.026	mg/L			04/19/20 03:58	1
Sulfate	8.0		1.0	0.38	mg/L			04/19/20 03:58	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 11:57	1
Barium	0.066		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 11:57	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 11:57	1
Boron	<0.039	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 11:57	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 11:57	1
Calcium	12		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 11:57	1
Chromium	0.0015	J	0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 11:57	1
Cobalt	0.00029	J	0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 11:57	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 11:57	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 11:57	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 11:57	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 11:57	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 11:57	1
Lithium	0.0036	J	0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 11:57	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 11:57	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Client Sample ID: ARGWA-12

## Lab Sample ID: 180-104498-3

Date Collected: 04/07/20 13:46

Matrix: Ground Water

Date Received: 04/10/20 08:15

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 17:55	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	120		10	10	mg/L			04/11/20 08:52	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.91				SU			04/07/20 13:46	1

## Client Sample ID: ARGWA-13

## Lab Sample ID: 180-104498-4

Date Collected: 04/07/20 15:32

Matrix: Water

Date Received: 04/10/20 08:15

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.8		1.0	0.32	mg/L			04/19/20 04:13	1
Fluoride	0.086	J	0.10	0.026	mg/L			04/19/20 04:13	1
Sulfate	270		5.0	1.9	mg/L			04/19/20 04:28	5

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:08	1
Barium	0.021		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:08	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:08	1
Boron	0.23	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:08	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:08	1
Calcium	61		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:08	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:08	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:08	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:08	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:08	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:08	1
Selenium	0.0094		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:08	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:08	1
Lithium	0.0036	J	0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:08	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:08	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 17:55	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	480		10	10	mg/L			04/11/20 08:52	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.84				SU			04/07/20 15:32	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: ARGWA-14**

**Lab Sample ID: 180-104498-5**

Date Collected: 04/06/20 15:57

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.2		1.0	0.32	mg/L			04/19/20 04:44	1
Fluoride	0.28		0.10	0.026	mg/L			04/19/20 04:44	1
Sulfate	10		1.0	0.38	mg/L			04/19/20 04:44	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:11	1
Barium	0.051		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:11	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:11	1
Boron	0.041	J ^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:11	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:11	1
Calcium	43		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:11	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:11	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:11	1
Molybdenum	0.00084	J	0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:11	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:11	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:11	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:11	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:11	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:11	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:11	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:39	04/14/20 17:27	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	280		10	10	mg/L			04/11/20 08:52	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.90				SU			04/06/20 15:57	1

**Client Sample ID: ARGWC-7**

**Lab Sample ID: 180-104498-6**

Date Collected: 04/08/20 09:55

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.4		1.0	0.32	mg/L			04/19/20 04:59	1
Fluoride	0.062	J	0.10	0.026	mg/L			04/19/20 04:59	1
Sulfate	39		1.0	0.38	mg/L			04/19/20 04:59	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:15	1
Barium	0.039		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:15	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:15	1
Boron	0.086	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:15	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:15	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: ARGWC-7**

**Lab Sample ID: 180-104498-6**

Date Collected: 04/08/20 09:55

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	11		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:15	1
Chromium	0.0027		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:15	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:15	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:15	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:15	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:15	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:15	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:15	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:15	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:15	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/15/20 15:19	04/15/20 19:05	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	130		10	10	mg/L			04/11/20 08:52	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.75				SU			04/08/20 09:55	1

**Client Sample ID: ARGWC-8**

**Lab Sample ID: 180-104498-7**

Date Collected: 04/09/20 12:35

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.7		1.0	0.32	mg/L			04/19/20 05:14	1
Fluoride	0.16		0.10	0.026	mg/L			04/19/20 05:14	1
Sulfate	59		1.0	0.38	mg/L			04/19/20 05:14	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:18	1
Barium	0.045		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:18	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:18	1
Boron	1.1	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:18	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:18	1
Calcium	47		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:18	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:18	1
Cobalt	0.00013	J	0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:18	1
Molybdenum	0.039		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:18	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:18	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:18	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:18	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:18	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:18	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:18	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Client Sample ID: ARGWC-8

Lab Sample ID: 180-104498-7

Date Collected: 04/09/20 12:35

Matrix: Water

Date Received: 04/10/20 08:15

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/15/20 15:19	04/15/20 19:06	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	270		10	10	mg/L			04/11/20 08:52	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.42				SU			04/09/20 12:35	1

## Client Sample ID: ARGWC-9

Lab Sample ID: 180-104498-8

Date Collected: 04/09/20 10:25

Matrix: Water

Date Received: 04/10/20 08:15

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.6		1.0	0.32	mg/L			04/21/20 13:31	1
Fluoride	0.066	J	0.10	0.026	mg/L			04/21/20 13:31	1
Sulfate	1.1		1.0	0.38	mg/L			04/21/20 13:31	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:22	1
Barium	0.044		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:22	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:22	1
Boron	<0.039	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:22	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:22	1
Calcium	5.3		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:22	1
Chromium	0.0069		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:22	1
Cobalt	0.00015	J	0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:22	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:22	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:22	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:22	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:22	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:22	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:22	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:22	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 17:57	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	70		10	10	mg/L			04/11/20 08:52	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.90				SU			04/09/20 10:25	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-104498-9**

Date Collected: 04/08/20 17:09

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.9		1.0	0.32	mg/L			04/21/20 18:37	1
Fluoride	0.071	J	0.10	0.026	mg/L			04/21/20 18:37	1
Sulfate	<0.38		1.0	0.38	mg/L			04/21/20 18:37	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:25	1
Barium	0.031		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:25	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:25	1
Boron	<0.039	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:25	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:25	1
Calcium	7.5		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:25	1
Chromium	0.0046		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:25	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:25	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:25	1
Lead	0.031		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:25	1
Antimony	0.00094	J	0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:25	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:25	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:25	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:25	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:25	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 18:00	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	82		10	10	mg/L			04/11/20 08:52	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.95				SU			04/08/20 17:09	1

**Client Sample ID: ARGWC-15**

**Lab Sample ID: 180-104498-10**

Date Collected: 04/08/20 16:15

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.9		1.0	0.32	mg/L			04/21/20 18:52	1
Fluoride	0.12		0.10	0.026	mg/L			04/21/20 18:52	1
Sulfate	5.9		1.0	0.38	mg/L			04/21/20 18:52	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:29	1
Barium	0.030		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:29	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:29	1
Boron	<0.039	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:29	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:29	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: ARGWC-15**

**Lab Sample ID: 180-104498-10**

Date Collected: 04/08/20 16:15

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	21		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:29	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:29	1
Cobalt	0.00026	J	0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:29	1
Molybdenum	0.00075	J	0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:29	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:29	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:29	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:29	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:29	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:29	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:29	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 18:01	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	130		10	10	mg/L			04/11/20 08:52	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.26				SU			04/08/20 16:15	1

**Client Sample ID: ARGWC-16**

**Lab Sample ID: 180-104498-11**

Date Collected: 04/08/20 11:15

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.1		1.0	0.32	mg/L			04/21/20 19:07	1
Fluoride	0.051	J	0.10	0.026	mg/L			04/21/20 19:07	1
Sulfate	200		5.0	1.9	mg/L			04/22/20 17:39	5

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:32	1
Barium	0.042		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:32	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:32	1
Boron	0.059	J ^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:32	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:32	1
Calcium	40		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:32	1
Chromium	0.0021		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:32	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:32	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:32	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:32	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:32	1
Selenium	0.0022	J	0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:32	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:32	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:32	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:32	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Client Sample ID: ARGWC-16

## Lab Sample ID: 180-104498-11

Date Collected: 04/08/20 11:15

Matrix: Water

Date Received: 04/10/20 08:15

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 18:02	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		10	10	mg/L			04/11/20 08:52	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.07				SU			04/08/20 11:15	1

## Client Sample ID: ARGWC-17

## Lab Sample ID: 180-104498-12

Date Collected: 04/08/20 14:30

Matrix: Water

Date Received: 04/10/20 08:15

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.7		1.0	0.32	mg/L			04/21/20 19:23	1
Fluoride	0.053	J	0.10	0.026	mg/L			04/21/20 19:23	1
Sulfate	47		1.0	0.38	mg/L			04/21/20 19:23	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:36	1
Barium	0.045		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:36	1
Beryllium	0.00025	J	0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:36	1
Boron	<0.039	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:36	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:36	1
Calcium	8.3		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:36	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:36	1
Cobalt	0.016		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:36	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:36	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:36	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:36	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:36	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:36	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:36	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:36	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 18:03	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	91		10	10	mg/L			04/11/20 08:52	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.02				SU			04/08/20 14:30	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: ARGWC-18**

**Lab Sample ID: 180-104498-13**

Date Collected: 04/09/20 09:40

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.3		1.0	0.32	mg/L			04/21/20 19:38	1
Fluoride	0.11		0.10	0.026	mg/L			04/21/20 19:38	1
Sulfate	190		1.0	0.38	mg/L			04/21/20 19:38	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:39	1
Barium	0.041		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:39	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:39	1
Boron	2.3	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:39	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:39	1
Calcium	46		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:39	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:39	1
Cobalt	0.00091	J	0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:39	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:39	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:39	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:39	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:39	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:39	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:39	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:39	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/15/20 15:19	04/15/20 19:09	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	440		10	10	mg/L			04/11/20 08:52	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.98				SU			04/09/20 09:40	1

**Client Sample ID: EB-1-4-9-20**

**Lab Sample ID: 180-104498-14**

Date Collected: 04/09/20 10:40

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			04/21/20 17:20	1
Fluoride	0.069	J	0.10	0.026	mg/L			04/22/20 19:30	1
Sulfate	<0.38		1.0	0.38	mg/L			04/21/20 17:20	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:49	1
Barium	<0.0016		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:49	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:49	1
Boron	<0.039	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:49	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:49	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: EB-1-4-9-20**

**Lab Sample ID: 180-104498-14**

Date Collected: 04/09/20 10:40

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.13		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:49	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:49	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:49	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:49	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:49	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:49	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:49	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:49	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:49	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:49	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/15/20 15:19	04/15/20 19:10	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			04/11/20 08:52	1

**Client Sample ID: FB-1-4-7-20**

**Lab Sample ID: 180-104498-15**

Date Collected: 04/07/20 16:00

Matrix: Water

Date Received: 04/10/20 08:15

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			04/21/20 17:36	1
Fluoride	0.049	J	0.10	0.026	mg/L			04/21/20 17:36	1
Sulfate	<0.38		1.0	0.38	mg/L			04/21/20 17:36	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:53	1
Barium	<0.0016		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:53	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:53	1
Boron	<0.039	^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:53	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:53	1
Calcium	<0.13		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:53	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:53	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:53	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:53	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:53	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:53	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:53	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:53	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:53	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:53	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 18:04	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

**Client Sample ID: FB-1-4-7-20**

**Lab Sample ID: 180-104498-15**

Date Collected: 04/07/20 16:00

Matrix: Water

Date Received: 04/10/20 08:15

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			04/11/20 08:52	1

**Client Sample ID: DUP-1**

**Lab Sample ID: 180-104498-16**

Date Collected: 04/08/20 00:00

Matrix: Water

Date Received: 04/10/20 08:15

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.3		1.0	0.32	mg/L			04/21/20 20:24	1
Fluoride	0.072	J	0.10	0.026	mg/L			04/21/20 20:24	1
Sulfate	210		5.0	1.9	mg/L			04/22/20 18:25	5

## Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 12:56	1
Barium	0.044		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 12:56	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 12:56	1
Boron	0.061	J ^	0.080	0.039	mg/L		04/14/20 09:33	04/22/20 12:56	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 12:56	1
Calcium	41		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 12:56	1
Chromium	0.0019	J	0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 12:56	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 12:56	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 12:56	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 12:56	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 12:56	1
Selenium	0.0024	J	0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 12:56	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 12:56	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 12:56	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 12:56	1

## Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 18:04	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	340		10	10	mg/L			04/11/20 08:52	1

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: MB 180-313212/44**  
**Matrix: Water**  
**Analysis Batch: 313212**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			04/18/20 23:23	1
Fluoride	<0.026		0.10	0.026	mg/L			04/18/20 23:23	1
Sulfate	<0.38		1.0	0.38	mg/L			04/18/20 23:23	1

**Lab Sample ID: LCS 180-313212/43**  
**Matrix: Water**  
**Analysis Batch: 313212**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.6		mg/L		101	90 - 110
Fluoride	2.50	2.61		mg/L		105	90 - 110
Sulfate	50.0	51.4		mg/L		103	90 - 110

**Lab Sample ID: MB 180-313354/39**  
**Matrix: Water**  
**Analysis Batch: 313354**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			04/21/20 16:35	1
Fluoride	<0.026		0.10	0.026	mg/L			04/21/20 16:35	1
Sulfate	<0.38		1.0	0.38	mg/L			04/21/20 16:35	1

**Lab Sample ID: LCS 180-313354/38**  
**Matrix: Water**  
**Analysis Batch: 313354**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.0		mg/L		102	90 - 110
Fluoride	2.50	2.66		mg/L		107	90 - 110
Sulfate	50.0	51.1		mg/L		102	90 - 110

**Lab Sample ID: MB 180-313534/6**  
**Matrix: Water**  
**Analysis Batch: 313534**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<0.38		1.0	0.38	mg/L			04/22/20 15:22	1

**Lab Sample ID: LCS 180-313534/5**  
**Matrix: Water**  
**Analysis Batch: 313534**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	49.7		mg/L		99	90 - 110

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MB 180-313536/6**  
**Matrix: Water**  
**Analysis Batch: 313536**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			04/22/20 16:10	1

**Lab Sample ID: LCS 180-313536/5**  
**Matrix: Water**  
**Analysis Batch: 313536**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.40		mg/L		96	90 - 110

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-312798/1-A**  
**Matrix: Water**  
**Analysis Batch: 313608**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 312798**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/14/20 09:33	04/22/20 10:51	1
Barium	<0.0016		0.010	0.0016	mg/L		04/14/20 09:33	04/22/20 10:51	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		04/14/20 09:33	04/22/20 10:51	1
Boron	<0.039		0.080	0.039	mg/L		04/14/20 09:33	04/22/20 10:51	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/14/20 09:33	04/22/20 10:51	1
Calcium	<0.13		0.50	0.13	mg/L		04/14/20 09:33	04/22/20 10:51	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/14/20 09:33	04/22/20 10:51	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/14/20 09:33	04/22/20 10:51	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		04/14/20 09:33	04/22/20 10:51	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/14/20 09:33	04/22/20 10:51	1
Antimony	<0.00038		0.0020	0.00038	mg/L		04/14/20 09:33	04/22/20 10:51	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/14/20 09:33	04/22/20 10:51	1
Thallium	<0.00015		0.0010	0.00015	mg/L		04/14/20 09:33	04/22/20 10:51	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/14/20 09:33	04/22/20 10:51	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/14/20 09:33	04/22/20 10:51	1

**Lab Sample ID: LCS 180-312798/2-A**  
**Matrix: Water**  
**Analysis Batch: 313608**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 312798**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.918		mg/L		92	80 - 120
Barium	1.00	0.891		mg/L		89	80 - 120
Beryllium	0.500	0.448		mg/L		90	80 - 120
Boron	1.25	1.16		mg/L		93	80 - 120
Cadmium	0.500	0.446		mg/L		89	80 - 120
Calcium	25.0	25.5		mg/L		102	80 - 120
Chromium	0.500	0.444		mg/L		89	80 - 120
Cobalt	0.500	0.445		mg/L		89	80 - 120
Molybdenum	0.500	0.453		mg/L		91	80 - 120
Lead	0.500	0.455		mg/L		91	80 - 120
Antimony	0.250	0.214		mg/L		86	80 - 120
Selenium	1.00	0.883		mg/L		88	80 - 120

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 180-312798/2-A**  
**Matrix: Water**  
**Analysis Batch: 313608**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 312798**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	1.00	0.992		mg/L		99	80 - 120
Lithium	0.500	0.446		mg/L		89	80 - 120
Silver	0.250	0.219		mg/L		88	80 - 120

**Lab Sample ID: 180-104498-1 MS**  
**Matrix: Water**  
**Analysis Batch: 313608**

**Client Sample ID: ARGWA-3**  
**Prep Type: Total Recoverable**  
**Prep Batch: 312798**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.00031		1.00	0.907		mg/L		91	75 - 125
Barium	0.018		1.00	0.923		mg/L		90	75 - 125
Beryllium	<0.00018		0.500	0.449		mg/L		90	75 - 125
Boron	<0.039	^	1.25	1.14	^	mg/L		91	75 - 125
Cadmium	<0.00022		0.500	0.445		mg/L		89	75 - 125
Calcium	5.5		25.0	30.6		mg/L		100	75 - 125
Chromium	0.0023		0.500	0.439		mg/L		87	75 - 125
Cobalt	<0.00013		0.500	0.442		mg/L		88	75 - 125
Molybdenum	<0.00061		0.500	0.453		mg/L		91	75 - 125
Lead	<0.00013		0.500	0.453		mg/L		91	75 - 125
Antimony	<0.00038		0.250	0.215		mg/L		86	75 - 125
Selenium	<0.0015		1.00	0.880		mg/L		88	75 - 125
Thallium	<0.00015		1.00	0.987		mg/L		99	75 - 125
Lithium	<0.0034		0.500	0.435		mg/L		87	75 - 125
Silver	<0.00018		0.250	0.220		mg/L		88	75 - 125

**Lab Sample ID: 180-104498-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 313608**

**Client Sample ID: ARGWA-3**  
**Prep Type: Total Recoverable**  
**Prep Batch: 312798**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	<0.00031		1.00	0.931		mg/L		93	75 - 125	3	20
Barium	0.018		1.00	0.944		mg/L		93	75 - 125	2	20
Beryllium	<0.00018		0.500	0.458		mg/L		92	75 - 125	2	20
Boron	<0.039	^	1.25	1.18	^	mg/L		95	75 - 125	4	20
Cadmium	<0.00022		0.500	0.456		mg/L		91	75 - 125	3	20
Calcium	5.5		25.0	31.4		mg/L		104	75 - 125	3	20
Chromium	0.0023		0.500	0.457		mg/L		91	75 - 125	4	20
Cobalt	<0.00013		0.500	0.453		mg/L		91	75 - 125	2	20
Molybdenum	<0.00061		0.500	0.465		mg/L		93	75 - 125	2	20
Lead	<0.00013		0.500	0.462		mg/L		92	75 - 125	2	20
Antimony	<0.00038		0.250	0.219		mg/L		88	75 - 125	2	20
Selenium	<0.0015		1.00	0.907		mg/L		91	75 - 125	3	20
Thallium	<0.00015		1.00	1.01		mg/L		101	75 - 125	2	20
Lithium	<0.0034		0.500	0.445		mg/L		89	75 - 125	2	20
Silver	<0.00018		0.250	0.225		mg/L		90	75 - 125	2	20

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Method: EPA 7470A - Mercury (CVAA)

**Lab Sample ID: MB 180-312736/1-A**  
**Matrix: Water**  
**Analysis Batch: 312866**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 312736**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:39	04/14/20 17:25	1

**Lab Sample ID: LCS 180-312736/2-A**  
**Matrix: Water**  
**Analysis Batch: 312866**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 312736**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00243		mg/L		97	80 - 120

**Lab Sample ID: MB 180-312737/1-A**  
**Matrix: Water**  
**Analysis Batch: 312866**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 312737**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/13/20 16:43	04/14/20 17:51	1

**Lab Sample ID: LCS 180-312737/2-A**  
**Matrix: Water**  
**Analysis Batch: 312866**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 312737**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00243		mg/L		97	80 - 120

**Lab Sample ID: MB 180-312968/1-A**  
**Matrix: Water**  
**Analysis Batch: 313001**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 312968**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		04/15/20 15:19	04/15/20 18:47	1

**Lab Sample ID: LCS 180-312968/2-A**  
**Matrix: Water**  
**Analysis Batch: 313001**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 312968**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00250		mg/L		100	80 - 120

**Lab Sample ID: 180-104498-14 MS**  
**Matrix: Water**  
**Analysis Batch: 313001**

**Client Sample ID: EB-1-4-9-20**  
**Prep Type: Total/NA**  
**Prep Batch: 312968**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	<0.00010		0.00100	0.000962		mg/L		96	75 - 125

**Lab Sample ID: 180-104498-14 MSD**  
**Matrix: Water**  
**Analysis Batch: 313001**

**Client Sample ID: EB-1-4-9-20**  
**Prep Type: Total/NA**  
**Prep Batch: 312968**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Mercury	<0.00010		0.00100	0.000978		mg/L		98	75 - 125	2	20

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# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: MB 180-312644/2**  
**Matrix: Water**  
**Analysis Batch: 312644**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L	-		04/11/20 08:52	1

**Lab Sample ID: LCS 180-312644/1**  
**Matrix: Water**  
**Analysis Batch: 312644**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	242	234		mg/L	-	97	80 - 120

**Lab Sample ID: 180-104498-7 DU**  
**Matrix: Water**  
**Analysis Batch: 312644**

**Client Sample ID: ARGWC-8**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	270		280		mg/L	-	3	10

**Lab Sample ID: 180-104498-16 DU**  
**Matrix: Water**  
**Analysis Batch: 312644**

**Client Sample ID: DUP-1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	340		363		mg/L	-	5	10



# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## HPLC/IC

### Analysis Batch: 313212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-1	ARGWA-3	Total/NA	Water	EPA 300.0 R2.1	
180-104498-2	ARGWA-5	Total/NA	Water	EPA 300.0 R2.1	
180-104498-3	ARGWA-12	Total/NA	Ground Water	EPA 300.0 R2.1	
180-104498-4	ARGWA-13	Total/NA	Water	EPA 300.0 R2.1	
180-104498-4	ARGWA-13	Total/NA	Water	EPA 300.0 R2.1	
180-104498-5	ARGWA-14	Total/NA	Water	EPA 300.0 R2.1	
180-104498-6	ARGWC-7	Total/NA	Water	EPA 300.0 R2.1	
180-104498-7	ARGWC-8	Total/NA	Water	EPA 300.0 R2.1	
MB 180-313212/44	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-313212/43	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 313354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-8	ARGWC-9	Total/NA	Water	EPA 300.0 R2.1	
180-104498-9	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	
180-104498-10	ARGWC-15	Total/NA	Water	EPA 300.0 R2.1	
180-104498-11	ARGWC-16	Total/NA	Water	EPA 300.0 R2.1	
180-104498-12	ARGWC-17	Total/NA	Water	EPA 300.0 R2.1	
180-104498-13	ARGWC-18	Total/NA	Water	EPA 300.0 R2.1	
180-104498-14	EB-1-4-9-20	Total/NA	Water	EPA 300.0 R2.1	
180-104498-15	FB-1-4-7-20	Total/NA	Water	EPA 300.0 R2.1	
180-104498-16	DUP-1	Total/NA	Water	EPA 300.0 R2.1	
MB 180-313354/39	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-313354/38	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 313534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-11	ARGWC-16	Total/NA	Water	EPA 300.0 R2.1	
180-104498-16	DUP-1	Total/NA	Water	EPA 300.0 R2.1	
MB 180-313534/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-313534/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 313536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-14	EB-1-4-9-20	Total/NA	Water	EPA 300.0 R2.1	
MB 180-313536/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-313536/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

## Metals

### Prep Batch: 312736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-5	ARGWA-14	Total/NA	Water	7470A	
MB 180-312736/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-312736/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Prep Batch: 312737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-1	ARGWA-3	Total/NA	Water	7470A	
180-104498-2	ARGWA-5	Total/NA	Water	7470A	
180-104498-3	ARGWA-12	Total/NA	Ground Water	7470A	

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# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Metals (Continued)

### Prep Batch: 312737 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-4	ARGWA-13	Total/NA	Water	7470A	
180-104498-8	ARGWC-9	Total/NA	Water	7470A	
180-104498-9	ARGWC-10	Total/NA	Water	7470A	
180-104498-10	ARGWC-15	Total/NA	Water	7470A	
180-104498-11	ARGWC-16	Total/NA	Water	7470A	
180-104498-12	ARGWC-17	Total/NA	Water	7470A	
180-104498-15	FB-1-4-7-20	Total/NA	Water	7470A	
180-104498-16	DUP-1	Total/NA	Water	7470A	
MB 180-312737/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-312737/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Prep Batch: 312798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-1	ARGWA-3	Total Recoverable	Water	3005A	
180-104498-2	ARGWA-5	Total Recoverable	Water	3005A	
180-104498-3	ARGWA-12	Total Recoverable	Ground Water	3005A	
180-104498-4	ARGWA-13	Total Recoverable	Water	3005A	
180-104498-5	ARGWA-14	Total Recoverable	Water	3005A	
180-104498-6	ARGWC-7	Total Recoverable	Water	3005A	
180-104498-7	ARGWC-8	Total Recoverable	Water	3005A	
180-104498-8	ARGWC-9	Total Recoverable	Water	3005A	
180-104498-9	ARGWC-10	Total Recoverable	Water	3005A	
180-104498-10	ARGWC-15	Total Recoverable	Water	3005A	
180-104498-11	ARGWC-16	Total Recoverable	Water	3005A	
180-104498-12	ARGWC-17	Total Recoverable	Water	3005A	
180-104498-13	ARGWC-18	Total Recoverable	Water	3005A	
180-104498-14	EB-1-4-9-20	Total Recoverable	Water	3005A	
180-104498-15	FB-1-4-7-20	Total Recoverable	Water	3005A	
180-104498-16	DUP-1	Total Recoverable	Water	3005A	
MB 180-312798/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-312798/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-104498-1 MS	ARGWA-3	Total Recoverable	Water	3005A	
180-104498-1 MSD	ARGWA-3	Total Recoverable	Water	3005A	

### Analysis Batch: 312866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-1	ARGWA-3	Total/NA	Water	EPA 7470A	312737
180-104498-2	ARGWA-5	Total/NA	Water	EPA 7470A	312737
180-104498-3	ARGWA-12	Total/NA	Ground Water	EPA 7470A	312737
180-104498-4	ARGWA-13	Total/NA	Water	EPA 7470A	312737
180-104498-5	ARGWA-14	Total/NA	Water	EPA 7470A	312736
180-104498-8	ARGWC-9	Total/NA	Water	EPA 7470A	312737
180-104498-9	ARGWC-10	Total/NA	Water	EPA 7470A	312737
180-104498-10	ARGWC-15	Total/NA	Water	EPA 7470A	312737
180-104498-11	ARGWC-16	Total/NA	Water	EPA 7470A	312737
180-104498-12	ARGWC-17	Total/NA	Water	EPA 7470A	312737
180-104498-15	FB-1-4-7-20	Total/NA	Water	EPA 7470A	312737
180-104498-16	DUP-1	Total/NA	Water	EPA 7470A	312737
MB 180-312736/1-A	Method Blank	Total/NA	Water	EPA 7470A	312736
MB 180-312737/1-A	Method Blank	Total/NA	Water	EPA 7470A	312737
LCS 180-312736/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	312736

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# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## Metals (Continued)

### Analysis Batch: 312866 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-312737/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	312737

### Prep Batch: 312968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-6	ARGWC-7	Total/NA	Water	7470A	
180-104498-7	ARGWC-8	Total/NA	Water	7470A	
180-104498-13	ARGWC-18	Total/NA	Water	7470A	
180-104498-14	EB-1-4-9-20	Total/NA	Water	7470A	
MB 180-312968/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-312968/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-104498-14 MS	EB-1-4-9-20	Total/NA	Water	7470A	
180-104498-14 MSD	EB-1-4-9-20	Total/NA	Water	7470A	

### Analysis Batch: 313001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-6	ARGWC-7	Total/NA	Water	EPA 7470A	312968
180-104498-7	ARGWC-8	Total/NA	Water	EPA 7470A	312968
180-104498-13	ARGWC-18	Total/NA	Water	EPA 7470A	312968
180-104498-14	EB-1-4-9-20	Total/NA	Water	EPA 7470A	312968
MB 180-312968/1-A	Method Blank	Total/NA	Water	EPA 7470A	312968
LCS 180-312968/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	312968
180-104498-14 MS	EB-1-4-9-20	Total/NA	Water	EPA 7470A	312968
180-104498-14 MSD	EB-1-4-9-20	Total/NA	Water	EPA 7470A	312968

### Analysis Batch: 313608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-1	ARGWA-3	Total Recoverable	Water	EPA 6020B	312798
180-104498-2	ARGWA-5	Total Recoverable	Water	EPA 6020B	312798
180-104498-3	ARGWA-12	Total Recoverable	Ground Water	EPA 6020B	312798
180-104498-4	ARGWA-13	Total Recoverable	Water	EPA 6020B	312798
180-104498-5	ARGWA-14	Total Recoverable	Water	EPA 6020B	312798
180-104498-6	ARGWC-7	Total Recoverable	Water	EPA 6020B	312798
180-104498-7	ARGWC-8	Total Recoverable	Water	EPA 6020B	312798
180-104498-8	ARGWC-9	Total Recoverable	Water	EPA 6020B	312798
180-104498-9	ARGWC-10	Total Recoverable	Water	EPA 6020B	312798
180-104498-10	ARGWC-15	Total Recoverable	Water	EPA 6020B	312798
180-104498-11	ARGWC-16	Total Recoverable	Water	EPA 6020B	312798
180-104498-12	ARGWC-17	Total Recoverable	Water	EPA 6020B	312798
180-104498-13	ARGWC-18	Total Recoverable	Water	EPA 6020B	312798
180-104498-14	EB-1-4-9-20	Total Recoverable	Water	EPA 6020B	312798
180-104498-15	FB-1-4-7-20	Total Recoverable	Water	EPA 6020B	312798
180-104498-16	DUP-1	Total Recoverable	Water	EPA 6020B	312798
MB 180-312798/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	312798
LCS 180-312798/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	312798
180-104498-1 MS	ARGWA-3	Total Recoverable	Water	EPA 6020B	312798
180-104498-1 MSD	ARGWA-3	Total Recoverable	Water	EPA 6020B	312798

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-1

## General Chemistry

### Analysis Batch: 312644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-1	ARGWA-3	Total/NA	Water	SM 2540C	
180-104498-2	ARGWA-5	Total/NA	Water	SM 2540C	
180-104498-3	ARGWA-12	Total/NA	Ground Water	SM 2540C	
180-104498-4	ARGWA-13	Total/NA	Water	SM 2540C	
180-104498-5	ARGWA-14	Total/NA	Water	SM 2540C	
180-104498-6	ARGWC-7	Total/NA	Water	SM 2540C	
180-104498-7	ARGWC-8	Total/NA	Water	SM 2540C	
180-104498-8	ARGWC-9	Total/NA	Water	SM 2540C	
180-104498-9	ARGWC-10	Total/NA	Water	SM 2540C	
180-104498-10	ARGWC-15	Total/NA	Water	SM 2540C	
180-104498-11	ARGWC-16	Total/NA	Water	SM 2540C	
180-104498-12	ARGWC-17	Total/NA	Water	SM 2540C	
180-104498-13	ARGWC-18	Total/NA	Water	SM 2540C	
180-104498-14	EB-1-4-9-20	Total/NA	Water	SM 2540C	
180-104498-15	FB-1-4-7-20	Total/NA	Water	SM 2540C	
180-104498-16	DUP-1	Total/NA	Water	SM 2540C	
MB 180-312644/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-312644/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-104498-7 DU	ARGWC-8	Total/NA	Water	SM 2540C	
180-104498-16 DU	DUP-1	Total/NA	Water	SM 2540C	

## Field Service / Mobile Lab

### Analysis Batch: 313430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-1	ARGWA-3	Total/NA	Water	Field Sampling	
180-104498-2	ARGWA-5	Total/NA	Water	Field Sampling	
180-104498-3	ARGWA-12	Total/NA	Ground Water	Field Sampling	
180-104498-4	ARGWA-13	Total/NA	Water	Field Sampling	
180-104498-5	ARGWA-14	Total/NA	Water	Field Sampling	
180-104498-6	ARGWC-7	Total/NA	Water	Field Sampling	
180-104498-7	ARGWC-8	Total/NA	Water	Field Sampling	
180-104498-8	ARGWC-9	Total/NA	Water	Field Sampling	
180-104498-9	ARGWC-10	Total/NA	Water	Field Sampling	
180-104498-10	ARGWC-15	Total/NA	Water	Field Sampling	
180-104498-11	ARGWC-16	Total/NA	Water	Field Sampling	
180-104498-12	ARGWC-17	Total/NA	Water	Field Sampling	
180-104498-13	ARGWC-18	Total/NA	Water	Field Sampling	





<b>Client Information</b> Client Contact: <u>Joju Abraham</u> Company: <u>Southern Company</u> Address: <u>PO BOX 2641 GSC8</u> City: <u>Birmingham</u> State, Zip: <u>AL 35291</u> Phone: _____ Email: <u>JAbraham@southernco.com</u> Project Name: <u>CCR Plant Arkwright - Ash Pond 3 - 1st 2020 SA GMM</u> Site: <u>Georgia</u>		Lab PM: <u>Veronica Boffa</u> E-Mail: _____ Phone: <u>770-594-5998</u>		Carrier Tracking No(s): _____ COC No: <u>400-73521-29028.1</u> Page: _____ Job #: _____	
Due Date Requested: _____ TAT Requested (days): _____ PO #: <u>SCS10347656</u> WO #: _____ Project #: <u>40007712</u> SSO#: _____					
<b>Analysis Requested</b>					
Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Metals - App III (Boron, Calcium) <input checked="" type="checkbox"/> 300_ORGM_28D - Chloride, Fluoride & Sulfate, 2540C - TDS <input checked="" type="checkbox"/> State Metals (Arsenic, Barium, Cadmium, Lead, Silver, and Selenium) <input checked="" type="checkbox"/> (SW-846 9315/9320) <input checked="" type="checkbox"/> Detected At: Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lithium, Molybdenum, Selenium, Thallium) <input checked="" type="checkbox"/> Total Number of Containers: <input checked="" type="checkbox"/>					
Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: _____ M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) _____					
Special Instructions/Note: _____					
Sample Identification					
<u>ARGWC-17</u> <u>ARGWC-18</u> <u>EB-1-4-9-20</u> <u>FB-1-4-7-20</u> <u>Dup-1</u>	Sample Date <u>4-8-20</u> <u>4-9-20</u> <u>4-9-20</u> <u>4-7-20</u> <u>4-8-20</u>	Sample Time <u>1430</u> <u>0940</u> <u>1040</u> <u>1600</u> <u>-</u>	Sample Type (C=Comp, G=grab) G G G G G	Matrix (In-water, Solid, On-water, On-soil) Water Water Water Water Water	Preservation Code: G G G G G
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological					
Deliverable Requested: I, II, III, N, Other (specify) _____					
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <u>[Signature]</u> Date: <u>4-7-20</u> 1503 Company: <u>ACC</u> Relinquished by: <u>[Signature]</u> Date: <u>4-9-20</u> 1509 Company: _____ Relinquished by: _____ Date/Time: _____ Cooled Temperature(s) °C and Other Remarks: _____					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/OC Requirements: _____					
Received by: _____ Date/Time: <u>4-9-20</u> 1503 Company: <u>ACC</u> Received by: _____ Date/Time: <u>4-9-20</u> 205 Company: <u>COMPANY</u> Received by: _____ Date/Time: _____ Company: _____					
Custody Seal No.: _____ Δ Yes Δ No					





TestAmerica

SHIP DATE: 09APR20  
ACTWT: 51.75 LB  
CAD: 859116/CAFE3313

15:00

R197

BILL RECIPIENT

(412) 968-9991

ORIGIN ID: LIVA  
GEORGE TAYLOR  
EUROFINS TESTAMERICA  
6500 McDONOUGH DRIVE  
SUITE C-10  
NORCROSS, GA 30093  
UNITED STATES US

TO SAMPLE RECEIVING  
EUROFINS TESTAMERICA PITTSBURGH  
301 ALPHA DR.  
RIDC PARK  
PITTSBURGH PA 15238

(412) 968-7068  
REF: ACC



FRI - 10 APR 3:00P  
STANDARD OVERNIGHT

2 of 4  
MPS# 1516 9323 3439  
Mstr# 1516 9323 3428

NA AGCA

15238  
PA-US  
PIT



3.3 °C

Uncorrected temp  
Thermometer ID

CF 0 Initials B

PT-WI-SR-001 effective 7/26/13

TestAmerica

SHIP DA:  
ACTWT: 85  
CAD: 85

(412) 968-9991

ORIGIN ID: LIVA  
GEORGE TAYLOR  
EUROFINS TESTAMERICA  
6500 McDONOUGH DRIVE  
SUITE C-10  
NORCROSS, GA 30093  
UNITED STATES US

TO SAMPLE RECEIVING  
EUROFINS TESTAMERICA PITTSB  
301 ALPHA DR.  
RIDC PARK  
PITTSBURGH PA 15238

(412) 968-7068  
REF: ACC



FRI -  
STANDAF

4 of 4  
MPS# 1516 9323 3450  
Mstr# 1516 9323 3428

NA AGCA

1.2 °C

Uncorrected temp  
Thermometer ID

CF 0 Initials B

PT-WI-SR-001 effective 7/26/13



180-104498 Waybill

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- 11
- 12
- 13



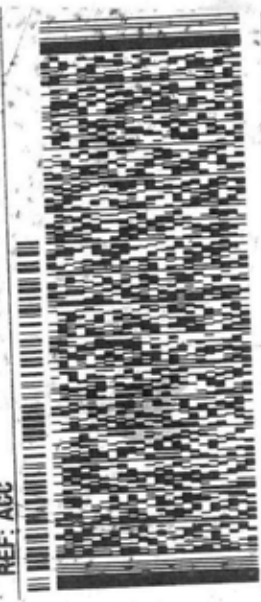
ED  
RK  
TAL TESTING

eurofins

16:00  
15 APR 20  
K197  
F2

ORIGIN DELIVER  
GEORGE TAYLOR  
EUROFINS TESTAMERICA  
6500 MCDONOUGH DRIVE  
SUITE C-10  
NORCROSS, GA 30093  
UNITED STATES US

TO SAMPLE RECEIVING  
EUROFINS TESTAMERICA  
301 ALPHA DR.  
RIDC PARK  
PITTSBURGH PA 15238  
(412) 963-7058  
REF: ACC



3 of 4  
MPS# 1516 9323 3440  
0263  
Mstr# 1516 9323 3428

NA AGCA

Uncorrected temp 17.3 °C  
Thermometer ID 17  
CF Initials JS



ORIGIN DELIVER  
GEORGE TAYLOR  
EUROFINS TESTAMERICA  
6500 MCDONOUGH DRIVE  
SUITE C-10  
NORCROSS, GA 30093  
UNITED STATES US

TO SAMPLE RECEIVING  
EUROFINS TESTAMERICA  
301 ALPHA DR.  
RIDC PARK  
PITTSBURGH PA 15238  
(412) 963-7058  
REF: ACC



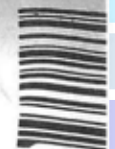
1 of 4  
TRK# 1516 9323 3428  
0201  
## MASTER ##

NA AGCA

FRI - 10 APR 3:00P  
STANDARD OVERNIGHT

15238  
PA-US  
PIT

Uncorrected temp 23 °C  
Thermometer ID 17



- 1
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- 13





# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab PM: Bortol, Veronica	Carrier Tracking Note(s):	COC No: 180-390690-2							
Client Contact: Shipping/Receiving		E-Mail: veronica.bortol@testamericainc.com	State of Origin: Georgia	Page: Page 2 of 2							
Company: TestAmerica Laboratories, Inc.		Address: 13715 Rider Trail North, Earth City, MO, 63045	Accreditations Required (See note):	Job #: 180-104498-1							
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		PO #:	<b>Analysis Requested</b>								
Email:		WO #:	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - Nitric Acid F - MeOH G - Amchlor H - Ascorbic Acid I - Ion J - DI Water K - EDTA L - EDA Other:								
Project Name: CCR - Plant Arkwright Ash Pond 3		Project #: 18020201	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Ni2SO3 R - Ni2SO3 S - H2SO4 T - TSP Dodecylhydriate U - Acetone V - NCA W - pH 4.5 Z - other (specify)								
Site: Arkwright		SSOW#:	Special Instructions/Note:								
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Soils, O=Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra226Precep_0 Radium 226	9315_Ra226Precep_21 Radium 226	Ra226Ra228_GFPc	Total Number of Containers	Special Instructions/Note:
ARGWC-15 (180-104498-10)	4/8/20	16:15 Eastern	Water	Water	X	X	X	X	X	1	
ARGWC-16 (180-104498-11)	4/8/20	11:15 Eastern	Water	Water	X	X	X	X	X	1	
ARGWC-17 (180-104498-12)	4/8/20	14:30 Eastern	Water	Water	X	X	X	X	X	1	
ARGWC-18 (180-104498-13)	4/9/20	09:40 Eastern	Water	Water	X	X	X	X	X	1	
EB-1-4-9-20 (180-104498-14)	4/9/20	10:40 Eastern	Water	Water	X	X	X	X	X	1	
FB-1-4-7-20 (180-104498-15)	4/7/20	16:00 Eastern	Water	Water	X	X	X	X	X	1	
DUP-1 (180-104498-16)	4/8/20	Eastern	Water	Water	X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody, if the labo

<b>Possible Hazard Identification</b>		Special Instructions/OC Requirements:	
Unconfirmed	Return To Client <input type="checkbox"/>	Disposal By Lab <input type="checkbox"/>	Archive For <input type="checkbox"/> Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2		
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time:	Company:	Received by: FED E
Relinquished by:	Date/Time:	Company:	Received by: <i>Paul Apri</i>
Relinquished by:	Date/Time:	Company:	Received by: <i>Paul Apri</i>
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Company:	Company: EPA SL

# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-104498-1

**Login Number: 104498**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Say, Thomas C**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-104498-2

Client Project/Site: CCR - Plant Arkwright Ash Pond 3

**For:**

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
5/11/2020 1:53:40 PM

Shali Brown, Project Manager II  
(615)301-5031  
[shali.brown@testamericainc.com](mailto:shali.brown@testamericainc.com)

### LINKS

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Job ID: 180-104498-2

Laboratory: Eurofins TestAmerica, Pittsburgh

### Narrative

#### Job Narrative 180-104498-2

### Receipt

The samples were received on 4/10/2020 8:15 AM; the samples arrived in good condition, properly preserved, and where required, on ice. The temperatures of the 4 coolers at receipt time were 1.2°C, 1.3°C, 2.3°C and 3.3°C

### Department Gas Flow Proportional Counter

Method 9315\_Ra226: Radium 226 Prep Batch 160-467819:

Insufficient sample volume was available to perform a sample duplicate for the following samples: ARGWA-3 (180-104498-1), ARGWA-5 (180-104498-2), ARGWA-12 (180-104498-3), ARGWA-13 (180-104498-4), ARGWA-14 (180-104498-5), ARGWC-7 (180-104498-6), ARGWC-8 (180-104498-7), ARGWC-9 (180-104498-8), ARGWC-10 (180-104498-9), ARGWC-15 (180-104498-10), ARGWC-16 (180-104498-11), ARGWC-17 (180-104498-12), ARGWC-18 (180-104498-13), EB-1-4-9-20 (180-104498-14), FB-1-4-7-20 (180-104498-15) and DUP-1 (180-104498-16). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision

Method 9315\_Ra226: Ra-226 Prep Batch 160-467819

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

ARGWA-3 (180-104498-1), ARGWA-5 (180-104498-2), ARGWA-12 (180-104498-3), ARGWA-13 (180-104498-4), ARGWA-14 (180-104498-5), ARGWC-7 (180-104498-6), ARGWC-8 (180-104498-7), ARGWC-9 (180-104498-8), ARGWC-10 (180-104498-9), ARGWC-15 (180-104498-10), ARGWC-16 (180-104498-11), ARGWC-17 (180-104498-12), ARGWC-18 (180-104498-13), EB-1-4-9-20 (180-104498-14), FB-1-4-7-20 (180-104498-15), DUP-1 (180-104498-16), (LCS 160-467819/1-A), (LCSD 160-467819/2-A) and (MB 160-467819/23-

Method 9320\_Ra228: Radium 228 Prep Batch 160-467826:

Insufficient sample volume was available to perform a sample duplicate for the following samples: ARGWA-3 (180-104498-1), ARGWA-5 (180-104498-2), ARGWA-12 (180-104498-3), ARGWA-13 (180-104498-4), ARGWA-14 (180-104498-5), ARGWC-7 (180-104498-6), ARGWC-8 (180-104498-7), ARGWC-9 (180-104498-8), ARGWC-10 (180-104498-9), ARGWC-15 (180-104498-10), ARGWC-16 (180-104498-11), ARGWC-17 (180-104498-12), ARGWC-18 (180-104498-13), EB-1-4-9-20 (180-104498-14), FB-1-4-7-20 (180-104498-15) and DUP-1 (180-104498-16). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision

Method 9320\_Ra228: Ra-228 Prep Batch 160-467826

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

ARGWA-3 (180-104498-1), ARGWA-5 (180-104498-2), ARGWA-12 (180-104498-3), ARGWA-13 (180-104498-4), ARGWA-14 (180-104498-5), ARGWC-7 (180-104498-6), ARGWC-8 (180-104498-7), ARGWC-9 (180-104498-8), ARGWC-10 (180-104498-9), ARGWC-15 (180-104498-10), ARGWC-16 (180-104498-11), ARGWC-17 (180-104498-12), ARGWC-18 (180-104498-13), EB-1-4-9-20 (180-104498-14), FB-1-4-7-20 (180-104498-15), DUP-1 (180-104498-16), (LCS 160-467826/1-A), (LCSD 160-467826/2-A) and (MB 160-467826/23-

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Department Rad

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20 *
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20 *
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-20 *
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20 *
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20 *
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Pittsburgh



# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-20
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-20
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-104498-1	ARGWA-3	Water	04/07/20 10:45	04/10/20 08:15	
180-104498-2	ARGWA-5	Water	04/07/20 11:46	04/10/20 08:15	
180-104498-3	ARGWA-12	Ground Water	04/07/20 13:46	04/10/20 08:15	
180-104498-4	ARGWA-13	Water	04/07/20 15:32	04/10/20 08:15	
180-104498-5	ARGWA-14	Water	04/06/20 15:57	04/10/20 08:15	
180-104498-6	ARGWC-7	Water	04/08/20 09:55	04/10/20 08:15	
180-104498-7	ARGWC-8	Water	04/09/20 12:35	04/10/20 08:15	
180-104498-8	ARGWC-9	Water	04/09/20 10:25	04/10/20 08:15	
180-104498-9	ARGWC-10	Water	04/08/20 17:09	04/10/20 08:15	
180-104498-10	ARGWC-15	Water	04/08/20 16:15	04/10/20 08:15	
180-104498-11	ARGWC-16	Water	04/08/20 11:15	04/10/20 08:15	
180-104498-12	ARGWC-17	Water	04/08/20 14:30	04/10/20 08:15	
180-104498-13	ARGWC-18	Water	04/09/20 09:40	04/10/20 08:15	
180-104498-14	EB-1-4-9-20	Water	04/09/20 10:40	04/10/20 08:15	
180-104498-15	FB-1-4-7-20	Water	04/07/20 16:00	04/10/20 08:15	
180-104498-16	DUP-1	Water	04/08/20 00:00	04/10/20 08:15	



# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

#### Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

#### Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Client Sample ID: ARGWA-3

Lab Sample ID: 180-104498-1

Date Collected: 04/07/20 10:45

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.68 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:26	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.68 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:41	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-5

Lab Sample ID: 180-104498-2

Date Collected: 04/07/20 11:46

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.39 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.39 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:41	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-12

Lab Sample ID: 180-104498-3

Date Collected: 04/07/20 13:46

Matrix: Ground Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.31 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.31 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:41	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-13

Lab Sample ID: 180-104498-4

Date Collected: 04/07/20 15:32

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.36 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Client Sample ID: ARGWA-13

Date Collected: 04/07/20 15:32

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.36 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:41	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-14

Date Collected: 04/06/20 15:57

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.53 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.53 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:42	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-7

Date Collected: 04/08/20 09:55

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.61 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.61 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:42	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-8

Date Collected: 04/09/20 12:35

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.99 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.99 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:42	KLS	TAL SL
Instrument ID: GFPCPURPLE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Client Sample ID: ARGWC-8

Lab Sample ID: 180-104498-7

Date Collected: 04/09/20 12:35

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL

## Client Sample ID: ARGWC-9

Lab Sample ID: 180-104498-8

Date Collected: 04/09/20 10:25

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.89 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.89 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:42	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-10

Lab Sample ID: 180-104498-9

Date Collected: 04/08/20 17:09

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.66 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.66 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:42	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-15

Lab Sample ID: 180-104498-10

Date Collected: 04/08/20 16:15

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.62 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.62 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:42	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Client Sample ID: ARGWC-16

## Lab Sample ID: 180-104498-11

Date Collected: 04/08/20 11:15

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.33 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 04:27	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.33 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:43	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-17

## Lab Sample ID: 180-104498-12

Date Collected: 04/08/20 14:30

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.24 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 06:13	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.24 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:43	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-18

## Lab Sample ID: 180-104498-13

Date Collected: 04/09/20 09:40

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.29 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 06:13	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.29 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469050	04/28/20 18:43	KLS	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: EB-1-4-9-20

## Lab Sample ID: 180-104498-14

Date Collected: 04/09/20 10:40

Matrix: Water

Date Received: 04/10/20 08:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.47 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 06:13	CJQ	TAL SL
Instrument ID: GFPCBLUE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

**Client Sample ID: EB-1-4-9-20**

**Lab Sample ID: 180-104498-14**

**Date Collected: 04/09/20 10:40**

**Matrix: Water**

**Date Received: 04/10/20 08:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.47 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469049	04/28/20 18:49	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

**Client Sample ID: FB-1-4-7-20**

**Lab Sample ID: 180-104498-15**

**Date Collected: 04/07/20 16:00**

**Matrix: Water**

**Date Received: 04/10/20 08:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.00 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 06:13	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.00 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469049	04/28/20 18:49	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

**Client Sample ID: DUP-1**

**Lab Sample ID: 180-104498-16**

**Date Collected: 04/08/20 00:00**

**Matrix: Water**

**Date Received: 04/10/20 08:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.60 mL	1.0 g	467819	04/15/20 08:55	RBR	TAL SL
Total/NA	Analysis	9315		1			469780	05/07/20 06:13	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.60 mL	1.0 g	467826	04/15/20 09:44	RBR	TAL SL
Total/NA	Analysis	9320		1			469049	04/28/20 18:49	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			469790	05/07/20 09:36	SMP	TAL SL
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

**Analyst References:**

Lab: TAL SL

Batch Type: Prep

RBR = Rachael Ratcliff

Batch Type: Analysis

CJQ = Caleb Quinn

KLS = Kody Saulters

SMP = Siobhan Perry

Eurofins TestAmerica, Pittsburgh



# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

**Client Sample ID: ARGWA-3**

**Lab Sample ID: 180-104498-1**

Date Collected: 04/07/20 10:45

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0495	U	0.0626	0.0628	1.00	0.104	pCi/L	04/15/20 08:55	05/07/20 04:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					04/15/20 08:55	05/07/20 04:26	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0141	U	0.227	0.227	1.00	0.405	pCi/L	04/15/20 09:44	04/28/20 18:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					04/15/20 09:44	04/28/20 18:41	1
Y Carrier	89.0		40 - 110					04/15/20 09:44	04/28/20 18:41	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0354	U	0.235	0.236	2.00	0.405	pCi/L		05/07/20 09:36	1

**Client Sample ID: ARGWA-5**

**Lab Sample ID: 180-104498-2**

Date Collected: 04/07/20 11:46

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00670	U	0.0516	0.0516	1.00	0.104	pCi/L	04/15/20 08:55	05/07/20 04:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					04/15/20 08:55	05/07/20 04:27	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.191	U	0.236	0.236	1.00	0.390	pCi/L	04/15/20 09:44	04/28/20 18:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					04/15/20 09:44	04/28/20 18:41	1
Y Carrier	84.9		40 - 110					04/15/20 09:44	04/28/20 18:41	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Client Sample ID: ARGWA-5

Lab Sample ID: 180-104498-2

Date Collected: 04/07/20 11:46

Matrix: Water

Date Received: 04/10/20 08:15

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.198	U	0.242	0.242	2.00	0.390	pCi/L		05/07/20 09:36	1

## Client Sample ID: ARGWA-12

Lab Sample ID: 180-104498-3

Date Collected: 04/07/20 13:46

Matrix: Ground Water

Date Received: 04/10/20 08:15

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0124	U	0.0484	0.0484	1.00	0.0961	pCi/L	04/15/20 08:55	05/07/20 04:27	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	87.5		40 - 110					04/15/20 08:55	05/07/20 04:27	1

### Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.609		0.297	0.302	1.00	0.431	pCi/L	04/15/20 09:44	04/28/20 18:41	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	87.5		40 - 110					04/15/20 09:44	04/28/20 18:41	1
Y Carrier	81.9		40 - 110					04/15/20 09:44	04/28/20 18:41	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.622		0.301	0.306	2.00	0.431	pCi/L		05/07/20 09:36	1

## Client Sample ID: ARGWA-13

Lab Sample ID: 180-104498-4

Date Collected: 04/07/20 15:32

Matrix: Water

Date Received: 04/10/20 08:15

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00762	U	0.0449	0.0449	1.00	0.0924	pCi/L	04/15/20 08:55	05/07/20 04:27	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	87.2		40 - 110					04/15/20 08:55	05/07/20 04:27	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

**Client Sample ID: ARGWA-13**

**Lab Sample ID: 180-104498-4**

Date Collected: 04/07/20 15:32

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0490	U	0.234	0.234	1.00	0.429	pCi/L	04/15/20 09:44	04/28/20 18:41	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	87.2		40 - 110					04/15/20 09:44	04/28/20 18:41	1
Y Carrier	85.2		40 - 110					04/15/20 09:44	04/28/20 18:41	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0414	U	0.238	0.238	2.00	0.429	pCi/L		05/07/20 09:36	1

**Client Sample ID: ARGWA-14**

**Lab Sample ID: 180-104498-5**

Date Collected: 04/06/20 15:57

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00155	U	0.0692	0.0692	1.00	0.138	pCi/L	04/15/20 08:55	05/07/20 04:27	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	94.2		40 - 110					04/15/20 08:55	05/07/20 04:27	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.288	U	0.261	0.263	1.00	0.420	pCi/L	04/15/20 09:44	04/28/20 18:42	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	94.2		40 - 110					04/15/20 09:44	04/28/20 18:42	1
Y Carrier	83.4		40 - 110					04/15/20 09:44	04/28/20 18:42	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.286	U	0.270	0.272	2.00	0.420	pCi/L		05/07/20 09:36	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

**Client Sample ID: ARGWC-7**

**Lab Sample ID: 180-104498-6**

Date Collected: 04/08/20 09:55

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0755	U	0.0634	0.0638	1.00	0.0926	pCi/L	04/15/20 08:55	05/07/20 04:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.8		40 - 110					04/15/20 08:55	05/07/20 04:27	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.290	U	0.267	0.268	1.00	0.429	pCi/L	04/15/20 09:44	04/28/20 18:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.8		40 - 110					04/15/20 09:44	04/28/20 18:42	1
Y Carrier	83.7		40 - 110					04/15/20 09:44	04/28/20 18:42	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.366	U	0.274	0.275	2.00	0.429	pCi/L		05/07/20 09:36	1

**Client Sample ID: ARGWC-8**

**Lab Sample ID: 180-104498-7**

Date Collected: 04/09/20 12:35

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0197	U	0.0615	0.0615	1.00	0.116	pCi/L	04/15/20 08:55	05/07/20 04:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.1		40 - 110					04/15/20 08:55	05/07/20 04:27	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.236	U	0.260	0.261	1.00	0.427	pCi/L	04/15/20 09:44	04/28/20 18:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.1		40 - 110					04/15/20 09:44	04/28/20 18:42	1
Y Carrier	84.5		40 - 110					04/15/20 09:44	04/28/20 18:42	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Client Sample ID: ARGWC-8

## Lab Sample ID: 180-104498-7

Date Collected: 04/09/20 12:35

Matrix: Water

Date Received: 04/10/20 08:15

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.255	U	0.267	0.268	2.00	0.427	pCi/L		05/07/20 09:36	1

## Client Sample ID: ARGWC-9

## Lab Sample ID: 180-104498-8

Date Collected: 04/09/20 10:25

Matrix: Water

Date Received: 04/10/20 08:15

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00982	U	0.0590	0.0591	1.00	0.116	pCi/L	04/15/20 08:55	05/07/20 04:27	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	94.8		40 - 110					04/15/20 08:55	05/07/20 04:27	1

### Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.324	U	0.242	0.244	1.00	0.379	pCi/L	04/15/20 09:44	04/28/20 18:42	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	94.8		40 - 110					04/15/20 09:44	04/28/20 18:42	1
Y Carrier	86.0		40 - 110					04/15/20 09:44	04/28/20 18:42	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.334	U	0.249	0.251	2.00	0.379	pCi/L		05/07/20 09:36	1

## Client Sample ID: ARGWC-10

## Lab Sample ID: 180-104498-9

Date Collected: 04/08/20 17:09

Matrix: Water

Date Received: 04/10/20 08:15

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0136	U	0.0616	0.0616	1.00	0.129	pCi/L	04/15/20 08:55	05/07/20 04:27	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	89.6		40 - 110					04/15/20 08:55	05/07/20 04:27	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Client Sample ID: ARGWC-10

Date Collected: 04/08/20 17:09

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-9

Matrix: Water

### Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0265	U	0.238	0.238	1.00	0.432	pCi/L	04/15/20 09:44	04/28/20 18:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		40 - 110					04/15/20 09:44	04/28/20 18:42	1
Y Carrier	85.2		40 - 110					04/15/20 09:44	04/28/20 18:42	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0401	U	0.246	0.246	2.00	0.432	pCi/L		05/07/20 09:36	1

## Client Sample ID: ARGWC-15

Date Collected: 04/08/20 16:15

Date Received: 04/10/20 08:15

## Lab Sample ID: 180-104498-10

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.131		0.0857	0.0865	1.00	0.116	pCi/L	04/15/20 08:55	05/07/20 04:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		40 - 110					04/15/20 08:55	05/07/20 04:27	1

### Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.178	U	0.280	0.281	1.00	0.472	pCi/L	04/15/20 09:44	04/28/20 18:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		40 - 110					04/15/20 09:44	04/28/20 18:42	1
Y Carrier	83.0		40 - 110					04/15/20 09:44	04/28/20 18:42	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.309	U	0.293	0.294	2.00	0.472	pCi/L		05/07/20 09:36	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

**Client Sample ID: ARGWC-16**

**Lab Sample ID: 180-104498-11**

Date Collected: 04/08/20 11:15

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0992	U	0.0822	0.0827	1.00	0.124	pCi/L	04/15/20 08:55	05/07/20 04:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.4		40 - 110					04/15/20 08:55	05/07/20 04:27	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.181	U	0.218	0.218	1.00	0.360	pCi/L	04/15/20 09:44	04/28/20 18:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.4		40 - 110					04/15/20 09:44	04/28/20 18:43	1
Y Carrier	86.7		40 - 110					04/15/20 09:44	04/28/20 18:43	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.280	U	0.233	0.233	2.00	0.360	pCi/L		05/07/20 09:36	1

**Client Sample ID: ARGWC-17**

**Lab Sample ID: 180-104498-12**

Date Collected: 04/08/20 14:30

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.176		0.0864	0.0879	1.00	0.104	pCi/L	04/15/20 08:55	05/07/20 06:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					04/15/20 08:55	05/07/20 06:13	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.227	U	0.259	0.259	1.00	0.425	pCi/L	04/15/20 09:44	04/28/20 18:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					04/15/20 09:44	04/28/20 18:43	1
Y Carrier	76.6		40 - 110					04/15/20 09:44	04/28/20 18:43	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

**Client Sample ID: ARGWC-17**

**Lab Sample ID: 180-104498-12**

Date Collected: 04/08/20 14:30

Matrix: Water

Date Received: 04/10/20 08:15

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.402	U	0.273	0.274	2.00	0.425	pCi/L		05/07/20 09:36	1

**Client Sample ID: ARGWC-18**

**Lab Sample ID: 180-104498-13**

Date Collected: 04/09/20 09:40

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.109	U	0.0799	0.0805	1.00	0.115	pCi/L	04/15/20 08:55	05/07/20 06:13	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	96.3		40 - 110					04/15/20 08:55	05/07/20 06:13	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.310	U	0.265	0.267	1.00	0.425	pCi/L	04/15/20 09:44	04/28/20 18:43	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	96.3		40 - 110					04/15/20 09:44	04/28/20 18:43	1
Y Carrier	86.4		40 - 110					04/15/20 09:44	04/28/20 18:43	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.419	U	0.277	0.279	2.00	0.425	pCi/L		05/07/20 09:36	1

**Client Sample ID: EB-1-4-9-20**

**Lab Sample ID: 180-104498-14**

Date Collected: 04/09/20 10:40

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0687	U	0.0711	0.0713	1.00	0.112	pCi/L	04/15/20 08:55	05/07/20 06:13	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	90.5		40 - 110					04/15/20 08:55	05/07/20 06:13	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

**Client Sample ID: EB-1-4-9-20**

**Lab Sample ID: 180-104498-14**

Date Collected: 04/09/20 10:40

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.418	U	0.330	0.332	1.00	0.527	pCi/L	04/15/20 09:44	04/28/20 18:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		40 - 110					04/15/20 09:44	04/28/20 18:49	1
Y Carrier	87.5		40 - 110					04/15/20 09:44	04/28/20 18:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.486	U	0.338	0.340	2.00	0.527	pCi/L		05/07/20 09:36	1

**Client Sample ID: FB-1-4-7-20**

**Lab Sample ID: 180-104498-15**

Date Collected: 04/07/20 16:00

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0424	U	0.0593	0.0594	1.00	0.100	pCi/L	04/15/20 08:55	05/07/20 06:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.5		40 - 110					04/15/20 08:55	05/07/20 06:13	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.391	U	0.267	0.269	1.00	0.416	pCi/L	04/15/20 09:44	04/28/20 18:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.5		40 - 110					04/15/20 09:44	04/28/20 18:49	1
Y Carrier	92.0		40 - 110					04/15/20 09:44	04/28/20 18:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.434		0.274	0.275	2.00	0.416	pCi/L		05/07/20 09:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

**Client Sample ID: DUP-1**

**Lab Sample ID: 180-104498-16**

Date Collected: 04/08/20 00:00

Matrix: Water

Date Received: 04/10/20 08:15

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.153		0.0773	0.0785	1.00	0.0878	pCi/L	04/15/20 08:55	05/07/20 06:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					04/15/20 08:55	05/07/20 06:13	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.159	U	0.262	0.262	1.00	0.441	pCi/L	04/15/20 09:44	04/28/20 18:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					04/15/20 09:44	04/28/20 18:49	1
Y Carrier	93.1		40 - 110					04/15/20 09:44	04/28/20 18:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.312	U	0.273	0.274	2.00	0.441	pCi/L		05/07/20 09:36	1

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-467819/23-A**  
**Matrix: Water**  
**Analysis Batch: 469780**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 467819**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.03121	U	0.0621	0.0621	1.00	0.111	pCi/L	04/15/20 08:55	05/07/20 06:14	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	99.4		40 - 110			04/15/20 08:55	05/07/20 06:14	1		

**Lab Sample ID: LCS 160-467819/1-A**  
**Matrix: Water**  
**Analysis Batch: 469780**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 467819**

Analyte	LCS LCS		Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)					
Radium-226			11.3	9.899		1.04	1.00	0.105	pCi/L	87	75 - 125
Carrier	LCS LCS		Limits					Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier									
Ba Carrier	97.0		40 - 110								

**Lab Sample ID: LCSD 160-467819/2-A**  
**Matrix: Water**  
**Analysis Batch: 469780**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 467819**

Analyte	LCSD LCSD		Spike	LCSD	LCSD	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
	Result	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)							
Radium-226			11.3	9.803		1.03	1.00	0.116	pCi/L	86	75 - 125	0.05	1
Carrier	LCSD LCSD		Limits					Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier											
Ba Carrier	95.7		40 - 110										

## Method: 9320 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-467826/23-A**  
**Matrix: Water**  
**Analysis Batch: 469049**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 467826**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2776	U	0.268	0.270	1.00	0.436	pCi/L	04/15/20 09:44	04/28/20 18:49	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	99.4		40 - 110			04/15/20 09:44	04/28/20 18:49	1		
Y Carrier	91.2		40 - 110			04/15/20 09:44	04/28/20 18:49	1		

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-467826/1-A**  
**Matrix: Water**  
**Analysis Batch: 469050**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 467826**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.89	7.927		0.958	1.00	0.413	pCi/L	89	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	97.0		40 - 110
Y Carrier	88.6		40 - 110

**Lab Sample ID: LCSD 160-467826/2-A**  
**Matrix: Water**  
**Analysis Batch: 469050**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 467826**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	8.89	8.527		1.02	1.00	0.394	pCi/L	96	75 - 125	0.30	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	95.7		40 - 110
Y Carrier	87.5		40 - 110





# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-104498-2


## Rad

### Prep Batch: 467819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-1	ARGWA-3	Total/NA	Water	PrecSep-21	
180-104498-2	ARGWA-5	Total/NA	Water	PrecSep-21	
180-104498-3	ARGWA-12	Total/NA	Ground Water	PrecSep-21	
180-104498-4	ARGWA-13	Total/NA	Water	PrecSep-21	
180-104498-5	ARGWA-14	Total/NA	Water	PrecSep-21	
180-104498-6	ARGWC-7	Total/NA	Water	PrecSep-21	
180-104498-7	ARGWC-8	Total/NA	Water	PrecSep-21	
180-104498-8	ARGWC-9	Total/NA	Water	PrecSep-21	
180-104498-9	ARGWC-10	Total/NA	Water	PrecSep-21	
180-104498-10	ARGWC-15	Total/NA	Water	PrecSep-21	
180-104498-11	ARGWC-16	Total/NA	Water	PrecSep-21	
180-104498-12	ARGWC-17	Total/NA	Water	PrecSep-21	
180-104498-13	ARGWC-18	Total/NA	Water	PrecSep-21	
180-104498-14	EB-1-4-9-20	Total/NA	Water	PrecSep-21	
180-104498-15	FB-1-4-7-20	Total/NA	Water	PrecSep-21	
180-104498-16	DUP-1	Total/NA	Water	PrecSep-21	
MB 160-467819/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-467819/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-467819/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 467826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104498-1	ARGWA-3	Total/NA	Water	PrecSep_0	
180-104498-2	ARGWA-5	Total/NA	Water	PrecSep_0	
180-104498-3	ARGWA-12	Total/NA	Ground Water	PrecSep_0	
180-104498-4	ARGWA-13	Total/NA	Water	PrecSep_0	
180-104498-5	ARGWA-14	Total/NA	Water	PrecSep_0	
180-104498-6	ARGWC-7	Total/NA	Water	PrecSep_0	
180-104498-7	ARGWC-8	Total/NA	Water	PrecSep_0	
180-104498-8	ARGWC-9	Total/NA	Water	PrecSep_0	
180-104498-9	ARGWC-10	Total/NA	Water	PrecSep_0	
180-104498-10	ARGWC-15	Total/NA	Water	PrecSep_0	
180-104498-11	ARGWC-16	Total/NA	Water	PrecSep_0	
180-104498-12	ARGWC-17	Total/NA	Water	PrecSep_0	
180-104498-13	ARGWC-18	Total/NA	Water	PrecSep_0	
180-104498-14	EB-1-4-9-20	Total/NA	Water	PrecSep_0	
180-104498-15	FB-1-4-7-20	Total/NA	Water	PrecSep_0	
180-104498-16	DUP-1	Total/NA	Water	PrecSep_0	
MB 160-467826/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-467826/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-467826/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

<b>Client Information</b>		Sampler: <u>T. Gable / R. Walker</u>		Lab PM: <u>Veronica Bortot</u>		Carrier Tracking No(s):		COC No: 400-73521-29028.1	
Client Contact: Joju Abraham		Phone: <u>770-594-5998</u>		E-Mail: <u>Veronica.bortot@testamerica.com</u>				Page: _____ Page: _____	
Company: Southern Company								Job #:	
Address: PO BOX 2641 GSC8		Due Date Requested:						Preservation Codes:	
City: Birmingham		TAT Requested (days):						 180-104498 Chain of Custody	
State Zip: AL 35291									
Phone:		PO #:							
Email: JAbraham@southernco.com		W/O #:							
Project Name: CCR Plant Arkwright - Ash Pond 3 - 1st 2020 SA GWM		Project #:							
Site: Georgia		SSOW#:							
								Total Number of container: _____ K - EDTA                      W - pH 4-5 L - EDTA                      Z - other (specify)	
								Other:	
								Special Instructions/Note:	
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=Comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=wastewater, ST=Sludge, A=As)</b>	
								Preservation Code:	
								<input type="checkbox"/> Field Filtered Sample (Yes or No) <input type="checkbox"/> Perform MS/MSD (Yes or No)	
								<input type="checkbox"/> Metals - App III (Boron, Calcium) <input type="checkbox"/> 300_ORGFM_280 - Chloride, Fluoride & Sulfate, 2540C - TDS	
								<input type="checkbox"/> State Metals (Arsenic, Barium, Cadmium, Lead, Silver, and Selenium)	
								<input type="checkbox"/> Detected A4: Radium 226 & 228 (SW-516 93159320)	
								<input type="checkbox"/> Detected A4: Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Molybdenum, Selenium, Thallium)	
ARGWA-3		4-7-20		1045		G		Water	
ARGWA-5		4-7-20		1146		G		Water	
ARGWA-12		4-7-20		1346		G		Water	
ARGWA-13		4-7-20		1532		G		Water	
ARGWA-14		4-6-20		1557		G		Water	
ARGWC-7		4-8-20		0955		G		Water	
ARGWC-8		4-9-20		1235		G		Water	
ARGWC-9		4-9-20		1025		G		Water	
ARGWC-10		4-8-20		1709		G		Water	
ARGWC-15		4-8-20		1615		G		Water	
ARGWC-16		4-8-20		1115		G		Water	
								Total Number of container: _____ pH = 5.90 pH = 5.86 pH = 5.91 pH = 5.84 pH = 5.90 pH = 5.75 Extra Red pH = 6.42 pH = 5.90 pH = 5.95 pH = 6.26 pH = 5.07	
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: <u>[Signature]</u>		Date/Time: <u>4-9-20 1503</u>		Company: <u>ACC</u>		Received by: <u>[Signature]</u>		Date/Time: <u>4-9-20 1503</u>	
Relinquished by: <u>[Signature]</u>		Date/Time: <u>4-9-20 1504</u>		Company:		Received by: <u>[Signature]</u>		Date/Time: <u>4/10/20 815</u>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					

Page 27 of 32

5/11/2020







TestAmerica

SHIP DATE: 09APR20  
ACTWT: 51.75 LB  
CAD: 859116/CAFE3313

15:00

R197

BILL RECIPIENT

(412) 968-9991

ORIGIN ID: LIVA  
GEORGE TAYLOR  
EUROFINS TESTAMERICA  
6500 McDONOUGH DRIVE  
SUITE C-10  
NORCROSS, GA 30093  
UNITED STATES US

TO SAMPLE RECEIVING  
EUROFINS TESTAMERICA PITTSBURGH  
301 ALPHA DR.  
RIDC PARK  
PITTSBURGH PA 15238

(412) 968-7068  
REF: ACC



FRI - 10 APR 3:00P  
STANDARD OVERNIGHT

2 of 4  
MPS# 1516 9323 3439  
Mstr# 1516 9323 3428

NA AGCA

15238  
PA-US  
PIT



3.3 °C

Uncorrected temp  
Thermometer ID

CF 0 Initials B

PT-WI-SR-001 effective 7/26/13

TestAmerica

SHIP DA:  
ACTWT: 85  
CAD: 851

(412) 968-8991

ORIGIN ID: LIVA  
GEORGE TAYLOR  
EUROFINS TESTAMERICA  
6500 McDONOUGH DRIVE  
SUITE C-10  
NORCROSS, GA 30093  
UNITED STATES US

TO SAMPLE RECEIVING  
EUROFINS TESTAMERICA PITTSB  
301 ALPHA DR.  
RIDC PARK  
PITTSBURGH PA 15238

(412) 968-7068  
REF: ACC



FRI -  
STANDAF

4 of 4  
MPS# 1516 9323 3450  
Mstr# 1516 9323 3428

NA AGCA

1.2 °C

Uncorrected temp  
Thermometer ID

CF 0 Initials B

PT-WI-SR-001 effective 7/26/13



180-104498 Waybill

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



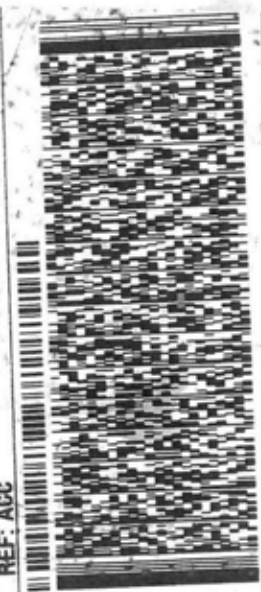
**ED**  
**ORK**  
**TAL TESTING**

**eurofins**

16:00  
150400-434 RIT EXP 07/20  
A  
04 10  
3478  
K197  
F2

ORIGIN DELIVER  
GEORGE TAYLOR  
EUROFINS TESTAM  
6500 MCDONOUGH D  
SUITE C-10 GA 3008  
NORCROSS, GA 3008  
UNITED STATES US

TO SAMPLE RECEIVING  
EUROFINS TESTAMERICA  
301 ALPHA DR.  
RIDC PARK  
PITTSBURGH PA 15238  
(412) 963-7058  
REF: ACC



3 of 4  
MPS# 1516 9323 3440  
0263  
Mstr# 1516 9323 3428  
0201

**NA AGCA**

Uncorrected temp 17.3 °C  
Thermometer ID 17  
CF Initials JS



ORIGIN DELIVER  
GEORGE TAYLOR  
EUROFINS TESTAMERICA  
6500 MCDONOUGH DRIVE  
SUITE C-10  
NORCROSS, GA 30089  
UNITED STATES US

TO SAMPLE RECEIVING  
EUROFINS TESTAMERICA PITTSBURGH  
301 ALPHA DR.  
RIDC PARK  
PITTSBURGH PA 15238  
(412) 963-7058  
REF: ACC



1 of 4  
TRK# 1516 9323 3428  
0201  
## MASTER ##

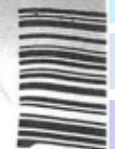
**NA AGCA**

Uncorrected temp 23 °C  
Thermometer ID 17

FedEx  
Express  
**E**

FRI - 10 APR 3:00P  
STANDARD OVERNIGHT

15238  
PA-US  
PIT



- 1
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- 7
- 8
- 9
- 10
- 11
- 12
- 13

## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-104498-2

**Login Number: 104498**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Say, Thomas C**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-104498-2

**Login Number: 104498**

**List Number: 2**

**Creator: Mazariegos, Leonel A**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 04/14/20 01:19 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Low-Flow Test Report:

Test Date / Time: 4/7/2020 9:27:42 AM

Project: Plant Arkwright - Ash Pond 3

Operator Name: Ryan Walker

<b>Location Name: ARGWA-3</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 32 ft</b> <b>Total Depth: 42.29 ft</b> <b>Initial Depth to Water: 33.98 ft</b>	<b>Pump Type: QED Bladder</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 37 ft</b> <b>Estimated Total Volume Pumped: 15516.667 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0.22 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

## Weather Conditions:

Cloudy 60 s

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
4/7/2020 9:27 AM	00:00	5.95 pH	19.44 °C	67.25 µS/cm	6.75 mg/L		99.9 mV	33.98 ft	200.00 ml/min
4/7/2020 9:32 AM	05:00	5.87 pH	19.28 °C	64.21 µS/cm	6.63 mg/L		94.9 mV	33.98 ft	200.00 ml/min
4/7/2020 9:34 AM	07:07	5.87 pH	19.28 °C	63.75 µS/cm	6.62 mg/L		94.9 mV	33.98 ft	200.00 ml/min
4/7/2020 9:35 AM	07:35	5.86 pH	19.27 °C	64.49 µS/cm	6.61 mg/L	3.87 NTU	106.3 mV	34.20 ft	200.00 ml/min
4/7/2020 9:40 AM	12:35	5.87 pH	19.31 °C	64.72 µS/cm	6.63 mg/L	4.04 NTU	109.7 mV	34.20 ft	200.00 ml/min
4/7/2020 9:45 AM	17:35	5.87 pH	19.34 °C	65.81 µS/cm	6.60 mg/L	5.50 NTU	111.7 mV	34.20 ft	200.00 ml/min
4/7/2020 9:50 AM	22:35	5.87 pH	19.35 °C	65.87 µS/cm	6.56 mg/L	5.15 NTU	113.5 mV	34.20 ft	200.00 ml/min
4/7/2020 9:55 AM	27:35	5.88 pH	19.41 °C	66.28 µS/cm	6.52 mg/L	4.99 NTU	115.0 mV	34.20 ft	200.00 ml/min
4/7/2020 10:00 AM	32:35	5.89 pH	19.44 °C	66.52 µS/cm	6.51 mg/L	4.78 NTU	116.7 mV	34.20 ft	200.00 ml/min
4/7/2020 10:05 AM	37:35	5.89 pH	19.48 °C	66.70 µS/cm	6.51 mg/L	4.61 NTU	118.6 mV	34.20 ft	200.00 ml/min
4/7/2020 10:10 AM	42:35	5.89 pH	19.47 °C	66.33 µS/cm	6.51 mg/L	4.60 NTU	105.0 mV	34.20 ft	200.00 ml/min
4/7/2020 10:15 AM	47:35	5.89 pH	19.55 °C	66.61 µS/cm	6.49 mg/L	4.22 NTU	105.9 mV	34.20 ft	200.00 ml/min
4/7/2020 10:20 AM	52:35	5.89 pH	19.54 °C	67.34 µS/cm	6.48 mg/L	3.88 NTU	122.2 mV	34.20 ft	200.00 ml/min

4/7/2020 10:25 AM	57:35	5.90 pH	19.58 °C	67.48 µS/cm	6.48 mg/L	3.49 NTU	123.6 mV	34.20 ft	200.00 ml/min
4/7/2020 10:30 AM	01:02:35	5.90 pH	19.60 °C	66.90 µS/cm	6.48 mg/L	3.37 NTU	108.5 mV	34.20 ft	200.00 ml/min
4/7/2020 10:35 AM	01:07:35	5.90 pH	19.55 °C	67.56 µS/cm	6.47 mg/L	3.09 NTU	126.0 mV	34.20 ft	200.00 ml/min
4/7/2020 10:40 AM	01:12:35	5.90 pH	19.55 °C	67.69 µS/cm	6.47 mg/L	2.88 NTU	127.3 mV	34.20 ft	200.00 ml/min
4/7/2020 10:45 AM	01:17:35	5.90 pH	19.52 °C	67.77 µS/cm	6.48 mg/L	2.31 NTU	128.5 mV	34.20 ft	200.00 ml/min

## Samples

Sample ID:	Description:
ARGWA-3	Sampled at 10:45. Cloudy, 60 s.

# Low-Flow Test Report:

Test Date / Time: 4/7/2020 11:16:11 AM

Project: Plant Arkwright - Ash Pond 3

Operator Name: Ryan Walker

<b>Location Name: ARGWA-5</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 23 ft</b> <b>Total Depth: 33.11 ft</b> <b>Initial Depth to Water: 21.72 ft</b>	<b>Pump Type: QED Bladder</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 28 ft</b> <b>Estimated Total Volume Pumped: 8400 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 280 ml/min</b> <b>Final Draw Down: 0.18 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

## Weather Conditions:

Cloudy 60 s

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.3	+/- 10	+/- 25	+/- 5	
4/7/2020 11:16 AM	00:00	5.89 pH	19.33 °C	54.73 µS/cm	4.93 mg/L		110.5 mV	21.72 ft	280.00 ml/min
4/7/2020 11:21 AM	05:00	5.86 pH	18.92 °C	54.71 µS/cm	4.57 mg/L	2.12 NTU	110.6 mV	21.90 ft	280.00 ml/min
4/7/2020 11:26 AM	10:00	5.86 pH	18.97 °C	55.11 µS/cm	4.49 mg/L	1.75 NTU	111.1 mV	21.90 ft	280.00 ml/min
4/7/2020 11:31 AM	15:00	5.86 pH	18.93 °C	55.39 µS/cm	4.36 mg/L	1.49 NTU	111.7 mV	21.90 ft	280.00 ml/min
4/7/2020 11:36 AM	20:00	5.86 pH	18.97 °C	55.86 µS/cm	4.29 mg/L	1.47 NTU	112.1 mV	21.90 ft	280.00 ml/min
4/7/2020 11:41 AM	25:00	5.86 pH	18.96 °C	56.76 µS/cm	4.38 mg/L	1.21 NTU	111.7 mV	21.90 ft	280.00 ml/min
4/7/2020 11:46 AM	30:00	5.86 pH	18.96 °C	57.65 µS/cm	4.40 mg/L	1.30 NTU	111.9 mV	21.90 ft	280.00 ml/min

## Samples

Sample ID:	Description:
ARGWA-5	Sampled at 11:46. Cloudy, 70 s.

# Low-Flow Test Report:

Test Date / Time: 4/7/2020 1:16:23 PM

Project: Plant Arkwright - Ash Pond 3

Operator Name: Ryan Walker

<b>Location Name: ARGWA-12</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 22 ft</b> <b>Total Depth: 32.35 ft</b> <b>Initial Depth to Water: 13.89 ft</b>	<b>Pump Type: QED Bladder</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 27 ft</b> <b>Estimated Total Volume Pumped: 6600 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 220 ml/min</b> <b>Final Draw Down: 0.81 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

## Weather Conditions:

Sunny, 70 s

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.3	+/- 10	+/- 25	+/- 5	
4/7/2020 1:16 PM	00:00	6.02 pH	19.55 °C	143.20 µS/cm	4.00 mg/L		115.1 mV	13.89 ft	220.00 ml/min
4/7/2020 1:21 PM	05:00	5.97 pH	18.62 °C	141.96 µS/cm	2.94 mg/L	1.30 NTU	129.8 mV	14.70 ft	220.00 ml/min
4/7/2020 1:26 PM	10:00	5.95 pH	18.54 °C	138.36 µS/cm	2.74 mg/L	4.13 NTU	114.5 mV	14.70 ft	220.00 ml/min
4/7/2020 1:31 PM	15:00	5.93 pH	18.57 °C	137.43 µS/cm	2.79 mg/L	4.16 NTU	114.2 mV	14.70 ft	220.00 ml/min
4/7/2020 1:36 PM	20:00	5.93 pH	18.54 °C	136.67 µS/cm	2.74 mg/L	4.17 NTU	113.5 mV	14.70 ft	220.00 ml/min
4/7/2020 1:41 PM	25:00	5.92 pH	18.48 °C	136.43 µS/cm	2.72 mg/L	3.89 NTU	113.4 mV	14.70 ft	220.00 ml/min
4/7/2020 1:46 PM	30:00	5.91 pH	18.53 °C	136.20 µS/cm	2.77 mg/L	3.49 NTU	129.0 mV	14.70 ft	220.00 ml/min

## Samples

Sample ID:	Description:
ARGWA-12	Sampled at 13:46. Cloudy, 70 s.

# Low-Flow Test Report:

Test Date / Time: 4/7/2020 2:37:20 PM

Project: Plant Arkwright - Ash Pond 3

Operator Name: Ryan Walker

<b>Location Name: ARGWA-13</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 33 ft</b> <b>Total Depth: 43.25 ft</b> <b>Initial Depth to Water: 21.26 ft</b>	<b>Pump Type: QED Bladder</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 38 ft</b> <b>Estimated Total Volume Pumped: 7 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0.44 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

## Weather Conditions:

Cloudy 70 s

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.3	+/- 10	+/- 25	+/- 5	
4/7/2020 2:37 PM	00:00	6.31 pH	20.81 °C	1,272.3 µS/cm	5.41 mg/L		122.6 mV	21.26 ft	200.00 ml/min
4/7/2020 2:42 PM	05:00	5.97 pH	19.19 °C	1,222.1 µS/cm	2.16 mg/L	1.11 NTU	123.2 mV	21.70 ft	200.00 ml/min
4/7/2020 2:47 PM	10:00	5.91 pH	18.88 °C	779.58 µS/cm	3.02 mg/L	1.65 NTU	135.1 mV	21.70 ft	200.00 ml/min
4/7/2020 2:52 PM	15:00	5.89 pH	18.79 °C	686.68 µS/cm	3.36 mg/L	1.83 NTU	133.6 mV	21.70 ft	200.00 ml/min
4/7/2020 2:57 PM	20:00	5.88 pH	18.79 °C	632.24 µS/cm	3.46 mg/L	1.76 NTU	114.8 mV	21.70 ft	200.00 ml/min
4/7/2020 3:02 PM	25:00	5.87 pH	18.71 °C	605.57 µS/cm	3.45 mg/L	1.76 NTU	113.7 mV	21.70 ft	200.00 ml/min
4/7/2020 3:07 PM	30:00	5.86 pH	18.71 °C	590.52 µS/cm	3.40 mg/L	1.62 NTU	113.3 mV	21.70 ft	200.00 ml/min
4/7/2020 3:12 PM	35:00	5.85 pH	18.64 °C	573.07 µS/cm	3.37 mg/L	1.59 NTU	112.6 mV	21.70 ft	200.00 ml/min
4/7/2020 3:17 PM	40:00	5.85 pH	18.66 °C	557.87 µS/cm	3.35 mg/L	1.38 NTU	112.2 mV	21.70 ft	200.00 ml/min
4/7/2020 3:22 PM	45:00	5.84 pH	18.66 °C	550.73 µS/cm	3.37 mg/L	1.27 NTU	128.1 mV	21.70 ft	200.00 ml/min
4/7/2020 3:27 PM	50:00	5.84 pH	18.66 °C	543.40 µS/cm	3.37 mg/L	1.24 NTU	112.2 mV	21.70 ft	200.00 ml/min
4/7/2020 3:32 PM	55:00	5.84 pH	18.63 °C	541.75 µS/cm	3.40 mg/L	1.15 NTU	111.7 mV	21.70 ft	200.00 ml/min



**Samples**

Sample ID:	Description:
ARGWA-13	Sampled at 15:32. Cloudy, 70 s.

# Low-Flow Test Report:

Test Date / Time: 4/6/2020 2:47:46 PM

Project: Plant Arkwright - Ash Pond 3

Operator Name: Ryan Walker

<b>Location Name: ARGWA-14</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 48 ft</b> <b>Total Depth: 58.18 ft</b> <b>Initial Depth to Water: 41.1 ft</b>	<b>Pump Type: QED Bladder</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 53 ft</b> <b>Estimated Total Volume Pumped: 3500 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 50 ml/min</b> <b>Final Draw Down: 4.3 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

## Weather Conditions:

Sunny, 70 s

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
4/6/2020 2:47 PM	00:00	7.49 pH	22.09 °C	233.78 µS/cm	8.71 mg/L		103.6 mV	41.10 ft	50.00 ml/min
4/6/2020 2:52 PM	05:00	6.63 pH	21.52 °C	379.28 µS/cm	4.62 mg/L	2.94 NTU	98.2 mV	42.30 ft	50.00 ml/min
4/6/2020 2:57 PM	10:00	6.67 pH	21.33 °C	471.38 µS/cm	3.00 mg/L	2.43 NTU	107.1 mV	42.70 ft	50.00 ml/min
4/6/2020 3:02 PM	15:00	6.68 pH	21.78 °C	482.57 µS/cm	3.10 mg/L	0.95 NTU	97.4 mV	43.10 ft	50.00 ml/min
4/6/2020 3:07 PM	20:00	6.67 pH	22.00 °C	485.87 µS/cm	3.23 mg/L	0.94 NTU	97.2 mV	43.40 ft	50.00 ml/min
4/6/2020 3:12 PM	25:00	6.67 pH	21.82 °C	486.59 µS/cm	3.35 mg/L	0.99 NTU	97.1 mV	43.80 ft	50.00 ml/min
4/6/2020 3:17 PM	30:00	6.66 pH	21.86 °C	481.32 µS/cm	3.38 mg/L	0.98 NTU	97.2 mV	44.20 ft	50.00 ml/min
4/6/2020 3:22 PM	35:00	6.65 pH	22.18 °C	479.28 µS/cm	3.41 mg/L	1.55 NTU	97.2 mV	44.40 ft	50.00 ml/min
4/6/2020 3:27 PM	40:00	6.65 pH	22.10 °C	475.97 µS/cm	3.46 mg/L	1.61 NTU	97.2 mV	44.50 ft	50.00 ml/min
4/6/2020 3:32 PM	45:00	6.65 pH	21.85 °C	476.32 µS/cm	3.44 mg/L	0.98 NTU	97.2 mV	44.70 ft	50.00 ml/min
4/6/2020 3:37 PM	50:00	6.65 pH	21.58 °C	475.32 µS/cm	3.42 mg/L	0.65 NTU	97.1 mV	44.90 ft	50.00 ml/min
4/6/2020 3:42 PM	55:00	6.65 pH	21.50 °C	474.67 µS/cm	3.40 mg/L	1.35 NTU	96.9 mV	45.10 ft	50.00 ml/min
4/6/2020 3:47 PM	01:00:00	6.66 pH	21.52 °C	471.50 µS/cm	3.38 mg/L	0.73 NTU	96.5 mV	45.20 ft	50.00 ml/min

4/6/2020 3:52 PM	01:05:00	6.66 pH	21.33 °C	468.94 µS/cm	3.39 mg/L	0.68 NTU	96.2 mV	45.30 ft	50.00 ml/min
4/6/2020 3:57 PM	01:10:00	6.65 pH	21.42 °C	463.13 µS/cm	3.42 mg/L	0.73 NTU	101.7 mV	45.40 ft	50.00 ml/min

## Samples

Sample ID:	Description:
ARGWA-14	Sunny, 80 s

Product Name: Low-Flow System

Date: 2020-04-08 09:55:49

Project Information:

Operator Name Taylor Goble  
Company Name ACC  
Project Name Plant Arkwright Ash Pond 3  
Site Name Plant Arkwright Ash Pond 3  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 369807  
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type QED Bladder Pump  
Tubing Type poly  
Tubing Diameter .17 in  
Tubing Length 48 ft

Pump placement from TOC 43 ft

Well Information:

Well ID ARGWC-7  
Well diameter 2 in  
Well Total Depth 48.32 ft  
Screen Length 10 ft  
Depth to Water 20.20 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.3042443 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 4 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	09:35:04	900.01	18.65	6.02	154.27	2.69	20.44	4.22	135.74
Last 5	09:40:04	1200.01	18.70	5.88	153.94	2.14	20.50	4.13	132.25
Last 5	09:45:04	1500.00	18.71	5.80	153.97	1.88	20.56	3.74	131.17
Last 5	09:50:04	1800.00	18.68	5.78	153.89	1.74	20.62	4.09	129.44
Last 5	09:55:04	2099.99	18.71	5.75	153.97	1.32	20.68	3.90	129.00
Variance 0			0.01	-0.07	0.03			-0.39	-1.08
Variance 1			-0.03	-0.03	-0.08			0.34	-1.73
Variance 2			0.03	-0.02	0.08			-0.19	-0.44

Notes

Sampled at 0955. Cloudy 68 degrees

Grab Samples

Product Name: Low-Flow System

Date: 2020-04-09 12:36:42

Project Information:

Operator Name Taylor Goble  
Company Name ACC  
Project Name Plant Arkwright Ash Pond 3  
Site Name Plant Arkwright Ash Pond 3  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 369807  
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type QED Bladder Pump  
Tubing Type poly  
Tubing Diameter .17 in  
Tubing Length 43 ft

Pump placement from TOC 38 ft

Well Information:

Well ID ARGWC-8  
Well diameter 2 in  
Well Total Depth 43.22 ft  
Screen Length 10 ft  
Depth to Water 24.76 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.2819272 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2 in  
Total Volume Pumped 22 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	12:15:13	7509.91	23.88	6.45	407.80	6.60	24.92	0.21	529.73
Last 5	12:20:13	7809.91	24.15	6.45	409.06	6.00	24.92	0.23	536.07
Last 5	12:25:13	8109.90	24.60	6.45	407.60	5.30	24.92	0.24	538.74
Last 5	12:30:13	8409.90	24.81	6.45	407.42	5.00	24.92	0.25	533.92
Last 5	12:35:13	8709.89	23.97	6.42	405.64	4.80	24.92	0.29	532.86
Variance 0			0.45	0.00	-1.46			0.01	2.68
Variance 1			0.21	0.00	-0.19			0.01	-4.82
Variance 2			-0.84	-0.03	-1.78			0.04	-1.06

Notes

Sampled at 1235. Sunny 76 degrees

Grab Samples

# Low-Flow Test Report:

Test Date / Time: 4/9/2020 8:40:05 AM

Project: Plant Arkwright - Ash Pond 3

Operator Name: Ryan Walker

<b>Location Name: ARGWC-9</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 28 ft</b> <b>Total Depth: 38.07 ft</b> <b>Initial Depth to Water: 18.68 ft</b>	<b>Pump Type: QED Bladder</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 33 ft</b> <b>Estimated Total Volume Pumped: 39 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 400 ml/min</b> <b>Final Draw Down: 0.32 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

## Weather Conditions:

Sunny, 70 s.

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.3	+/- 10	+/- 25	+/- 0.3	
4/9/2020 8:40 AM	00:00	6.03 pH	19.35 °C	66.04 µS/cm	6.91 mg/L		103.2 mV	18.68 ft	200.00 ml/min
4/9/2020 8:45 AM	05:00	5.92 pH	19.68 °C	62.77 µS/cm	6.51 mg/L	3.82 NTU	97.5 mV	18.80 ft	200.00 ml/min
4/9/2020 8:50 AM	10:00	5.91 pH	19.78 °C	62.29 µS/cm	6.33 mg/L	17.70 NTU	98.0 mV	18.80 ft	200.00 ml/min
4/9/2020 8:55 AM	15:00	5.90 pH	19.74 °C	62.25 µS/cm	6.31 mg/L	22.10 NTU	99.3 mV	18.80 ft	400.00 ml/min
4/9/2020 9:00 AM	20:00	5.90 pH	19.76 °C	62.30 µS/cm	6.26 mg/L	20.70 NTU	100.4 mV	19.00 ft	400.00 ml/min
4/9/2020 9:05 AM	25:00	5.90 pH	19.73 °C	62.83 µS/cm	6.25 mg/L	24.10 NTU	112.4 mV	19.00 ft	400.00 ml/min
4/9/2020 9:10 AM	30:00	5.90 pH	19.82 °C	62.91 µS/cm	6.25 mg/L	16.20 NTU	114.2 mV	19.00 ft	400.00 ml/min
4/9/2020 9:15 AM	35:00	5.90 pH	19.88 °C	62.85 µS/cm	6.22 mg/L	13.20 NTU	115.8 mV	19.00 ft	400.00 ml/min
4/9/2020 9:20 AM	40:00	5.90 pH	19.86 °C	62.82 µS/cm	6.21 mg/L	15.70 NTU	117.0 mV	19.00 ft	400.00 ml/min
4/9/2020 9:25 AM	45:00	5.90 pH	19.94 °C	62.83 µS/cm	6.21 mg/L	12.90 NTU	118.3 mV	19.00 ft	400.00 ml/min
4/9/2020 9:30 AM	50:00	5.90 pH	19.97 °C	62.84 µS/cm	6.23 mg/L	10.60 NTU	119.3 mV	19.00 ft	400.00 ml/min
4/9/2020 9:35 AM	55:00	5.90 pH	20.04 °C	62.86 µS/cm	6.21 mg/L	10.40 NTU	120.1 mV	19.00 ft	400.00 ml/min
4/9/2020 9:40 AM	01:00:00	5.89 pH	20.04 °C	62.75 µS/cm	6.18 mg/L	7.96 NTU	121.4 mV	19.00 ft	400.00 ml/min



4/9/2020 9:45 AM	01:05:00	5.90 pH	20.09 °C	62.79 µS/cm	6.17 mg/L	11.10 NTU	122.3 mV	19.00 ft	400.00 ml/min
4/9/2020 9:50 AM	01:10:00	5.90 pH	20.14 °C	62.73 µS/cm	6.16 mg/L	6.91 NTU	123.0 mV	19.00 ft	400.00 ml/min
4/9/2020 9:55 AM	01:15:00	5.90 pH	20.04 °C	62.81 µS/cm	6.17 mg/L	5.60 NTU	124.1 mV	19.00 ft	400.00 ml/min
4/9/2020 10:00 AM	01:20:00	5.90 pH	20.15 °C	62.75 µS/cm	6.14 mg/L	6.13 NTU	124.9 mV	19.00 ft	400.00 ml/min
4/9/2020 10:05 AM	01:25:00	5.90 pH	20.13 °C	62.69 µS/cm	6.13 mg/L	8.29 NTU	125.8 mV	19.00 ft	400.00 ml/min
4/9/2020 10:10 AM	01:30:00	5.90 pH	20.20 °C	62.70 µS/cm	6.13 mg/L	7.04 NTU	126.5 mV	19.00 ft	400.00 ml/min
4/9/2020 10:15 AM	01:35:00	5.90 pH	20.18 °C	62.69 µS/cm	6.12 mg/L	6.94 NTU	127.2 mV	19.00 ft	400.00 ml/min
4/9/2020 10:20 AM	01:40:00	5.90 pH	20.17 °C	62.75 µS/cm	6.12 mg/L	6.33 NTU	128.0 mV	19.00 ft	400.00 ml/min
4/9/2020 10:25 AM	01:45:00	5.90 pH	20.23 °C	62.65 µS/cm	6.10 mg/L	4.75 NTU	128.6 mV	19.00 ft	400.00 ml/min

## Samples

Sample ID:	Description:
ARGWC-9	Sampled at 10:25. Sunny, 80 s.

# Low-Flow Test Report:

Test Date / Time: 4/8/2020 2:12:43 PM

Project: Plant Arkwright - Ash Pond 3

Operator Name: Ryan Walker

<b>Location Name: ARGWC-10</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 28 ft</b> <b>Total Depth: 38.35 ft</b> <b>Initial Depth to Water: 19.24 ft</b>	<b>Pump Type: QED Bladder</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 33 ft</b> <b>Estimated Total Volume Pumped: 38.5 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 220 ml/min</b> <b>Final Draw Down: 0.16 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

## Weather Conditions:

Sunny, 80 s.

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
4/8/2020 2:12 PM	00:00	6.12 pH	22.54 °C	76.06 µS/cm	5.58 mg/L		87.6 mV	19.24 ft	220.00 ml/min
4/8/2020 2:17 PM	05:00	6.01 pH	20.31 °C	78.74 µS/cm	4.93 mg/L	6.84 NTU	88.2 mV	19.40 ft	220.00 ml/min
4/8/2020 2:22 PM	10:00	5.99 pH	20.12 °C	78.90 µS/cm	4.65 mg/L	11.70 NTU	89.9 mV	19.40 ft	220.00 ml/min
4/8/2020 2:27 PM	15:00	5.98 pH	20.09 °C	79.42 µS/cm	4.58 mg/L	11.80 NTU	101.7 mV	19.40 ft	220.00 ml/min
4/8/2020 2:32 PM	20:00	5.98 pH	19.95 °C	79.40 µS/cm	4.60 mg/L	13.00 NTU	103.6 mV	19.40 ft	220.00 ml/min
4/8/2020 2:37 PM	25:00	5.97 pH	20.22 °C	79.37 µS/cm	4.57 mg/L	14.90 NTU	105.3 mV	19.40 ft	220.00 ml/min
4/8/2020 2:42 PM	30:00	5.97 pH	20.22 °C	79.41 µS/cm	4.54 mg/L	14.80 NTU	107.1 mV	19.40 ft	220.00 ml/min
4/8/2020 2:47 PM	35:00	5.97 pH	20.24 °C	78.61 µS/cm	4.56 mg/L	11.50 NTU	96.1 mV	19.40 ft	220.00 ml/min
4/8/2020 2:52 PM	40:00	5.96 pH	20.16 °C	78.10 µS/cm	4.57 mg/L	11.63 NTU	96.8 mV	19.40 ft	220.00 ml/min
4/8/2020 2:57 PM	45:00	5.96 pH	20.28 °C	78.81 µS/cm	4.57 mg/L	10.21 NTU	109.1 mV	19.40 ft	220.00 ml/min
4/8/2020 3:02 PM	50:00	5.96 pH	20.22 °C	78.67 µS/cm	4.62 mg/L	9.97 NTU	110.7 mV	19.40 ft	220.00 ml/min
4/8/2020 3:07 PM	55:00	5.95 pH	20.12 °C	78.63 µS/cm	4.61 mg/L	13.60 NTU	112.0 mV	19.40 ft	220.00 ml/min
4/8/2020 3:12 PM	01:00:00	5.95 pH	20.13 °C	78.96 µS/cm	4.63 mg/L	12.90 NTU	113.0 mV	19.40 ft	220.00 ml/min

4/8/2020 3:17 PM	01:05:00	5.95 pH	20.17 °C	78.77 µS/cm	4.59 mg/L	9.98 NTU	114.0 mV	19.40 ft	220.00 ml/min
4/8/2020 3:22 PM	01:10:00	5.95 pH	20.17 °C	78.82 µS/cm	4.61 mg/L	11.10 NTU	115.1 mV	19.40 ft	220.00 ml/min
4/8/2020 3:27 PM	01:15:00	5.95 pH	20.27 °C	78.59 µS/cm	4.60 mg/L	12.60 NTU	101.9 mV	19.40 ft	220.00 ml/min
4/8/2020 3:32 PM	01:20:00	5.95 pH	20.44 °C	78.15 µS/cm	4.57 mg/L	13.80 NTU	102.0 mV	19.40 ft	220.00 ml/min
4/8/2020 3:37 PM	01:25:00	5.95 pH	20.40 °C	78.40 µS/cm	4.58 mg/L	10.10 NTU	102.2 mV	19.40 ft	220.00 ml/min
4/8/2020 3:42 PM	01:30:00	5.95 pH	20.25 °C	78.25 µS/cm	4.58 mg/L	12.30 NTU	102.4 mV	19.40 ft	220.00 ml/min
4/8/2020 3:47 PM	01:35:00	5.95 pH	20.17 °C	78.38 µS/cm	4.59 mg/L	11.70 NTU	102.6 mV	19.40 ft	220.00 ml/min
4/8/2020 3:52 PM	01:40:00	5.95 pH	20.13 °C	78.31 µS/cm	4.57 mg/L	11.00 NTU	102.7 mV	19.40 ft	220.00 ml/min
4/8/2020 3:57 PM	01:45:00	5.95 pH	20.15 °C	78.36 µS/cm	4.59 mg/L	8.43 NTU	102.9 mV	19.40 ft	220.00 ml/min
4/8/2020 4:02 PM	01:50:00	5.95 pH	20.16 °C	78.23 µS/cm	4.57 mg/L	9.41 NTU	103.1 mV	19.40 ft	220.00 ml/min
4/8/2020 4:07 PM	01:55:00	5.95 pH	20.09 °C	78.42 µS/cm	4.56 mg/L	12.90 NTU	103.4 mV	19.40 ft	220.00 ml/min
4/8/2020 4:12 PM	02:00:00	5.95 pH	19.77 °C	79.31 µS/cm	4.62 mg/L	9.89 NTU	118.4 mV	19.40 ft	220.00 ml/min
4/8/2020 4:17 PM	02:05:00	5.95 pH	19.75 °C	78.83 µS/cm	4.52 mg/L	12.10 NTU	119.4 mV	19.40 ft	220.00 ml/min
4/8/2020 4:22 PM	02:10:00	5.95 pH	19.73 °C	78.29 µS/cm	4.54 mg/L	11.00 NTU	104.5 mV	19.40 ft	220.00 ml/min
4/8/2020 4:27 PM	02:15:00	5.95 pH	19.73 °C	78.29 µS/cm	4.51 mg/L	9.81 NTU	104.2 mV	19.40 ft	220.00 ml/min
4/8/2020 4:32 PM	02:20:00	5.95 pH	19.68 °C	78.33 µS/cm	4.51 mg/L	8.40 NTU	104.2 mV	19.40 ft	220.00 ml/min
4/8/2020 4:37 PM	02:25:00	5.94 pH	19.65 °C	78.16 µS/cm	4.50 mg/L	7.73 NTU	104.5 mV	19.40 ft	220.00 ml/min
4/8/2020 4:42 PM	02:30:00	5.95 pH	19.60 °C	79.02 µS/cm	4.50 mg/L	8.37 NTU	120.0 mV	19.40 ft	220.00 ml/min
4/8/2020 4:47 PM	02:35:00	5.95 pH	19.53 °C	78.98 µS/cm	4.48 mg/L	6.89 NTU	120.9 mV	19.40 ft	220.00 ml/min
4/8/2020 4:52 PM	02:40:00	5.95 pH	19.54 °C	79.27 µS/cm	4.51 mg/L	8.11 NTU	121.5 mV	19.40 ft	220.00 ml/min
4/8/2020 4:57 PM	02:45:00	5.95 pH	19.49 °C	78.92 µS/cm	4.46 mg/L	6.14 NTU	122.0 mV	19.40 ft	220.00 ml/min
4/8/2020 5:02 PM	02:50:00	5.95 pH	19.51 °C	78.24 µS/cm	4.45 mg/L	5.58 NTU	106.0 mV	19.40 ft	220.00 ml/min
4/8/2020 5:07 PM	02:55:00	5.95 pH	19.50 °C	78.27 µS/cm	4.46 mg/L	4.51 NTU	105.4 mV	19.40 ft	220.00 ml/min

## Samples

Sample ID:	Description:
ARGWC-10	Sampled at 17:09. Cloudy, 70 s.

Product Name: Low-Flow System

Date: 2020-04-08 16:16:10

Project Information:

Operator Name Taylor Goble  
Company Name ACC  
Project Name Plant Arkwright Ash Pond 3  
Site Name Plant Arkwright Ash Pond 3  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 369807  
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type QED Bladder Pump  
Tubing Type poly  
Tubing Diameter .17 in  
Tubing Length 42 ft

Pump placement from TOC 37 ft

Well Information:

Well ID ARGWC-15  
Well diameter 2 in  
Well Total Depth 42.35 ft  
Screen Length 10 ft  
Depth to Water 27.15 ft

Pumping Information:

Final Pumping Rate 50 mL/min  
Total System Volume 0.2774638 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 12 in  
Total Volume Pumped 2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	15:55:03	900.01	20.36	6.37	209.40	1.91	27.76	1.07	102.79
Last 5	16:00:03	1200.01	20.33	6.34	198.94	1.62	27.83	1.22	96.86
Last 5	16:05:03	1500.01	20.26	6.29	189.42	1.55	27.91	1.52	95.17
Last 5	16:10:03	1800.00	20.19	6.27	187.42	1.37	28.01	1.63	94.70
Last 5	16:15:03	2100.00	20.32	6.26	188.34	1.25	28.11	1.71	93.76
Variance 0			-0.08	-0.05	-9.52			0.30	-1.69
Variance 1			-0.06	-0.02	-2.00			0.11	-0.47
Variance 2			0.13	-0.01	0.91			0.07	-0.94

Notes

Sampled at 1615. Cloudy 82 degrees

Grab Samples

Product Name: Low-Flow System

Date: 2020-04-08 11:15:49

Project Information:

Operator Name Taylor Goble  
Company Name ACC  
Project Name Plant Arkwright Ash Pond 3  
Site Name Plant Arkwright Ash Pond 3  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 369807  
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type QED Bladder Pump  
Tubing Type poly  
Tubing Diameter .17 in  
Tubing Length 35 ft

Pump placement from TOC 30 ft

Well Information:

Well ID ARGWC-16  
Well diameter 2 in  
Well Total Depth 34.52 ft  
Screen Length 10 ft  
Depth to Water 19.19 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.2462198 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 1 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	10:55:11	600.01	18.92	5.23	506.95	1.26	19.21	2.22	139.57
Last 5	11:00:11	900.01	18.96	5.07	504.90	1.11	19.22	2.01	133.99
Last 5	11:05:11	1200.01	18.97	5.07	501.24	1.45	19.24	2.01	131.85
Last 5	11:10:11	1500.00	19.05	5.07	494.94	1.17	19.25	2.05	130.57
Last 5	11:15:11	1799.99	19.18	5.07	489.28	1.55	19.26	2.08	130.01
Variance 0			0.00	-0.01	-3.66			-0.01	-2.14
Variance 1			0.09	0.00	-6.31			0.04	-1.29
Variance 2			0.13	0.00	-5.66			0.04	-0.56

Notes

Sampled at 1115. Cloudy 71 degrees

Grab Samples

Product Name: Low-Flow System

Date: 2020-04-08 14:31:28

Project Information:

Operator Name Taylor Goble  
Company Name ACC  
Project Name Plant Arkwright Ash Pond 3  
Site Name Plant Arkwright Ash Pond 3  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 369807  
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type QED Bladder Pump  
Tubing Type poly  
Tubing Diameter .17 in  
Tubing Length 49 ft

Pump placement from TOC 44 ft

Well Information:

Well ID ARGWC-17  
Well diameter 2 in  
Well Total Depth 48.32 ft  
Screen Length 10 ft  
Depth to Water 20.87 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.3087077 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	14:10:07	2699.99	21.02	5.05	145.32	16.30	21.20	1.81	115.66
Last 5	14:15:07	2999.98	21.19	5.05	144.91	12.90	21.20	1.73	114.56
Last 5	14:20:07	3299.98	21.24	5.03	143.84	9.98	21.20	1.58	113.63
Last 5	14:25:07	3599.98	21.56	5.03	143.41	7.30	21.20	1.57	113.23
Last 5	14:30:07	3899.97	21.93	5.02	143.21	4.76	21.20	1.61	115.07
Variance 0			0.04	-0.02	-1.08			-0.15	-0.93
Variance 1			0.33	0.00	-0.43			-0.01	-0.40
Variance 2			0.36	-0.01	-0.20			0.04	1.85

Notes

Sampled at 1430. Mostly cloudy 79 degrees

Grab Samples



Product Name: Low-Flow System

Date: 2020-04-09 09:41:17

Project Information:

Operator Name Taylor Goble  
Company Name ACC  
Project Name Plant Arkwright Ash Pond 3  
Site Name Plant Arkwright Ash Pond 3  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 369807  
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type QED Bladder Pump  
Tubing Type poly  
Tubing Diameter .17 in  
Tubing Length 51 ft

Pump placement from TOC 46 ft

Well Information:

Well ID ARGWC-18  
Well diameter 2 in  
Well Total Depth 50.65 ft  
Screen Length 10 ft  
Depth to Water 27.29 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.3176346 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 6 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	09:20:08	600.01	19.79	6.53	419.55	4.23	27.71	0.79	-40.89
Last 5	09:25:08	900.00	19.86	6.22	493.60	3.17	27.75	0.42	21.62
Last 5	09:30:08	1200.00	19.90	6.08	513.48	3.37	27.79	0.25	35.93
Last 5	09:35:08	1500.00	19.99	6.01	520.62	3.99	27.84	0.20	43.32
Last 5	09:40:08	1799.99	20.04	5.98	523.38	4.13	27.89	0.19	46.94
Variance 0			0.04	-0.14	19.88			-0.18	14.31
Variance 1			0.09	-0.07	7.14			-0.04	7.39
Variance 2			0.05	-0.03	2.77			-0.01	3.62

Notes

Sampled at 0940. Sunny 67 degrees

Grab Samples

## Georgia Power Site Sampling Data ( GW )

Site Name : Plant Arkwright

Date : 4/6 - 4/9/20

Well ID	Sample Date	Sample Time	Additional Comments	
ASH POND #3				
ARGWA-3	4-7-20	1045	pH=5.90	
ARGWA-5	4-7-20	1146	pH=5.86	
ARGWA-12	4-7-20	1346	pH=5.91	
ARGWA-13	4-7-20	1532	pH=5.84	FB-1 here
ARGWA-14	4-6-20	1557	pH=5.90	
ARGWC-7	4-8-20	0955	pH=5.75	Extra Rad here
ARGWC-8	4-9-20	1235	pH=6.42	
ARGWC-9	4-9-20	1025	pH=5.90	EB-1 here
ARGWC-10	4-8-20	1709	pH=5.95	
ARGWC-15	4-8-20	1615	pH=6.26	
ARGWC-16	4-8-20	1115	pH=5.07	
ARGWC-17	4-8-20	1430	pH=5.02	
ARGWC-18	4-9-20	0940	pH=5.98	
EB-1-4-9-20	4-9-20	1040	Equipment type: WL	
Dup-1	4-8-20	1115	Parent Sample: ARGWC-16	
FB-1-4-7-20	4-7-20	1600	Poured at: ARGWA-13	
ASH POND #2				
ARGWA-19	4-7-20	1008	pH=5.72	
ARGWA-20	4-6-20	1622	pH=5.53	
ARGWC-21	4-7-20	1614	pH=5.96	
ARGWC-22	4-7-20	1418	pH=5.84	
ARGWC-23	4-7-20	1200	pH=6.40	
EB-2-4-7-20	4-7-20	1445	Equipment type: Peri pump	
Dup-2	4-7-20	1008	Parent Sample: ARGWA-19	
FB-2-4-6-20	4-6-20	1520	Poured at: ARGWA-20	
Additional comments :				
* Add date to EB and FB sample IDs.				



ATLANTIC COAST  
CONSULTING, INC.

# WELL CONDITION SUMMARY

Site: Plant Arkwright

Personnel: RW/TG

Date(s): 4/6-4/9/20

Page: 1 of 3

Well ID	Protective Casing	Well Casing	Label	Bollards	Lock	Well Pad	Weep Hole	Vent Hole	Notes
ARGWA-3	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWA-5	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWA-12	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWA-13	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWA-14	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWC-7	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	one balland down
ARGWC-8	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWC-9	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWC-10	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWC-15	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	



ATLANTIC COAST  
CONSULTING, INC.

# WELL CONDITION SUMMARY

Personnel: Rw/TG

Page: 2 of 3

Site: Plant Arkwright

Date(s): 4/6-4/9/20

Well ID	Protective Casing	Well Casing	Label	Bollards	Lock	Well Pad	Weep Hole	Vent Hole	Notes
ARGWC-16	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWC-17	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWC-18	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWA-19	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWA-20	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARGWC-21	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARAMW-22	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
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ARAMW-1	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARAMW-2	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	



ATLANTIC COAST  
CONSULTING, INC.

# WELL CONDITION SUMMARY

Site: Plant Arkwright

Personnel: Rw/TG

Date(s): 2/6 - 4/9/20

Page: 3 of 3

Well ID	Protective Casing	Well Casing	Label	Bollards	Lock	Well Pad	Weep Hole	Vent Hole	Notes
ARAMW-3	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARAMW-4	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARAMW-6	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Deficient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
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## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-106373-3

Client Project/Site: CCR - Plant Arkwright Ash Pond 3

**For:**

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
6/12/2020 10:38:32 AM

Shali Brown, Project Manager II  
(615)301-5031  
[shali.brown@testamericainc.com](mailto:shali.brown@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416





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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-106373-3

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**Job ID: 180-106373-3**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

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**Narrative**

**Job Narrative  
180-106373-3**

**Comments**

No additional comments.

**Receipt**

The samples were received on 5/29/2020 8:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8° C.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Field Service / Mobile Lab**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-106373-3

## Qualifiers

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-106373-3

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	05-23-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20 *
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-106373-3

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-106373-5	ARGWC-10	Water	05/27/20 19:10	05/29/20 08:45	

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# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-106373-3

Method	Method Description	Protocol	Laboratory
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058





# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-106373-3

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-106373-5**

**Date Collected: 05/27/20 19:10**

**Matrix: Water**

**Date Received: 05/29/20 08:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 09:01	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			317672	06/05/20 22:56	RSK	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			317243	05/27/20 19:10	FDS	TAL PIT

### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

### Analyst References:

Lab: TAL PIT

Batch Type: Prep

KEM = Kimberly Mahoney

Batch Type: Analysis

FDS = Sampler Field

RSK = Robert Kurtz

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-106373-3

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-106373-5**

Date Collected: 05/27/20 19:10

Matrix: Water

Date Received: 05/29/20 08:45

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00014	J	0.0010	0.00013	mg/L		06/01/20 09:01	06/05/20 22:56	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.98				SU			05/27/20 19:10	1

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-106373-3

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-317054/1-A**  
**Matrix: Water**  
**Analysis Batch: 317672**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 317054**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.00013		0.0010	0.00013	mg/L		06/01/20 08:43	06/05/20 20:44	1

**Lab Sample ID: LCS 180-317054/2-A**  
**Matrix: Water**  
**Analysis Batch: 317672**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 317054**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	0.500	0.496		mg/L		99	80 - 120



# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright Ash Pond 3

Job ID: 180-106373-3

## Metals

### Prep Batch: 317054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-5	ARGWC-10	Total Recoverable	Water	3005A	
MB 180-317054/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-317054/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 317672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-5	ARGWC-10	Total Recoverable	Water	EPA 6020B	317054
MB 180-317054/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	317054
LCS 180-317054/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	317054

## Field Service / Mobile Lab

### Analysis Batch: 317243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-5	ARGWC-10	Total/NA	Water	Field Sampling	



ORIGIN ID: NCOA (770) 421-3349  
DANIEL HOWARD  
WOOD E & IS  
SUITE 100  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

SHIP DATE  
ACTGTY:  
CAD: 6994  
DIMS: 24x11  
BILL THIRD P

TO **SAMPLE RECEIVING  
EUROFINS TEST AMERICA  
301 ALPHA DR RIDC PARK**

**PITTSBURGH PA 15238**

(412) 963-7068  
REF: DEPT:

Package  
S Airbill

FedEx  
Tracking  
Number

8121 9394 6105



FedEx  
Express



Align Open End of FedEx Couch Here

1075 Big Shanty Rd NW Ste 100  
Phone 770 421-3349

Wood E + IS

BIG SHANTY RD NW STE 100

State GA ZIP 30144-3652

Reference 6122201429.2002

Sample Receiving Phone 412 963

1075 Big Shanty Rd NW Ste 100  
Kennesaw, GA 30144

Alpha Drive RIDC Park

Dept./Floor/Suite/Room

PA ZIP 15238

TRK# 8121 9394 6105  
0215

FRI - 29 MAY 10:30A  
PRIORITY OVERNIGHT

15238  
PA-US PIT



F Initials B

WI-SR-001 effective 7/26/13

Total Packages Total Weight

Your liability is limited to USD100 unless you declare a higher value. See the current FedEx Service Guide for details.

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8121 9394 6105



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-106373-3

**Login Number: 106373**

**List Number: 1**

**Creator: Watson, Debbie**

**List Source: Eurofins TestAmerica, Pittsburgh**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Product Name: Low-Flow System

Date: 2020-05-27 19:12:34

Project Information:

Operator Name Daniel Howard  
Company Name Wood E&IS  
Project Name Plant Arkwright Ash Pond 3 - CCR  
Site Name ARGWC-10  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Micropurge  
Tubing Type HDPE  
Tubing Diameter .25 in  
Tubing Length 38.35 ft

Pump placement from TOC 33.35 ft

Well Information:

Well ID ARGWC-10  
Well diameter 2 in  
Well Total Depth 38.35 ft  
Screen Length 10 ft  
Depth to Water 19.75 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.8501822 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.14 in  
Total Volume Pumped 31 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	18:48:02	8099.79	18.53	5.98	108.41	5.96	19.89	4.66	91.28
Last 5	18:53:02	8399.79	18.53	5.98	108.47	5.32	19.89	4.65	91.12
Last 5	18:58:02	8699.79	18.51	5.98	108.21	5.13	19.89	4.66	91.22
Last 5	19:03:02	8999.79	18.54	5.98	108.18	4.62	19.89	4.65	91.26
Last 5	19:08:03	9299.87	18.57	5.98	108.34	4.70	19.89	4.64	91.20
Variance 0			-0.01	-0.00	-0.26			0.01	0.10
Variance 1			0.03	-0.00	-0.02			-0.00	0.04
Variance 2			0.02	0.00	0.16			-0.02	-0.06

Notes

GWC-10 sample time 1910.

Grab Samples

## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

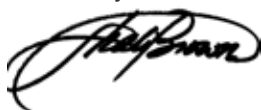
Laboratory Job ID: 180-107414-1

Client Project/Site: Plant Arkwright AP3 Alternate Source

**For:**

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
7/1/2020 9:57:54 PM

Shali Brown, Project Manager II  
(615)301-5031  
[shali.brown@testamericainc.com](mailto:shali.brown@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

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**Job ID: 180-107414-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

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**Narrative**

**Job Narrative  
180-107414-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 6/24/2020 8:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.9° C.

**GC Semi VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Field Service / Mobile Lab**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Definitions/Glossary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	05-23-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20 *
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Sample Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107414-1	ARGWC-8	Water	06/23/20 13:15	06/24/20 08:30	
180-107414-2	ARGWC-10	Water	06/23/20 15:15	06/24/20 08:30	

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# Method Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL PIT
SM2320 B	Alkalinity, Total	SM18	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	TAL PIT

#### Protocol References:

EPA = US Environmental Protection Agency

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

**Client Sample ID: ARGWC-8**

**Lab Sample ID: 180-107414-1**

**Date Collected: 06/23/20 13:15**

**Matrix: Water**

**Date Received: 06/24/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1	1 mL	1.0 mL	319291	06/24/20 23:25	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	319408	06/24/20 14:32	JL	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: A		1			320064	06/30/20 12:32	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319408	06/24/20 14:32	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			320064	06/30/20 11:33	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319408	06/24/20 14:32	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			320103	06/30/20 18:29	RSK	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	319999	06/30/20 11:00	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320056	06/30/20 13:35	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			319992	06/26/20 10:29	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/23/20 13:15	NJD	TAL PIT

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-107414-2**

**Date Collected: 06/23/20 15:15**

**Matrix: Water**

**Date Received: 06/24/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319291	06/24/20 20:58	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	319408	06/24/20 14:32	JL	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: A		1			320064	06/30/20 12:36	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319408	06/24/20 14:32	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			320064	06/30/20 11:51	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319408	06/24/20 14:32	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			320103	06/30/20 18:47	RSK	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	319999	06/30/20 11:00	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320056	06/30/20 13:37	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			319992	06/26/20 10:35	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/23/20 15:15	NJD	TAL PIT

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

## Analyst References:

Lab: TAL PIT

Batch Type: Prep

CMR = Carl Reagle

JL = James Lyu

Batch Type: Analysis

AVS = Abbey Smith

CMR = Carl Reagle

MJH = Matthew Hartman

NJD = Nicholas DiNardo

RSK = Robert Kurtz

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# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

**Client Sample ID: ARGWC-8**

**Lab Sample ID: 180-107414-1**

Date Collected: 06/23/20 13:15

Matrix: Water

Date Received: 06/24/20 08:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.0		1.0	0.32	mg/L			06/24/20 23:25	1
Fluoride	0.12		0.10	0.026	mg/L			06/24/20 23:25	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/24/20 23:25	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/24/20 23:25	1
Sulfate	62		1.0	0.38	mg/L			06/24/20 23:25	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.1		0.080	0.039	mg/L		06/24/20 14:32	06/30/20 11:33	1
Calcium	52		0.50	0.13	mg/L		06/24/20 14:32	06/30/20 11:33	1
Cobalt	0.00017	J	0.0025	0.00013	mg/L		06/24/20 14:32	06/30/20 11:33	1
Lithium	0.0042	J	0.0050	0.0034	mg/L		06/24/20 14:32	06/30/20 18:29	1
Magnesium	23		0.50	0.083	mg/L		06/24/20 14:32	06/30/20 11:33	1
Molybdenum	0.043		0.015	0.00061	mg/L		06/24/20 14:32	06/30/20 11:33	1
Potassium	1.7		0.50	0.16	mg/L		06/24/20 14:32	06/30/20 11:33	1
Sodium	14		0.50	0.35	mg/L		06/24/20 14:32	06/30/20 11:33	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/24/20 14:32	06/30/20 12:32	1
Manganese	0.41		0.0050	0.00087	mg/L		06/24/20 14:32	06/30/20 12:32	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		06/30/20 11:00	06/30/20 13:35	1
Total Alkalinity as CaCO3 to pH 4.1	170		5.0	5.0	mg/L			06/26/20 10:29	1
Bicarbonate Alkalinity as CaCO3	170		5.0	5.0	mg/L			06/26/20 10:29	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/26/20 10:29	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.37				SU			06/23/20 13:15	1

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-107414-2**

Date Collected: 06/23/20 15:15

Matrix: Water

Date Received: 06/24/20 08:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.2		1.0	0.32	mg/L			06/24/20 20:58	1
Fluoride	0.040	J	0.10	0.026	mg/L			06/24/20 20:58	1
Nitrate as N	0.048	J	0.10	0.023	mg/L			06/24/20 20:58	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/24/20 20:58	1
Sulfate	<0.38		1.0	0.38	mg/L			06/24/20 20:58	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.053	J	0.080	0.039	mg/L		06/24/20 14:32	06/30/20 11:51	1
Calcium	7.7		0.50	0.13	mg/L		06/24/20 14:32	06/30/20 11:51	1
Cobalt	0.00013	J	0.0025	0.00013	mg/L		06/24/20 14:32	06/30/20 11:51	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/24/20 14:32	06/30/20 18:47	1

Eurofins TestAmerica, Pittsburgh



# Client Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-107414-2**

Date Collected: 06/23/20 15:15

Matrix: Water

Date Received: 06/24/20 08:30

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Magnesium</b>	<b>3.8</b>		0.50	0.083	mg/L		06/24/20 14:32	06/30/20 11:51	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/24/20 14:32	06/30/20 11:51	1
<b>Potassium</b>	<b>0.73</b>		0.50	0.16	mg/L		06/24/20 14:32	06/30/20 11:51	1
<b>Sodium</b>	<b>9.7</b>		0.50	0.35	mg/L		06/24/20 14:32	06/30/20 11:51	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/24/20 14:32	06/30/20 12:36	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/24/20 14:32	06/30/20 12:36	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		06/30/20 11:00	06/30/20 13:37	1
<b>Total Alkalinity as CaCO3 to pH 4.5</b>	<b>48</b>		5.0	5.0	mg/L			06/26/20 10:35	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>48</b>		5.0	5.0	mg/L			06/26/20 10:35	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/26/20 10:35	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>5.95</b>				SU			06/23/20 15:15	1

# QC Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: MB 180-319291/6**  
**Matrix: Water**  
**Analysis Batch: 319291**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			06/24/20 04:59	1
Fluoride	<0.026		0.10	0.026	mg/L			06/24/20 04:59	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/24/20 04:59	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/24/20 04:59	1
Sulfate	<0.38		1.0	0.38	mg/L			06/24/20 04:59	1

**Lab Sample ID: LCS 180-319291/5**  
**Matrix: Water**  
**Analysis Batch: 319291**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.7		mg/L		101	90 - 110
Fluoride	2.50	2.57		mg/L		103	90 - 110
Nitrate as N	2.50	2.53		mg/L		101	90 - 110
Nitrite as N	2.50	2.49		mg/L		100	90 - 110
Sulfate	50.0	49.7		mg/L		99	90 - 110

**Lab Sample ID: 180-107414-2 MS**  
**Matrix: Water**  
**Analysis Batch: 319291**

**Client Sample ID: ARGWC-10**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.2		50.0	56.1		mg/L		104	90 - 110
Fluoride	0.040	J	2.50	2.53		mg/L		100	90 - 110
Nitrate as N	0.048	J	2.50	2.59		mg/L		102	90 - 110
Nitrite as N	<0.029		2.50	2.45		mg/L		98	90 - 110
Sulfate	<0.38		50.0	50.4		mg/L		101	90 - 110

**Lab Sample ID: 180-107414-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 319291**

**Client Sample ID: ARGWC-10**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.2		50.0	54.2		mg/L		100	90 - 110	3	20
Fluoride	0.040	J	2.50	2.48		mg/L		98	90 - 110	2	20
Nitrate as N	0.048	J	2.50	2.50		mg/L		98	90 - 110	4	20
Nitrite as N	<0.029		2.50	2.38		mg/L		95	90 - 110	3	20
Sulfate	<0.38		50.0	48.8		mg/L		98	90 - 110	3	20

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-319408/1-A**  
**Matrix: Water**  
**Analysis Batch: 320064**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319408**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/24/20 14:32	06/30/20 11:26	1
Iron	<0.020		0.050	0.020	mg/L		06/24/20 14:32	06/30/20 11:26	1
Calcium	<0.13		0.50	0.13	mg/L		06/24/20 14:32	06/30/20 11:26	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/24/20 14:32	06/30/20 11:26	1

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 180-319408/1-A**  
**Matrix: Water**  
**Analysis Batch: 320064**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319408**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/24/20 14:32	06/30/20 11:26	1
Magnesium	<0.083		0.50	0.083	mg/L		06/24/20 14:32	06/30/20 11:26	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/24/20 14:32	06/30/20 11:26	1
Potassium	<0.16		0.50	0.16	mg/L		06/24/20 14:32	06/30/20 11:26	1
Sodium	<0.35		0.50	0.35	mg/L		06/24/20 14:32	06/30/20 11:26	1

**Lab Sample ID: MB 180-319408/1-A**  
**Matrix: Water**  
**Analysis Batch: 320103**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319408**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/24/20 14:32	06/30/20 18:22	1
Calcium	<0.13		0.50	0.13	mg/L		06/24/20 14:32	06/30/20 18:22	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/24/20 14:32	06/30/20 18:22	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/24/20 14:32	06/30/20 18:22	1
Magnesium	<0.083		0.50	0.083	mg/L		06/24/20 14:32	06/30/20 18:22	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/24/20 14:32	06/30/20 18:22	1
Potassium	<0.16		0.50	0.16	mg/L		06/24/20 14:32	06/30/20 18:22	1
Sodium	<0.35		0.50	0.35	mg/L		06/24/20 14:32	06/30/20 18:22	1

**Lab Sample ID: LCS 180-319408/2-A**  
**Matrix: Water**  
**Analysis Batch: 320064**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319408**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1.25	1.15		mg/L		92	80 - 120
Iron	5.00	5.15		mg/L		103	80 - 120
Calcium	25.0	27.5		mg/L		110	80 - 120
Manganese	0.500	0.519		mg/L		104	80 - 120
Cobalt	0.500	0.499		mg/L		100	80 - 120
Magnesium	25.0	25.3		mg/L		101	80 - 120
Molybdenum	0.500	0.518		mg/L		104	80 - 120
Potassium	25.0	25.0		mg/L		100	80 - 120
Sodium	25.0	25.7		mg/L		103	80 - 120

**Lab Sample ID: LCS 180-319408/2-A**  
**Matrix: Water**  
**Analysis Batch: 320103**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319408**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1.25	1.13		mg/L		90	80 - 120
Calcium	25.0	27.0		mg/L		108	80 - 120
Cobalt	0.500	0.519		mg/L		104	80 - 120
Lithium	0.500	0.510		mg/L		102	80 - 120
Magnesium	25.0	25.3		mg/L		101	80 - 120
Molybdenum	0.500	0.529		mg/L		106	80 - 120
Potassium	25.0	25.5		mg/L		102	80 - 120
Sodium	25.0	25.8		mg/L		103	80 - 120

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: 180-107414-1 MS**  
**Matrix: Water**  
**Analysis Batch: 320064**

**Client Sample ID: ARGWC-8**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319408**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	Limits
Boron	1.1		1.25	2.29		mg/L		94	75 - 125	
Iron	0.15		5.00	5.37		mg/L		104	75 - 125	
Calcium	52		25.0	79.0		mg/L		109	75 - 125	
Manganese	0.42		0.500	0.956		mg/L		107	75 - 125	
Cobalt	0.00017	J	0.500	0.517		mg/L		103	75 - 125	
Magnesium	23		25.0	48.1		mg/L		101	75 - 125	
Molybdenum	0.043		0.500	0.595		mg/L		110	75 - 125	
Potassium	1.7		25.0	26.8		mg/L		101	75 - 125	
Sodium	14		25.0	40.2		mg/L		105	75 - 125	

**Lab Sample ID: 180-107414-1 MS**  
**Matrix: Water**  
**Analysis Batch: 320103**

**Client Sample ID: ARGWC-8**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319408**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	Limits
Lithium	0.0042	J	0.500	0.517		mg/L		102	75 - 125	

**Lab Sample ID: 180-107414-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 320064**

**Client Sample ID: ARGWC-8**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319408**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Boron	1.1		1.25	2.22		mg/L		88	75 - 125	3	20	
Iron	0.15		5.00	5.22		mg/L		101	75 - 125	3	20	
Calcium	52		25.0	76.0		mg/L		97	75 - 125	4	20	
Manganese	0.42		0.500	0.939		mg/L		104	75 - 125	2	20	
Cobalt	0.00017	J	0.500	0.506		mg/L		101	75 - 125	2	20	
Magnesium	23		25.0	46.6		mg/L		95	75 - 125	3	20	
Molybdenum	0.043		0.500	0.578		mg/L		107	75 - 125	3	20	
Potassium	1.7		25.0	25.8		mg/L		96	75 - 125	4	20	
Sodium	14		25.0	38.6		mg/L		98	75 - 125	4	20	

**Lab Sample ID: 180-107414-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 320103**

**Client Sample ID: ARGWC-8**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319408**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Lithium	0.0042	J	0.500	0.505		mg/L		100	75 - 125	2	20	

## Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

**Lab Sample ID: MB 180-319999/1-A**  
**Matrix: Water**  
**Analysis Batch: 320056**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 319999**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfide	<2.1		3.0	2.1	mg/L		06/30/20 11:00	06/30/20 13:13	1

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

## Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric) (Continued)

**Lab Sample ID: LCS 180-319999/2-A**  
**Matrix: Water**  
**Analysis Batch: 320056**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 319999**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Sulfide	13.4	11.6		mg/L		86	85 - 115

## Method: SM2320 B - Alkalinity, Total

**Lab Sample ID: MB 180-319992/5**  
**Matrix: Water**  
**Analysis Batch: 319992**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			06/26/20 10:06	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/26/20 10:06	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/26/20 10:06	1

**Lab Sample ID: LCS 180-319992/4**  
**Matrix: Water**  
**Analysis Batch: 319992**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Alkalinity as CaCO3 to pH 4.5	250	233		mg/L		93	90 - 110

# QC Association Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

## HPLC/IC

### Analysis Batch: 319291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107414-1	ARGWC-8	Total/NA	Water	EPA 300.0 R2.1	
180-107414-2	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	
MB 180-319291/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-319291/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-107414-2 MS	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	
180-107414-2 MSD	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	

## Metals

### Prep Batch: 319408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107414-1	ARGWC-8	Dissolved	Water	3005A	
180-107414-1	ARGWC-8	Total Recoverable	Water	3005A	
180-107414-2	ARGWC-10	Dissolved	Water	3005A	
180-107414-2	ARGWC-10	Total Recoverable	Water	3005A	
MB 180-319408/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-319408/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-107414-1 MS	ARGWC-8	Total Recoverable	Water	3005A	
180-107414-1 MSD	ARGWC-8	Total Recoverable	Water	3005A	

### Analysis Batch: 320064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107414-1	ARGWC-8	Dissolved	Water	EPA 6020B	319408
180-107414-1	ARGWC-8	Total Recoverable	Water	EPA 6020B	319408
180-107414-2	ARGWC-10	Dissolved	Water	EPA 6020B	319408
180-107414-2	ARGWC-10	Total Recoverable	Water	EPA 6020B	319408
MB 180-319408/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	319408
LCS 180-319408/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	319408
180-107414-1 MS	ARGWC-8	Total Recoverable	Water	EPA 6020B	319408
180-107414-1 MSD	ARGWC-8	Total Recoverable	Water	EPA 6020B	319408

### Analysis Batch: 320103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107414-1	ARGWC-8	Total Recoverable	Water	EPA 6020B	319408
180-107414-2	ARGWC-10	Total Recoverable	Water	EPA 6020B	319408
MB 180-319408/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	319408
LCS 180-319408/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	319408
180-107414-1 MS	ARGWC-8	Total Recoverable	Water	EPA 6020B	319408
180-107414-1 MSD	ARGWC-8	Total Recoverable	Water	EPA 6020B	319408

## General Chemistry

### Analysis Batch: 319992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107414-1	ARGWC-8	Total/NA	Water	SM2320 B	
180-107414-2	ARGWC-10	Total/NA	Water	SM2320 B	
MB 180-319992/5	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-319992/4	Lab Control Sample	Total/NA	Water	SM2320 B	

### Prep Batch: 319999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107414-1	ARGWC-8	Total/NA	Water	9030B	

Eurofins TestAmerica, Pittsburgh



# QC Association Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107414-1

## General Chemistry (Continued)

### Prep Batch: 319999 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107414-2	ARGWC-10	Total/NA	Water	9030B	
MB 180-319999/1-A	Method Blank	Total/NA	Water	9030B	
LCS 180-319999/2-A	Lab Control Sample	Total/NA	Water	9030B	

### Analysis Batch: 320056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107414-1	ARGWC-8	Total/NA	Water	EPA 9034	319999
180-107414-2	ARGWC-10	Total/NA	Water	EPA 9034	319999
MB 180-319999/1-A	Method Blank	Total/NA	Water	EPA 9034	319999
LCS 180-319999/2-A	Lab Control Sample	Total/NA	Water	EPA 9034	319999

## Field Service / Mobile Lab

### Analysis Batch: 320074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107414-1	ARGWC-8	Total/NA	Water	Field Sampling	
180-107414-2	ARGWC-10	Total/NA	Water	Field Sampling	



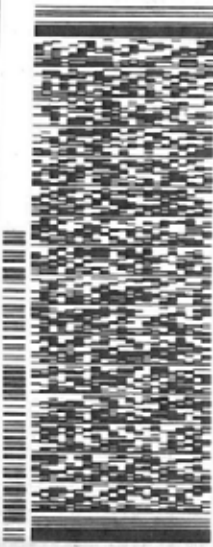
SHIP TO: MCA (770) 421-3400  
SAMPLE HANDLING  
FACILITY (WOOD BRIDGE)  
1075 BIG SHANTY RD NJ STE 100  
KENNESAW, GA 30144  
UNITED STATES US

SHIP DATE: 23 JUN 20  
ACTG# 16 2Y 05  
CNO: 6894493/55E2110  
DIR# 1BX1CX16 IN  
BILL THIRD PARTY

TO **SAMPLE RECEIVING**  
**EUROFINS TEST AMERICA**  
**301 ALPHA DR**  
**RIDC PARK**  
**PITTSBURGH PA 15238**

(412) 963-7058 REF 1  
UNIVERSITY POST

REF 1



WED - 24 JUN 10:30A  
PRIORITY OVERNIGHT  
DSR AHS  
15238  
PA-US PIT

TRK# 8121 9394 5863  
021E

**NA AGCA**

Uncorrected temp Thermometer ID  
CF 3.9 °C  
14  
Initials II  
PT-WI-SR-001 effective 7/26/13

A  
5863  
06.24

180-107414 Waybill

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-107414-1

**Login Number: 107414**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Say, Thomas C**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

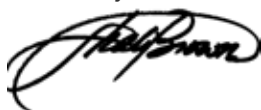
Laboratory Job ID: 180-107490-1

Client Project/Site: Plant Arkwright AP3 Alternate Source

**For:**

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
7/8/2020 3:51:23 PM

Shali Brown, Project Manager II  
(615)301-5031  
[shali.brown@testamericainc.com](mailto:shali.brown@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

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**Job ID: 180-107490-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

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**Job Narrative**  
**180-107490-1**

### Comments

No additional comments.

### Receipt

The samples were received on 6/25/2020 9:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4° C.

### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Definitions/Glossary

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-20 *
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	08-01-20
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	05-23-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



# Sample Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107490-1	EB#1	Water	06/24/20 09:25	06/25/20 09:00	
180-107490-2	ARGWC-16	Water	06/24/20 10:00	06/25/20 09:00	
180-107490-3	ARGWC-17	Water	06/24/20 12:35	06/25/20 09:00	
180-107490-4	ARAMW-6	Water	06/24/20 16:20	06/25/20 09:00	
180-107490-5	ARGWC-18	Water	06/24/20 13:20	06/25/20 09:00	
180-107490-6	ARAMW-4	Water	06/24/20 12:10	06/25/20 09:00	
180-107490-7	ARAMW-3	Water	06/24/20 13:45	06/25/20 09:00	

# Method Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
SM2320 B	Alkalinity, Total	SM18	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	TAL PIT

#### Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: EB#1**  
**Date Collected: 06/24/20 09:25**  
**Date Received: 06/25/20 09:00**

**Lab Sample ID: 180-107490-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319460	06/25/20 23:26	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: NEMO		1			320364	07/02/20 08:33	RJR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			320364	07/02/20 08:01	RJR	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	320115	07/01/20 06:00	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320175	07/01/20 07:16	CMR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	319696	06/26/20 10:14	AVS	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			319992	06/26/20 19:00	AVS	TAL PIT

**Client Sample ID: ARGWC-16**  
**Date Collected: 06/24/20 10:00**  
**Date Received: 06/25/20 09:00**

**Lab Sample ID: 180-107490-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319460	06/25/20 22:07	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		5			319945	06/30/20 10:17	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: NEMO		1			320364	07/02/20 08:36	RJR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			320364	07/02/20 08:04	RJR	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	320115	07/01/20 06:00	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320175	07/01/20 07:17	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320519	06/30/20 14:34	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/24/20 10:00	NJD	TAL PIT



# Lab Chronicle

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: ARGWC-17**

**Lab Sample ID: 180-107490-3**

**Date Collected: 06/24/20 12:35**

**Matrix: Water**

**Date Received: 06/25/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319460	06/25/20 23:42	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: NEMO		1			320364	07/02/20 08:44	RJR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			320364	07/02/20 08:12	RJR	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	320115	07/01/20 06:00	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320175	07/01/20 07:22	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320519	06/30/20 14:46	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/24/20 12:35	NJD	TAL PIT

**Client Sample ID: ARAMW-6**

**Lab Sample ID: 180-107490-4**

**Date Collected: 06/24/20 16:20**

**Matrix: Water**

**Date Received: 06/25/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319460	06/25/20 22:22	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: NEMO		1			320364	07/02/20 08:47	RJR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			320364	07/02/20 08:15	RJR	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	320115	07/01/20 06:00	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320175	07/01/20 07:23	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320519	06/30/20 14:53	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/24/20 16:20	NJD	TAL PIT

**Client Sample ID: ARGWC-18**

**Lab Sample ID: 180-107490-5**

**Date Collected: 06/24/20 13:20**

**Matrix: Water**

**Date Received: 06/25/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319460	06/25/20 22:38	MJH	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## Client Sample ID: ARGWC-18

Date Collected: 06/24/20 13:20

Date Received: 06/25/20 09:00

## Lab Sample ID: 180-107490-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320364	07/02/20 07:48	RJR	TAL PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			320364	07/02/20 08:17	RJR	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	9030B			50 mL	50 mL	320115	07/01/20 06:00	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			320175	07/01/20 07:25	CMR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM2320 B		1			320519	06/30/20 14:59	AVS	TAL PIT
Instrument ID: PCTITRATOR										
Total/NA	Analysis	Field Sampling		1			320074	06/24/20 13:20	NJD	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-4

Date Collected: 06/24/20 12:10

Date Received: 06/25/20 09:00

## Lab Sample ID: 180-107490-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			319460	06/26/20 00:29	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 300.0 R2.1		10			319460	06/26/20 00:45	MJH	TAL PIT
Instrument ID: CHIC2100A										
Dissolved	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320364	07/02/20 08:50	RJR	TAL PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			320364	07/02/20 08:20	RJR	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	9030B			50 mL	50 mL	320115	07/01/20 06:00	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			320175	07/01/20 07:26	CMR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM2320 B		1			320796	07/07/20 09:59	AVS	TAL PIT
Instrument ID: PCTITRATOR										
Total/NA	Analysis	Field Sampling		1			320074	06/24/20 12:10	NJD	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-3

Date Collected: 06/24/20 13:45

Date Received: 06/25/20 09:00

## Lab Sample ID: 180-107490-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			319460	06/26/20 01:01	MJH	TAL PIT
Instrument ID: CHIC2100A										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: ARAMW-3**

**Lab Sample ID: 180-107490-7**

**Date Collected: 06/24/20 13:45**

**Matrix: Water**

**Date Received: 06/25/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320364	07/02/20 08:52	RJR	TAL PIT
		Instrument ID: NEMO								
Total Recoverable	Prep	3005A			50 mL	50 mL	319682	06/26/20 08:36	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			320364	07/02/20 08:23	RJR	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	9030B			50 mL	50 mL	320115	07/01/20 06:00	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			320175	07/01/20 07:31	CMR	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM2320 B		1			320519	06/30/20 15:06	AVS	TAL PIT
		Instrument ID: PCTITRATOR								
Total/NA	Analysis	Field Sampling		1			320074	06/24/20 13:45	NJD	TAL PIT
		Instrument ID: NOEQUIP								

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Prep

CMR = Carl Reagle

TJO = Tyler Oliver

Batch Type: Analysis

AVS = Abbey Smith

CMR = Carl Reagle

MJH = Matthew Hartman

NJD = Nicholas DiNardo

RJR = Ron Rosenbaum

# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: EB#1**  
**Date Collected: 06/24/20 09:25**  
**Date Received: 06/25/20 09:00**

**Lab Sample ID: 180-107490-1**  
**Matrix: Water**

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			06/25/20 23:26	1
Fluoride	<0.026		0.10	0.026	mg/L			06/25/20 23:26	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/25/20 23:26	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/25/20 23:26	1
Sulfate	<0.38		1.0	0.38	mg/L			06/25/20 23:26	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Boron</b>	<b>0.11</b>		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:01	1
Calcium	<0.13		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:01	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:01	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:01	1
Magnesium	<0.083		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:01	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:01	1
Potassium	<0.16		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:01	1
Sodium	<0.35		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:01	1

### Method: EPA 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 08:33	1
<b>Manganese</b>	<b>0.0010</b>	<b>J</b>	0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 08:33	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/01/20 06:00	07/01/20 07:16	1
Total Dissolved Solids	<10		10	10	mg/L			06/26/20 10:14	1
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			06/26/20 19:00	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/26/20 19:00	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/26/20 19:00	1

# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: ARGWC-16**

**Lab Sample ID: 180-107490-2**

Date Collected: 06/24/20 10:00

Matrix: Water

Date Received: 06/25/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.9		1.0	0.32	mg/L			06/25/20 22:07	1
Fluoride	0.038	J	0.10	0.026	mg/L			06/25/20 22:07	1
Nitrate as N	0.48		0.10	0.023	mg/L			06/25/20 22:07	1
Nitrite as N	0.042	J	0.050	0.029	mg/L			06/25/20 22:07	1
Sulfate	310		5.0	1.9	mg/L			06/30/20 10:17	5

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.11		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:04	1
Calcium	47		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:04	1
Cobalt	0.00013	J	0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:04	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:04	1
Magnesium	37		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:04	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:04	1
Potassium	3.8		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:04	1
Sodium	16		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:04	1

### Method: EPA 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 08:36	1
Manganese	0.20		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 08:36	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/01/20 06:00	07/01/20 07:17	1
Total Alkalinity as CaCO3 to pH 4.!	37		5.0	5.0	mg/L			06/30/20 14:34	1
Bicarbonate Alkalinity as CaCO3	37		5.0	5.0	mg/L			06/30/20 14:34	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 14:34	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.20				SU			06/24/20 10:00	1

# Client Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: ARGWC-17**

**Lab Sample ID: 180-107490-3**

Date Collected: 06/24/20 12:35

Matrix: Water

Date Received: 06/25/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.0		1.0	0.32	mg/L			06/25/20 23:42	1
Fluoride	<0.026		0.10	0.026	mg/L			06/25/20 23:42	1
Nitrate as N	0.51		0.10	0.023	mg/L			06/25/20 23:42	1
Nitrite as N	0.045	J	0.050	0.029	mg/L			06/25/20 23:42	1
Sulfate	67	F1	1.0	0.38	mg/L			06/25/20 23:42	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.059	J	0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:12	1
Calcium	11		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:12	1
Cobalt	0.024		0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:12	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:12	1
Magnesium	11		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:12	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:12	1
Potassium	1.1		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:12	1
Sodium	9.2		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:12	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.057		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 08:44	1
Manganese	0.50		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 08:44	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/01/20 06:00	07/01/20 07:22	1
Total Alkalinity as CaCO3 to pH 4.!	12		5.0	5.0	mg/L			06/30/20 14:46	1
Bicarbonate Alkalinity as CaCO3	12		5.0	5.0	mg/L			06/30/20 14:46	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 14:46	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.11				SU			06/24/20 12:35	1



# Client Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: ARAMW-6**

**Lab Sample ID: 180-107490-4**

Date Collected: 06/24/20 16:20

Matrix: Water

Date Received: 06/25/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.4		1.0	0.32	mg/L			06/25/20 22:22	1
Fluoride	0.082	J	0.10	0.026	mg/L			06/25/20 22:22	1
Nitrate as N	0.023	J	0.10	0.023	mg/L			06/25/20 22:22	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/25/20 22:22	1
Sulfate	58		1.0	0.38	mg/L			06/25/20 22:22	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:15	1
Calcium	33		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:15	1
Cobalt	0.0049		0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:15	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:15	1
Magnesium	19		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:15	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:15	1
Potassium	1.3		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:15	1
Sodium	12		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:15	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.0		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 08:47	1
Manganese	0.23		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 08:47	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/01/20 06:00	07/01/20 07:23	1
Total Alkalinity as CaCO3 to pH 4.!	120		5.0	5.0	mg/L			06/30/20 14:53	1
Bicarbonate Alkalinity as CaCO3	120		5.0	5.0	mg/L			06/30/20 14:53	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 14:53	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.33				SU			06/24/20 16:20	1

# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: ARGWC-18**

**Lab Sample ID: 180-107490-5**

Date Collected: 06/24/20 13:20

Matrix: Water

Date Received: 06/25/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.2		1.0	0.32	mg/L			06/25/20 22:38	1
Fluoride	0.094	J	0.10	0.026	mg/L			06/25/20 22:38	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/25/20 22:38	1
Nitrite as N	0.048	J	0.050	0.029	mg/L			06/25/20 22:38	1
Sulfate	190		1.0	0.38	mg/L			06/25/20 22:38	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:17	1
Calcium	44		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:17	1
Cobalt	0.0012	J	0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:17	1
Lithium	0.0047	J	0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:17	1
Magnesium	42		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:17	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:17	1
Potassium	2.2		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:17	1
Sodium	12		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:17	1

### Method: EPA 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.86		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 07:48	1
Manganese	0.82		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 07:48	1
Cobalt	0.0011	J	0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 07:48	1
Sodium	12		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 07:48	1
Potassium	2.4		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 07:48	1
Lithium	0.0053		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 07:48	1
Calcium	46		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 07:48	1
Molybdenum	0.00062	J	0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 07:48	1
Magnesium	44		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 07:48	1
Boron	2.3		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 07:48	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/01/20 06:00	07/01/20 07:25	1
Total Alkalinity as CaCO3 to pH 4.1	110		5.0	5.0	mg/L			06/30/20 14:59	1
Bicarbonate Alkalinity as CaCO3	110		5.0	5.0	mg/L			06/30/20 14:59	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 14:59	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.91				SU			06/24/20 13:20	1

# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: ARAMW-4**

**Lab Sample ID: 180-107490-6**

Date Collected: 06/24/20 12:10

Matrix: Water

Date Received: 06/25/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.4		1.0	0.32	mg/L			06/26/20 00:29	1
Fluoride	0.041	J	0.10	0.026	mg/L			06/26/20 00:29	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/26/20 00:29	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/26/20 00:29	1
Sulfate	860		10	3.8	mg/L			06/26/20 00:45	10

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.40		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:20	1
Calcium	170		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:20	1
Cobalt	0.0049		0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:20	1
Lithium	0.013		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:20	1
Magnesium	97		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:20	1
Molybdenum	0.00079	J	0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:20	1
Potassium	12		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:20	1
Sodium	28		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:20	1

### Method: EPA 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7.5		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 08:50	1
Manganese	2.3		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 08:50	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/01/20 06:00	07/01/20 07:26	1
Total Alkalinity as CaCO3 to pH 4.5	64		5.0	5.0	mg/L			07/07/20 09:59	1
Bicarbonate Alkalinity as CaCO3	64		5.0	5.0	mg/L			07/07/20 09:59	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 09:59	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.78				SU			06/24/20 12:10	1

# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

**Client Sample ID: ARAMW-3**

**Lab Sample ID: 180-107490-7**

Date Collected: 06/24/20 13:45

Matrix: Water

Date Received: 06/25/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.9		1.0	0.32	mg/L			06/26/20 01:01	1
Fluoride	0.18		0.10	0.026	mg/L			06/26/20 01:01	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/26/20 01:01	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/26/20 01:01	1
Sulfate	45		1.0	0.38	mg/L			06/26/20 01:01	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.99		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:23	1
Calcium	33		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:23	1
Cobalt	0.00053	J	0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:23	1
Lithium	0.0046	J	0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:23	1
Magnesium	17		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:23	1
Molybdenum	0.0077	J	0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:23	1
Potassium	5.2		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:23	1
Sodium	15		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:23	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6.3		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 08:52	1
Manganese	1.2		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 08:52	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/01/20 06:00	07/01/20 07:31	1
Total Alkalinity as CaCO3 to pH 4.5	140		5.0	5.0	mg/L			06/30/20 15:06	1
Bicarbonate Alkalinity as CaCO3	140		5.0	5.0	mg/L			06/30/20 15:06	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 15:06	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.38				SU			06/24/20 13:45	1

# QC Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: MB 180-319460/50**  
**Matrix: Water**  
**Analysis Batch: 319460**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			06/25/20 19:12	1
Fluoride	<0.026		0.10	0.026	mg/L			06/25/20 19:12	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/25/20 19:12	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/25/20 19:12	1
Sulfate	<0.38		1.0	0.38	mg/L			06/25/20 19:12	1

**Lab Sample ID: LCS 180-319460/49**  
**Matrix: Water**  
**Analysis Batch: 319460**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	55.2		mg/L		110	90 - 110
Fluoride	2.50	2.70		mg/L		108	90 - 110
Nitrate as N	2.50	2.65		mg/L		106	90 - 110
Nitrite as N	2.50	2.59		mg/L		104	90 - 110
Sulfate	50.0	52.3		mg/L		105	90 - 110

**Lab Sample ID: 180-107490-3 MS**  
**Matrix: Water**  
**Analysis Batch: 319460**

**Client Sample ID: ARGWC-17**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.0		25.0	29.6		mg/L		102	90 - 110
Fluoride	<0.026		1.25	1.26		mg/L		101	90 - 110
Nitrate as N	0.51		1.25	1.72		mg/L		97	90 - 110
Nitrite as N	0.045	J	1.25	1.27		mg/L		98	90 - 110
Sulfate	67	F1	25.0	87.6	F1	mg/L		83	90 - 110

**Lab Sample ID: 180-107490-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 319460**

**Client Sample ID: ARGWC-17**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.0		25.0	29.9		mg/L		104	90 - 110	1	20
Fluoride	<0.026		1.25	1.26		mg/L		101	90 - 110	0	20
Nitrate as N	0.51		1.25	1.75		mg/L		99	90 - 110	2	20
Nitrite as N	0.045	J	1.25	1.27		mg/L		98	90 - 110	1	20
Sulfate	67	F1	25.0	88.6	F1	mg/L		87	90 - 110	1	20

**Lab Sample ID: MB 180-319945/6**  
**Matrix: Water**  
**Analysis Batch: 319945**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<0.38		1.0	0.38	mg/L			06/30/20 05:56	1

# QC Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 180-319945/5  
Matrix: Water  
Analysis Batch: 319945

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	54.1		mg/L		108	90 - 110

## Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 180-319682/1-A  
Matrix: Water  
Analysis Batch: 320364

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 319682

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 07:40	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 07:40	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 07:40	1
Sodium	<0.35		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 07:40	1
Potassium	<0.16		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 07:40	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 07:40	1
Calcium	<0.13		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 07:40	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 07:40	1
Magnesium	<0.083		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 07:40	1
Boron	<0.039		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 07:40	1

Lab Sample ID: LCS 180-319682/2-A  
Matrix: Water  
Analysis Batch: 320364

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 319682

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5.00	5.29		mg/L		106	80 - 120
Manganese	1.00	0.983		mg/L		98	80 - 120
Cobalt	1.00	1.03		mg/L		103	80 - 120
Sodium	25.0	25.4		mg/L		102	80 - 120
Potassium	25.0	25.5		mg/L		102	80 - 120
Lithium	1.00	1.09		mg/L		109	80 - 120
Calcium	25.0	26.0		mg/L		104	80 - 120
Molybdenum	1.00	1.04		mg/L		104	80 - 120
Magnesium	25.0	26.5		mg/L		106	80 - 120
Boron	1.25	1.17		mg/L		93	80 - 120

Lab Sample ID: 180-107490-5 MS  
Matrix: Water  
Analysis Batch: 320364

Client Sample ID: ARGWC-18  
Prep Type: Dissolved  
Prep Batch: 319682

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.86		5.00	5.87		mg/L		100	75 - 125
Manganese	0.82		0.500	1.27		mg/L		90	75 - 125
Cobalt	0.0011	J	0.500	0.484		mg/L		97	75 - 125
Sodium	12		25.0	36.4		mg/L		97	75 - 125
Potassium	2.4		25.0	26.6		mg/L		97	75 - 125
Lithium	0.0053		0.500	0.502		mg/L		99	75 - 125
Calcium	46		25.0	68.4		mg/L		89	75 - 125
Molybdenum	0.00062	J	0.500	0.514		mg/L		103	75 - 125

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# QC Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: 180-107490-5 MS**  
**Matrix: Water**  
**Analysis Batch: 320364**

**Client Sample ID: ARGWC-18**  
**Prep Type: Dissolved**  
**Prep Batch: 319682**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	44		25.0	68.0		mg/L		95	75 - 125
Boron	2.3		1.25	3.51		mg/L		96	75 - 125

**Lab Sample ID: 180-107490-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 320364**

**Client Sample ID: ARGWC-18**  
**Prep Type: Dissolved**  
**Prep Batch: 319682**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.86		5.00	6.13		mg/L		105	75 - 125	4	20
Manganese	0.82		0.500	1.28		mg/L		91	75 - 125	0	20
Cobalt	0.0011	J	0.500	0.488		mg/L		97	75 - 125	1	20
Sodium	12		25.0	36.2		mg/L		96	75 - 125	1	20
Potassium	2.4		25.0	26.5		mg/L		97	75 - 125	1	20
Lithium	0.0053		0.500	0.509		mg/L		101	75 - 125	1	20
Calcium	46		25.0	66.6		mg/L		82	75 - 125	3	20
Molybdenum	0.00062	J	0.500	0.522		mg/L		104	75 - 125	2	20
Magnesium	44		25.0	67.2		mg/L		92	75 - 125	1	20
Boron	2.3		1.25	3.53		mg/L		97	75 - 125	1	20

## Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

**Lab Sample ID: MB 180-320115/1-A**  
**Matrix: Water**  
**Analysis Batch: 320175**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 320115**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/01/20 06:00	07/01/20 07:13	1

**Lab Sample ID: LCS 180-320115/2-A**  
**Matrix: Water**  
**Analysis Batch: 320175**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 320115**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	11.9	10.5		mg/L		89	85 - 115

**Lab Sample ID: 180-107490-2 MS**  
**Matrix: Water**  
**Analysis Batch: 320175**

**Client Sample ID: ARGWC-16**  
**Prep Type: Total/NA**  
**Prep Batch: 320115**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	<2.1		11.9	10.1		mg/L		85	75 - 125

**Lab Sample ID: 180-107490-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 320175**

**Client Sample ID: ARGWC-16**  
**Prep Type: Total/NA**  
**Prep Batch: 320115**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	<2.1		11.9	9.77		mg/L		82	75 - 125	3	20

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: MB 180-319696/2**  
**Matrix: Water**  
**Analysis Batch: 319696**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			06/26/20 10:14	1

**Lab Sample ID: LCS 180-319696/1**  
**Matrix: Water**  
**Analysis Batch: 319696**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	567	586		mg/L		103	80 - 120

## Method: SM2320 B - Alkalinity, Total

**Lab Sample ID: MB 180-319992/77**  
**Matrix: Water**  
**Analysis Batch: 319992**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			06/26/20 18:10	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/26/20 18:10	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/26/20 18:10	1

**Lab Sample ID: LCS 180-319992/76**  
**Matrix: Water**  
**Analysis Batch: 319992**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3 to pH 4.5	250	235		mg/L		94	90 - 110

**Lab Sample ID: MB 180-320519/5**  
**Matrix: Water**  
**Analysis Batch: 320519**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			06/30/20 13:11	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 13:11	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 13:11	1

**Lab Sample ID: LCS 180-320519/4**  
**Matrix: Water**  
**Analysis Batch: 320519**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3 to pH 4.5	250	233		mg/L		93	90 - 110

# QC Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## Method: SM2320 B - Alkalinity, Total (Continued)

**Lab Sample ID: 180-107490-2 DU**  
**Matrix: Water**  
**Analysis Batch: 320519**

**Client Sample ID: ARGWC-16**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Alkalinity as CaCO3 to pH 4.5	37		38.3		mg/L		4	20
Bicarbonate Alkalinity as CaCO3	37		38.3		mg/L		4	20
Carbonate Alkalinity as CaCO3	<5.0		<5.0		mg/L		NC	20

**Lab Sample ID: MB 180-320796/5**  
**Matrix: Water**  
**Analysis Batch: 320796**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			07/07/20 08:32	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 08:32	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 08:32	1

**Lab Sample ID: LCS 180-320796/4**  
**Matrix: Water**  
**Analysis Batch: 320796**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity as CaCO3 to pH 4.5	250	235		mg/L		94	90 - 110

# QC Association Summary

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## HPLC/IC

### Analysis Batch: 319460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-1	EB#1	Total/NA	Water	EPA 300.0 R2.1	
180-107490-2	ARGWC-16	Total/NA	Water	EPA 300.0 R2.1	
180-107490-3	ARGWC-17	Total/NA	Water	EPA 300.0 R2.1	
180-107490-4	ARAMW-6	Total/NA	Water	EPA 300.0 R2.1	
180-107490-5	ARGWC-18	Total/NA	Water	EPA 300.0 R2.1	
180-107490-6	ARAMW-4	Total/NA	Water	EPA 300.0 R2.1	
180-107490-6	ARAMW-4	Total/NA	Water	EPA 300.0 R2.1	
180-107490-7	ARAMW-3	Total/NA	Water	EPA 300.0 R2.1	
MB 180-319460/50	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-319460/49	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-107490-3 MS	ARGWC-17	Total/NA	Water	EPA 300.0 R2.1	
180-107490-3 MSD	ARGWC-17	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 319945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-2	ARGWC-16	Total/NA	Water	EPA 300.0 R2.1	
MB 180-319945/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-319945/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

## Metals

### Prep Batch: 319682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-1	EB#1	Dissolved	Water	3005A	
180-107490-1	EB#1	Total Recoverable	Water	3005A	
180-107490-2	ARGWC-16	Dissolved	Water	3005A	
180-107490-2	ARGWC-16	Total Recoverable	Water	3005A	
180-107490-3	ARGWC-17	Dissolved	Water	3005A	
180-107490-3	ARGWC-17	Total Recoverable	Water	3005A	
180-107490-4	ARAMW-6	Dissolved	Water	3005A	
180-107490-4	ARAMW-6	Total Recoverable	Water	3005A	
180-107490-5	ARGWC-18	Dissolved	Water	3005A	
180-107490-5	ARGWC-18	Total Recoverable	Water	3005A	
180-107490-6	ARAMW-4	Dissolved	Water	3005A	
180-107490-6	ARAMW-4	Total Recoverable	Water	3005A	
180-107490-7	ARAMW-3	Dissolved	Water	3005A	
180-107490-7	ARAMW-3	Total Recoverable	Water	3005A	
MB 180-319682/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-319682/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-107490-5 MS	ARGWC-18	Dissolved	Water	3005A	
180-107490-5 MSD	ARGWC-18	Dissolved	Water	3005A	

### Analysis Batch: 320364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-1	EB#1	Dissolved	Water	EPA 6020B	319682
180-107490-1	EB#1	Total Recoverable	Water	EPA 6020B	319682
180-107490-2	ARGWC-16	Dissolved	Water	EPA 6020B	319682
180-107490-2	ARGWC-16	Total Recoverable	Water	EPA 6020B	319682
180-107490-3	ARGWC-17	Dissolved	Water	EPA 6020B	319682
180-107490-3	ARGWC-17	Total Recoverable	Water	EPA 6020B	319682
180-107490-4	ARAMW-6	Dissolved	Water	EPA 6020B	319682

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# QC Association Summary

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## Metals (Continued)

### Analysis Batch: 320364 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-4	ARAMW-6	Total Recoverable	Water	EPA 6020B	319682
180-107490-5	ARGWC-18	Dissolved	Water	EPA 6020B	319682
180-107490-5	ARGWC-18	Total Recoverable	Water	EPA 6020B	319682
180-107490-6	ARAMW-4	Dissolved	Water	EPA 6020B	319682
180-107490-6	ARAMW-4	Total Recoverable	Water	EPA 6020B	319682
180-107490-7	ARAMW-3	Dissolved	Water	EPA 6020B	319682
180-107490-7	ARAMW-3	Total Recoverable	Water	EPA 6020B	319682
MB 180-319682/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	319682
LCS 180-319682/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	319682
180-107490-5 MS	ARGWC-18	Dissolved	Water	EPA 6020B	319682
180-107490-5 MSD	ARGWC-18	Dissolved	Water	EPA 6020B	319682

## General Chemistry

### Analysis Batch: 319696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-1	EB#1	Total/NA	Water	SM 2540C	
MB 180-319696/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-319696/1	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 319992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-1	EB#1	Total/NA	Water	SM2320 B	
MB 180-319992/77	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-319992/76	Lab Control Sample	Total/NA	Water	SM2320 B	

### Prep Batch: 320115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-1	EB#1	Total/NA	Water	9030B	
180-107490-2	ARGWC-16	Total/NA	Water	9030B	
180-107490-3	ARGWC-17	Total/NA	Water	9030B	
180-107490-4	ARAMW-6	Total/NA	Water	9030B	
180-107490-5	ARGWC-18	Total/NA	Water	9030B	
180-107490-6	ARAMW-4	Total/NA	Water	9030B	
180-107490-7	ARAMW-3	Total/NA	Water	9030B	
MB 180-320115/1-A	Method Blank	Total/NA	Water	9030B	
LCS 180-320115/2-A	Lab Control Sample	Total/NA	Water	9030B	
180-107490-2 MS	ARGWC-16	Total/NA	Water	9030B	
180-107490-2 MSD	ARGWC-16	Total/NA	Water	9030B	

### Analysis Batch: 320175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-1	EB#1	Total/NA	Water	EPA 9034	320115
180-107490-2	ARGWC-16	Total/NA	Water	EPA 9034	320115
180-107490-3	ARGWC-17	Total/NA	Water	EPA 9034	320115
180-107490-4	ARAMW-6	Total/NA	Water	EPA 9034	320115
180-107490-5	ARGWC-18	Total/NA	Water	EPA 9034	320115
180-107490-6	ARAMW-4	Total/NA	Water	EPA 9034	320115
180-107490-7	ARAMW-3	Total/NA	Water	EPA 9034	320115
MB 180-320115/1-A	Method Blank	Total/NA	Water	EPA 9034	320115
LCS 180-320115/2-A	Lab Control Sample	Total/NA	Water	EPA 9034	320115

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# QC Association Summary

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107490-1

## General Chemistry (Continued)

### Analysis Batch: 320175 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-2 MS	ARGWC-16	Total/NA	Water	EPA 9034	320115
180-107490-2 MSD	ARGWC-16	Total/NA	Water	EPA 9034	320115

### Analysis Batch: 320519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-2	ARGWC-16	Total/NA	Water	SM2320 B	
180-107490-3	ARGWC-17	Total/NA	Water	SM2320 B	
180-107490-4	ARAMW-6	Total/NA	Water	SM2320 B	
180-107490-5	ARGWC-18	Total/NA	Water	SM2320 B	
180-107490-7	ARAMW-3	Total/NA	Water	SM2320 B	
MB 180-320519/5	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-320519/4	Lab Control Sample	Total/NA	Water	SM2320 B	
180-107490-2 DU	ARGWC-16	Total/NA	Water	SM2320 B	

### Analysis Batch: 320796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-6	ARAMW-4	Total/NA	Water	SM2320 B	
MB 180-320796/5	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-320796/4	Lab Control Sample	Total/NA	Water	SM2320 B	

## Field Service / Mobile Lab

### Analysis Batch: 320074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107490-2	ARGWC-16	Total/NA	Water	Field Sampling	
180-107490-3	ARGWC-17	Total/NA	Water	Field Sampling	
180-107490-4	ARAMW-6	Total/NA	Water	Field Sampling	
180-107490-5	ARGWC-18	Total/NA	Water	Field Sampling	
180-107490-6	ARAMW-4	Total/NA	Water	Field Sampling	
180-107490-7	ARAMW-3	Total/NA	Water	Field Sampling	



<b>Client Information</b>		Sampler: <b>D Howard, E Guillen</b> Lab PM: <b>Brown, Shali</b>		Center Tracking No(s)		DOC No: 180-61584-12490.1								
Client Contact: Joju Abraham		Phone: <b>T. Dasker, E Mayila</b>		E-Mail: shali.brown@lestamerica.com		Page: Page 1 of 1								
Company: Southern Company		Address: 241 Ralph McGill Blvd SE B10185		City: Atlanta		State, Zip: GA, 30308								
Due Date Requested:		TAT Requested (days): <b>5 days</b>		PO#: SCS10382606		Project #: 18026201								
Email: JAbraham@southernco.com		Project Name: Plant Arkwright AP3 Alternate Source		SSON#:		Site: Georgia								
Analysis Requested		Preservation Codes:		Field Filtered Sample (Yes or No)		Total Number of containers								
A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4.5 L - EDA Z - other (specify)		Perform MS/MGD (Yes or No) 2320B - 300 - ORCA/MS + Fluoride 6020B - (MOD) Custom 8 (CoMo,LC,Mg,Ni,K) + Fluoride 6020B - (MOD) Dissolved Fe/In 2440C - Catcd - Solids, Total Dissolved (TDS) 9034 - Calc - Local Method 6020B (MOD) Custom 8 (CoMo,LC,Mg,Ni,K) + Fluoride (AKB)		Other: Special Instructions/Note:		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4.5 L - EDA Z - other (specify)								
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Inorganic, Seawater, Organics, etc.)	Field Filtered Sample (Yes or No)	Perform MS/MGD (Yes or No)	2320B - 300 - ORCA/MS + Fluoride	6020B - (MOD) Custom 8 (CoMo,LC,Mg,Ni,K) + Fluoride	6020B - (MOD) Dissolved Fe/In	2440C - Catcd - Solids, Total Dissolved (TDS)	9034 - Calc - Local Method	6020B (MOD) Custom 8 (CoMo,LC,Mg,Ni,K) + Fluoride (AKB)	Total Number of containers	Special Instructions/Note:
EB#1	6/24/20	0925	G	Water	Y	X	X	X	X	X			5	+ Fluoride
ARGWC-16		1000	G	Water	Y	X	X	X	X				4	pH = 5.20
ARGWC-17		1235	G	Water	Y	X	X	X	X				4	pH = 6.33 (5.1)
ARAMW-6		1620	G	Water	Y	X	X	X	X				4	pH = 6.33
ARGWC-18		1320	G	Water	Y	X	X	X	X	X			5	pH = 5.91
ARAMW-4		1210	G	Water	Y	X	X	X	X				4	pH = 5.78
ARAMW-3		1345	G	Water	Y	X	X	X	X				4	pH = 6.38
				Water										
				Water										
				Water										



Possible Hazard Identification  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological

Sample Disposal (A fee may be assessed)  
 Return To Client  Disposal  
 Special Instructions/QC Requirements.

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_

Relinquished by: **Daniel L Howard** Date/Time: **6/24/20/ 1815** Company: \_\_\_\_\_ Received by: **[Signature]** Date/Time: **6/25/20 900** Company: **Conix**

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No Custody Seal No.: \_\_\_\_\_ Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

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Resident's Copy

**Express Package Service** \*To meet deadlines

**Next Business Day**

**FedEx First Overnight**  
 Next business day, Monday through Saturday. Delivery by 8:00 AM. Priority shipping will be scheduled on Monday unless Saturday delivery is selected.

**FedEx Priority Overnight**  
 Next business morning. \*Next shipments will be delivered on Monday unless Saturday delivery is selected.

**FedEx Standard Overnight**  
 Next business afternoon. \*Next shipments will be delivered on Monday unless Saturday delivery is selected.

**Packaging** \*Declared value limit \$500

FedEx Envelope\*  FedEx Pak\*  FedEx Box  FedEx Tube  Other

**Special Handling and Delivery Options** Fees may apply. See the FedEx Service Guide.

**2 or 3 Business Days**  
 FedEx 2Day A.M.  
 Second business morning. \*Saturday delivery NOT available.

FedEx 2Day  
 Second business afternoon. \*Thursday shipments will be delivered on Monday unless Saturday delivery is selected.

FedEx Express Saver  
 Next business day. \*Saturday delivery NOT available.

fedex.com 1.800.1

SHIP DATE: 24 JUN 20  
 ACTWT: 55.05 LB  
 CAD: 6994493/SSFE2110  
 DIMS: 23x14x13.15  
 BILL THIRD PARTY

ORIGIN ID: MCNA (770) 421-3400  
 DANIEL HOWARD  
 AMEC (WOOD CVIS)  
 1075 BIG SHANTY RD NW STE 100  
 KENNESAW, GA 30144  
 UNITED STATES US

TO **SAMPLE RECEIVING**  
**EUROFINS TEST AMERICA**  
**301 ALPHA DR**  
**RIDC PARK**  
**PITTSBURGH PA 15238**

4121 963 - 7056 REF: DEPT: 1



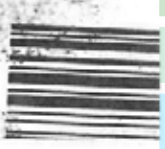
**THU - 25 JUN 10:30A**  
**PRIORITY OVERNIGHT**

TRK 8121 9394 5782  
 0215

**NA AGCA**

15238  
 PA-US PIT

Uncorrected temp 24 °C  
 Thermometer ID 14  
 CF Q Initials B



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## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-107490-1

**Login Number: 107490**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Say, Thomas C**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-107679-1

Client Project/Site: Plant Arkwright AP3 Alternate Source

**For:**

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
7/9/2020 1:55:03 PM

Shali Brown, Project Manager II  
(615)301-5031  
[Shali.Brown@Eurofinset.com](mailto:Shali.Brown@Eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

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## Job ID: 180-107679-1

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Laboratory: Eurofins TestAmerica, Pittsburgh

### Narrative

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#### Job Narrative 180-107679-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 6/29/2020 9:23 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 13.1° C.

#### Receipt Exceptions

The following samples were received outside of holding time for the nitrate analysis. ARGWC-15 (180-107679-1), ARGWA-14 (180-107679-2), ARGWA-3 (180-107679-3), ARGWA-5 (180-107679-4), ARGWC-7 (180-107679-5) and ARGWA-13 (180-107679-6).

The following samples were received at the laboratory outside the required temperature criteria of 13.1°C due to a fedex delay. ARGWC-15 (180-107679-1), ARGWA-14 (180-107679-2), ARGWA-3 (180-107679-3), ARGWA-5 (180-107679-4), ARGWC-7 (180-107679-5) and ARGWA-13 (180-107679-6). The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

#### GC Semi VOA

Methods 300.0: The following samples were received outside of holding time for Nitrate and/or Nitrite analysis: ARGWA-3 (180-107679-3), ARGWA-5 (180-107679-4), ARGWC-7 (180-107679-5) and ARGWA-13 (180-107679-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.





# Definitions/Glossary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
H3	Sample was received and analyzed past holding time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-21
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	08-01-20
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	05-23-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20



# Sample Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107679-1	ARGWC-15	Water	06/25/20 11:10	06/29/20 09:23	
180-107679-2	ARGWA-14	Water	06/25/20 13:40	06/29/20 09:23	
180-107679-3	ARGWA-3	Water	06/25/20 16:20	06/29/20 09:23	
180-107679-4	ARGWA-5	Water	06/25/20 14:05	06/29/20 09:23	
180-107679-5	ARGWC-7	Water	06/25/20 16:15	06/29/20 09:23	
180-107679-6	ARGWA-13	Water	06/25/20 15:14	06/29/20 09:23	

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# Method Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL PIT
SM2320 B	Alkalinity, Total	SM18	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	TAL PIT

#### Protocol References:

EPA = US Environmental Protection Agency

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Client Sample ID: ARGWC-15

## Lab Sample ID: 180-107679-1

Date Collected: 06/25/20 11:10

Matrix: Water

Date Received: 06/29/20 09:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319944	06/30/20 18:15	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 00:59	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 01:37	RSK	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	320341	07/02/20 11:40	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320374	07/02/20 13:06	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320796	07/07/20 10:18	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/25/20 11:10	NJD	TAL PIT

## Client Sample ID: ARGWA-14

## Lab Sample ID: 180-107679-2

Date Collected: 06/25/20 13:40

Matrix: Water

Date Received: 06/29/20 09:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319944	06/30/20 18:31	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 01:02	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 01:41	RSK	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	320341	07/02/20 11:40	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320374	07/02/20 13:08	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320796	07/07/20 10:25	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/25/20 13:40	NJD	TAL PIT

## Client Sample ID: ARGWA-3

## Lab Sample ID: 180-107679-3

Date Collected: 06/25/20 16:20

Matrix: Water

Date Received: 06/29/20 09:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319944	06/30/20 19:20	MJH	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Client Sample ID: ARGWA-3

## Lab Sample ID: 180-107679-3

Date Collected: 06/25/20 16:20

Matrix: Water

Date Received: 06/29/20 09:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320452	07/03/20 01:13	RSK	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			320452	07/03/20 01:44	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	9030B			50 mL	50 mL	320341	07/02/20 11:40	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			320374	07/02/20 13:13	CMR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM2320 B		1			320796	07/07/20 10:31	AVS	TAL PIT
Instrument ID: PCTITRATOR										
Total/NA	Analysis	Field Sampling		1			320074	06/25/20 16:20	NJD	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-5

## Lab Sample ID: 180-107679-4

Date Collected: 06/25/20 14:05

Matrix: Water

Date Received: 06/29/20 09:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			319944	06/30/20 19:37	MJH	TAL PIT
Instrument ID: CHIC2100A										
Dissolved	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320452	07/03/20 01:16	RSK	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			320452	07/03/20 01:55	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	9030B			50 mL	50 mL	320341	07/02/20 11:40	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			320374	07/02/20 13:15	CMR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM2320 B		1			320796	07/07/20 10:38	AVS	TAL PIT
Instrument ID: PCTITRATOR										
Total/NA	Analysis	Field Sampling		1			320074	06/25/20 14:05	NJD	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-7

## Lab Sample ID: 180-107679-5

Date Collected: 06/25/20 16:15

Matrix: Water

Date Received: 06/29/20 09:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			319944	06/30/20 19:53	MJH	TAL PIT
Instrument ID: CHIC2100A										
Dissolved	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320452	07/03/20 01:20	RSK	TAL PIT
Instrument ID: DORY										

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Client Sample ID: ARGWC-7

## Lab Sample ID: 180-107679-5

Date Collected: 06/25/20 16:15

Matrix: Water

Date Received: 06/29/20 09:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			320452	07/03/20 01:58	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	9030B			50 mL	50 mL	320341	07/02/20 11:40	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			320374	07/02/20 13:16	CMR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM2320 B		1			320796	07/07/20 10:44	AVS	TAL PIT
Instrument ID: PCTITRATOR										
Total/NA	Analysis	Field Sampling		1			320074	06/25/20 16:15	NJD	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-13

## Lab Sample ID: 180-107679-6

Date Collected: 06/25/20 15:14

Matrix: Water

Date Received: 06/29/20 09:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			319944	06/30/20 20:09	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 300.0 R2.1		10			320882	07/09/20 01:52	MJH	TAL PIT
Instrument ID: CHIC2100A										
Dissolved	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320452	07/03/20 01:23	RSK	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			320452	07/03/20 02:02	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	9030B			50 mL	50 mL	320341	07/02/20 11:40	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			320374	07/02/20 13:18	CMR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM2320 B		1			320796	07/07/20 11:18	AVS	TAL PIT
Instrument ID: PCTITRATOR										
Total/NA	Analysis	Field Sampling		1			320074	06/25/20 15:14	NJD	TAL PIT
Instrument ID: NOEQUIP										

### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Analyst References:

Lab: TAL PIT

Batch Type: Prep

CMR = Carl Reagle

JL = James Lyu

Batch Type: Analysis

AVS = Abbey Smith

CMR = Carl Reagle

MJH = Matthew Hartman

NJD = Nicholas DiNardo

RSK = Robert Kurtz

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# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

**Client Sample ID: ARGWC-15**

**Lab Sample ID: 180-107679-1**

Date Collected: 06/25/20 11:10

Matrix: Water

Date Received: 06/29/20 09:23

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.9		1.0	0.32	mg/L			06/30/20 18:15	1
Fluoride	0.067	J	0.10	0.026	mg/L			06/30/20 18:15	1
Nitrate as N	0.21	H H3	0.10	0.023	mg/L			06/30/20 18:15	1
Nitrite as N	<0.029	H H3	0.050	0.029	mg/L			06/30/20 18:15	1
Sulfate	5.6		1.0	0.38	mg/L			06/30/20 18:15	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 01:37	1
Calcium	23		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 01:37	1
Cobalt	0.00022	J	0.0025	0.00013	mg/L		06/30/20 15:21	07/03/20 01:37	1
Lithium	0.0040	J	0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 01:37	1
Magnesium	8.0		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 01:37	1
Molybdenum	0.00086	J	0.015	0.00061	mg/L		06/30/20 15:21	07/03/20 01:37	1
Potassium	7.5		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 01:37	1
Sodium	9.2		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 01:37	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 00:59	1
Manganese	0.0091		0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 00:59	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 13:06	1
Total Alkalinity as CaCO3 to pH 4.1	98		5.0	5.0	mg/L			07/07/20 10:18	1
Bicarbonate Alkalinity as CaCO3	98		5.0	5.0	mg/L			07/07/20 10:18	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 10:18	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.32				SU			06/25/20 11:10	1

# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

**Client Sample ID: ARGWA-14**

**Lab Sample ID: 180-107679-2**

Date Collected: 06/25/20 13:40

Matrix: Water

Date Received: 06/29/20 09:23

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.0		1.0	0.32	mg/L			06/30/20 18:31	1
Fluoride	0.17		0.10	0.026	mg/L			06/30/20 18:31	1
Nitrate as N	0.085	J H H3	0.10	0.023	mg/L			06/30/20 18:31	1
Nitrite as N	<0.029	H H3	0.050	0.029	mg/L			06/30/20 18:31	1
Sulfate	3.3		1.0	0.38	mg/L			06/30/20 18:31	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 01:41	1
Calcium	27		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 01:41	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/30/20 15:21	07/03/20 01:41	1
Lithium	0.0071		0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 01:41	1
Magnesium	5.0		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 01:41	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/30/20 15:21	07/03/20 01:41	1
Potassium	2.2		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 01:41	1
Sodium	43		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 01:41	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.023	J	0.050	0.020	mg/L		06/30/20 15:21	07/03/20 01:02	1
Manganese	0.0078		0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 01:02	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 13:08	1
Total Alkalinity as CaCO3 to pH 4.!	140		5.0	5.0	mg/L			07/07/20 10:25	1
Bicarbonate Alkalinity as CaCO3	140		5.0	5.0	mg/L			07/07/20 10:25	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 10:25	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.38				SU			06/25/20 13:40	1

# Client Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

**Client Sample ID: ARGWA-3**

**Lab Sample ID: 180-107679-3**

Date Collected: 06/25/20 16:20

Matrix: Water

Date Received: 06/29/20 09:23

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.8		1.0	0.32	mg/L			06/30/20 19:20	1
Fluoride	0.060	J	0.10	0.026	mg/L			06/30/20 19:20	1
Nitrate as N	<0.023	H H3	0.10	0.023	mg/L			06/30/20 19:20	1
Nitrite as N	<0.029	H H3	0.050	0.029	mg/L			06/30/20 19:20	1
Sulfate	1.6		1.0	0.38	mg/L			06/30/20 19:20	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 01:44	1
Calcium	5.7		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 01:44	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/30/20 15:21	07/03/20 01:44	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 01:44	1
Magnesium	2.8		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 01:44	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/30/20 15:21	07/03/20 01:44	1
Potassium	1.3		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 01:44	1
Sodium	7.9		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 01:44	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 01:13	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 01:13	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 13:13	1
Total Alkalinity as CaCO3 to pH 4.!	33		5.0	5.0	mg/L			07/07/20 10:31	1
Bicarbonate Alkalinity as CaCO3	33		5.0	5.0	mg/L			07/07/20 10:31	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 10:31	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.75				SU			06/25/20 16:20	1

# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

**Client Sample ID: ARGWA-5**

**Lab Sample ID: 180-107679-4**

Date Collected: 06/25/20 14:05

Matrix: Water

Date Received: 06/29/20 09:23

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.2		1.0	0.32	mg/L			06/30/20 19:37	1
Fluoride	0.042	J	0.10	0.026	mg/L			06/30/20 19:37	1
Nitrate as N	0.056	J H H3	0.10	0.023	mg/L			06/30/20 19:37	1
Nitrite as N	<0.029	H H3	0.050	0.029	mg/L			06/30/20 19:37	1
Sulfate	<0.38	H	1.0	0.38	mg/L			06/30/20 19:37	1

## Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 01:55	1
Calcium	6.1		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 01:55	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/30/20 15:21	07/03/20 01:55	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 01:55	1
Magnesium	2.5		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 01:55	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/30/20 15:21	07/03/20 01:55	1
Potassium	1.2		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 01:55	1
Sodium	7.9		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 01:55	1

## Method: EPA 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 01:16	1
Manganese	0.00091	J	0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 01:16	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 13:15	1
Total Alkalinity as CaCO3 to pH 4.1	37		5.0	5.0	mg/L			07/07/20 10:38	1
Bicarbonate Alkalinity as CaCO3	37		5.0	5.0	mg/L			07/07/20 10:38	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 10:38	1

## Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.87				SU			06/25/20 14:05	1



# Client Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

**Client Sample ID: ARGWC-7**

**Lab Sample ID: 180-107679-5**

Date Collected: 06/25/20 16:15

Matrix: Water

Date Received: 06/29/20 09:23

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.6		1.0	0.32	mg/L			06/30/20 19:53	1
Fluoride	<0.026		0.10	0.026	mg/L			06/30/20 19:53	1
Nitrate as N	0.35	H H3	0.10	0.023	mg/L			06/30/20 19:53	1
Nitrite as N	0.049	J H H3	0.050	0.029	mg/L			06/30/20 19:53	1
Sulfate	42		1.0	0.38	mg/L			06/30/20 19:53	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.091		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 01:58	1
Calcium	11		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 01:58	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/30/20 15:21	07/03/20 01:58	1
Lithium	0.0046	J	0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 01:58	1
Magnesium	8.6		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 01:58	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/30/20 15:21	07/03/20 01:58	1
Potassium	1.0		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 01:58	1
Sodium	6.2		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 01:58	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 01:20	1
Manganese	0.00096	J	0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 01:20	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 13:16	1
Total Alkalinity as CaCO3 to pH 4.5	24		5.0	5.0	mg/L			07/07/20 10:44	1
Bicarbonate Alkalinity as CaCO3	24		5.0	5.0	mg/L			07/07/20 10:44	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 10:44	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.75				SU			06/25/20 16:15	1

# Client Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

**Client Sample ID: ARGWA-13**

**Lab Sample ID: 180-107679-6**

Date Collected: 06/25/20 15:14

Matrix: Water

Date Received: 06/29/20 09:23

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.8		1.0	0.32	mg/L			06/30/20 20:09	1
Fluoride	0.030	J	0.10	0.026	mg/L			06/30/20 20:09	1
Nitrate as N	0.95	H H3	0.10	0.023	mg/L			06/30/20 20:09	1
Nitrite as N	0.044	J H H3	0.050	0.029	mg/L			06/30/20 20:09	1
Sulfate	410		10	3.8	mg/L			07/09/20 01:52	10

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.32		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 02:02	1
Calcium	100		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 02:02	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/30/20 15:21	07/03/20 02:02	1
Lithium	0.0067		0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 02:02	1
Magnesium	66		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 02:02	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/30/20 15:21	07/03/20 02:02	1
Potassium	3.2		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 02:02	1
Sodium	14		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 02:02	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 01:23	1
Manganese	0.010		0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 01:23	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 13:18	1
Total Alkalinity as CaCO3 to pH 4.!	61		5.0	5.0	mg/L			07/07/20 11:18	1
Bicarbonate Alkalinity as CaCO3	61		5.0	5.0	mg/L			07/07/20 11:18	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 11:18	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.80				SU			06/25/20 15:14	1

# QC Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: MB 180-319944/39**  
**Matrix: Water**  
**Analysis Batch: 319944**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			06/30/20 15:15	1
Fluoride	<0.026		0.10	0.026	mg/L			06/30/20 15:15	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/30/20 15:15	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/30/20 15:15	1
Sulfate	<0.38		1.0	0.38	mg/L			06/30/20 15:15	1

**Lab Sample ID: MB 180-319944/6**  
**Matrix: Water**  
**Analysis Batch: 319944**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			06/30/20 05:32	1
Fluoride	<0.026		0.10	0.026	mg/L			06/30/20 05:32	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/30/20 05:32	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/30/20 05:32	1
Sulfate	<0.38		1.0	0.38	mg/L			06/30/20 05:32	1

**Lab Sample ID: LCS 180-319944/38**  
**Matrix: Water**  
**Analysis Batch: 319944**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	53.7		mg/L		107	90 - 110
Fluoride	2.50	2.62		mg/L		105	90 - 110
Nitrate as N	2.50	2.65		mg/L		106	90 - 110
Nitrite as N	2.50	2.58		mg/L		103	90 - 110
Sulfate	50.0	52.1		mg/L		104	90 - 110

**Lab Sample ID: MB 180-320882/48**  
**Matrix: Water**  
**Analysis Batch: 320882**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<0.38		1.0	0.38	mg/L			07/09/20 01:36	1

**Lab Sample ID: LCS 180-320882/47**  
**Matrix: Water**  
**Analysis Batch: 320882**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	52.5		mg/L		105	90 - 110

**Lab Sample ID: 180-107679-6 MS**  
**Matrix: Water**  
**Analysis Batch: 320882**

**Client Sample ID: ARGWA-13**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.5	J	500	529		mg/L		105	90 - 110
Fluoride	<0.26		25.0	26.2		mg/L		105	90 - 110
Nitrate as N	0.65	J H H3 *	25.0	26.6		mg/L		104	90 - 110

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# QC Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: 180-107679-6 MS**  
**Matrix: Water**  
**Analysis Batch: 320882**

**Client Sample ID: ARGWA-13**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	<0.29	H H3 *	25.0	24.1		mg/L		96	90 - 110
Sulfate	410		500	915		mg/L		100	90 - 110

**Lab Sample ID: 180-107679-6 MSD**  
**Matrix: Water**  
**Analysis Batch: 320882**

**Client Sample ID: ARGWA-13**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.5	J	500	520		mg/L		103	90 - 110	2	20
Fluoride	<0.26		25.0	25.8		mg/L		103	90 - 110	2	20
Nitrate as N	0.65	J H H3 *	25.0	26.2		mg/L		102	90 - 110	1	20
Nitrite as N	<0.29	H H3 *	25.0	24.0		mg/L		96	90 - 110	1	20
Sulfate	410		500	907		mg/L		99	90 - 110	1	20

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-320069/2-A**  
**Matrix: Water**  
**Analysis Batch: 320452**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 320069**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 00:03	1
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 00:03	1
Calcium	<0.13		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 00:03	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 00:03	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		06/30/20 15:21	07/03/20 00:03	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 00:03	1
Magnesium	<0.083		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 00:03	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		06/30/20 15:21	07/03/20 00:03	1
Potassium	<0.16		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 00:03	1
Sodium	<0.35		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 00:03	1

**Lab Sample ID: LCS 180-320069/3-A**  
**Matrix: Water**  
**Analysis Batch: 320452**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 320069**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.25	1.24		mg/L		100	80 - 120
Iron	5.00	5.20		mg/L		104	80 - 120
Calcium	25.0	29.4		mg/L		118	80 - 120
Manganese	0.500	0.508		mg/L		102	80 - 120
Cobalt	0.500	0.530		mg/L		106	80 - 120
Lithium	0.500	0.526		mg/L		105	80 - 120
Magnesium	25.0	25.9		mg/L		103	80 - 120
Molybdenum	0.500	0.528		mg/L		106	80 - 120
Potassium	25.0	26.0		mg/L		104	80 - 120
Sodium	25.0	26.9		mg/L		108	80 - 120

# QC Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-320341/1-A  
 Matrix: Water  
 Analysis Batch: 320374

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 320341

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 12:53	1

Lab Sample ID: LCS 180-320341/2-A  
 Matrix: Water  
 Analysis Batch: 320374

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 320341  
 %Rec. Limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Sulfide	11.6	9.95		mg/L		86	85 - 115

## Method: SM2320 B - Alkalinity, Total

Lab Sample ID: MB 180-320796/29  
 Matrix: Water  
 Analysis Batch: 320796

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			07/07/20 11:11	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 11:11	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 11:11	1

Lab Sample ID: MB 180-320796/5  
 Matrix: Water  
 Analysis Batch: 320796

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			07/07/20 08:32	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 08:32	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 08:32	1

Lab Sample ID: LCS 180-320796/28  
 Matrix: Water  
 Analysis Batch: 320796

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 %Rec. Limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Alkalinity as CaCO3 to pH 4.5	250	233		mg/L		93	90 - 110

Lab Sample ID: LCS 180-320796/4  
 Matrix: Water  
 Analysis Batch: 320796

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 %Rec. Limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Alkalinity as CaCO3 to pH 4.5	250	235		mg/L		94	90 - 110

# QC Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Method: SM2320 B - Alkalinity, Total (Continued)

Lab Sample ID: 180-107679-6 DU

Matrix: Water

Analysis Batch: 320796

Client Sample ID: ARGWA-13

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Alkalinity as CaCO3 to pH 4.5	61		62.7		mg/L		2	20
Bicarbonate Alkalinity as CaCO3	61		62.7		mg/L		2	20
Carbonate Alkalinity as CaCO3	<5.0		<5.0		mg/L		NC	20



# QC Association Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## HPLC/IC

### Analysis Batch: 319944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107679-1	ARGWC-15	Total/NA	Water	EPA 300.0 R2.1	
180-107679-2	ARGWA-14	Total/NA	Water	EPA 300.0 R2.1	
180-107679-3	ARGWA-3	Total/NA	Water	EPA 300.0 R2.1	
180-107679-4	ARGWA-5	Total/NA	Water	EPA 300.0 R2.1	
180-107679-5	ARGWC-7	Total/NA	Water	EPA 300.0 R2.1	
180-107679-6	ARGWA-13	Total/NA	Water	EPA 300.0 R2.1	
MB 180-319944/39	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
MB 180-319944/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-319944/38	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 320882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107679-6	ARGWA-13	Total/NA	Water	EPA 300.0 R2.1	
MB 180-320882/48	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-320882/47	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-107679-6 MS	ARGWA-13	Total/NA	Water	EPA 300.0 R2.1	
180-107679-6 MSD	ARGWA-13	Total/NA	Water	EPA 300.0 R2.1	

## Metals

### Prep Batch: 320069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107679-1	ARGWC-15	Dissolved	Water	3005A	
180-107679-1	ARGWC-15	Total Recoverable	Water	3005A	
180-107679-2	ARGWA-14	Dissolved	Water	3005A	
180-107679-2	ARGWA-14	Total Recoverable	Water	3005A	
180-107679-3	ARGWA-3	Dissolved	Water	3005A	
180-107679-3	ARGWA-3	Total Recoverable	Water	3005A	
180-107679-4	ARGWA-5	Dissolved	Water	3005A	
180-107679-4	ARGWA-5	Total Recoverable	Water	3005A	
180-107679-5	ARGWC-7	Dissolved	Water	3005A	
180-107679-5	ARGWC-7	Total Recoverable	Water	3005A	
180-107679-6	ARGWA-13	Dissolved	Water	3005A	
180-107679-6	ARGWA-13	Total Recoverable	Water	3005A	
MB 180-320069/2-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-320069/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 320452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107679-1	ARGWC-15	Dissolved	Water	EPA 6020B	320069
180-107679-1	ARGWC-15	Total Recoverable	Water	EPA 6020B	320069
180-107679-2	ARGWA-14	Dissolved	Water	EPA 6020B	320069
180-107679-2	ARGWA-14	Total Recoverable	Water	EPA 6020B	320069
180-107679-3	ARGWA-3	Dissolved	Water	EPA 6020B	320069
180-107679-3	ARGWA-3	Total Recoverable	Water	EPA 6020B	320069
180-107679-4	ARGWA-5	Dissolved	Water	EPA 6020B	320069
180-107679-4	ARGWA-5	Total Recoverable	Water	EPA 6020B	320069
180-107679-5	ARGWC-7	Dissolved	Water	EPA 6020B	320069
180-107679-5	ARGWC-7	Total Recoverable	Water	EPA 6020B	320069
180-107679-6	ARGWA-13	Dissolved	Water	EPA 6020B	320069
180-107679-6	ARGWA-13	Total Recoverable	Water	EPA 6020B	320069

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107679-1

## Metals (Continued)

### Analysis Batch: 320452 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-320069/2-A	Method Blank	Total Recoverable	Water	EPA 6020B	320069
LCS 180-320069/3-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	320069

## General Chemistry

### Prep Batch: 320341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107679-1	ARGWC-15	Total/NA	Water	9030B	
180-107679-2	ARGWA-14	Total/NA	Water	9030B	
180-107679-3	ARGWA-3	Total/NA	Water	9030B	
180-107679-4	ARGWA-5	Total/NA	Water	9030B	
180-107679-5	ARGWC-7	Total/NA	Water	9030B	
180-107679-6	ARGWA-13	Total/NA	Water	9030B	
MB 180-320341/1-A	Method Blank	Total/NA	Water	9030B	
LCS 180-320341/2-A	Lab Control Sample	Total/NA	Water	9030B	

### Analysis Batch: 320374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107679-1	ARGWC-15	Total/NA	Water	EPA 9034	320341
180-107679-2	ARGWA-14	Total/NA	Water	EPA 9034	320341
180-107679-3	ARGWA-3	Total/NA	Water	EPA 9034	320341
180-107679-4	ARGWA-5	Total/NA	Water	EPA 9034	320341
180-107679-5	ARGWC-7	Total/NA	Water	EPA 9034	320341
180-107679-6	ARGWA-13	Total/NA	Water	EPA 9034	320341
MB 180-320341/1-A	Method Blank	Total/NA	Water	EPA 9034	320341
LCS 180-320341/2-A	Lab Control Sample	Total/NA	Water	EPA 9034	320341

### Analysis Batch: 320796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107679-1	ARGWC-15	Total/NA	Water	SM2320 B	
180-107679-2	ARGWA-14	Total/NA	Water	SM2320 B	
180-107679-3	ARGWA-3	Total/NA	Water	SM2320 B	
180-107679-4	ARGWA-5	Total/NA	Water	SM2320 B	
180-107679-5	ARGWC-7	Total/NA	Water	SM2320 B	
180-107679-6	ARGWA-13	Total/NA	Water	SM2320 B	
MB 180-320796/29	Method Blank	Total/NA	Water	SM2320 B	
MB 180-320796/5	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-320796/28	Lab Control Sample	Total/NA	Water	SM2320 B	
LCS 180-320796/4	Lab Control Sample	Total/NA	Water	SM2320 B	
180-107679-6 DU	ARGWA-13	Total/NA	Water	SM2320 B	

## Field Service / Mobile Lab

### Analysis Batch: 320074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107679-1	ARGWC-15	Total/NA	Water	Field Sampling	
180-107679-2	ARGWA-14	Total/NA	Water	Field Sampling	
180-107679-3	ARGWA-3	Total/NA	Water	Field Sampling	
180-107679-4	ARGWA-5	Total/NA	Water	Field Sampling	
180-107679-5	ARGWC-7	Total/NA	Water	Field Sampling	
180-107679-6	ARGWA-13	Total/NA	Water	Field Sampling	

Eurofins TestAmerica, Pittsburgh





TRK# 8121 9394 5793 **FRI - 26 JUN 10:30A**  
 0219 **PRIORITY OVERNIGHT**  
 DSR AHS  
**15238**  
 PA-US  
**PIT**

**NA AGCA**

Uncorrected temp 31 °C  
 Thermometer ID 14  
 CF 0 Initials CML

509447: PT-WI-SR-001 effective 7/26/13

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-107679-1

**Login Number: 107679**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Kovitch, Christina M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	melted ice 13.1°C
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-107680-1

Client Project/Site: Plant Arkwright AP3 Alternate Source

**For:**

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
7/8/2020 4:13:08 PM

Shali Brown, Project Manager II  
(615)301-5031  
[shali.brown@testamericainc.com](mailto:shali.brown@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

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**Job ID: 180-107680-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

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**Narrative**

**Job Narrative  
180-107680-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 6/29/2020 9:23 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9° C.

**Receipt Exceptions**

The following samples were received outside of holding time for the nitrate and nitrite analysis. Field Blank #2 (180-107680-1), ARGWA-12 (180-107680-2) and ARGWC-9 (180-107680-3).

**GC Semi VOA**

Methods 300.0: The following samples were received outside of holding time for Nitrate and/or Nitrite analysis: Field Blank #2 (180-107680-1), ARGWA-12 (180-107680-2) and ARGWC-9 (180-107680-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Metals**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Field Service / Mobile Lab**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Definitions/Glossary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
H3	Sample was received and analyzed past holding time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-20 *
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	08-01-20
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	05-23-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



# Sample Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107680-1	Field Blank #2	Water	06/26/20 08:30	06/29/20 09:23	
180-107680-2	ARGWA-12	Water	06/26/20 10:15	06/29/20 09:23	
180-107680-3	ARGWC-9	Water	06/26/20 12:50	06/29/20 09:23	

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# Method Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL PIT
SM2320 B	Alkalinity, Total	SM18	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	TAL PIT

#### Protocol References:

EPA = US Environmental Protection Agency

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

## Client Sample ID: Field Blank #2

Date Collected: 06/26/20 08:30

Date Received: 06/29/20 09:23

## Lab Sample ID: 180-107680-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319944	06/30/20 20:26	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 01:27	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 02:05	RSK	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	320341	07/02/20 11:40	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320374	07/02/20 13:20	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320796	07/07/20 14:43	AVS	TAL PIT

## Client Sample ID: ARGWA-12

Date Collected: 06/26/20 10:15

Date Received: 06/29/20 09:23

## Lab Sample ID: 180-107680-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319944	06/30/20 20:42	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 01:30	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 02:09	RSK	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	320341	07/02/20 11:40	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320374	07/02/20 13:21	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320796	07/07/20 14:50	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/26/20 10:15	NJD	TAL PIT

## Client Sample ID: ARGWC-9

Date Collected: 06/26/20 12:50

Date Received: 06/29/20 09:23

## Lab Sample ID: 180-107680-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319944	06/30/20 20:58	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:21	JL	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 01:34	RSK	TAL PIT

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

**Client Sample ID: ARGWC-9**

**Lab Sample ID: 180-107680-3**

**Date Collected: 06/26/20 12:50**

**Matrix: Water**

**Date Received: 06/29/20 09:23**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	320069	06/30/20 15:23	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/03/20 02:12	RSK	TAL PIT
Total/NA	Prep	9030B			50 mL	50 mL	320341	07/02/20 11:40	CMR	TAL PIT
Total/NA	Analysis	EPA 9034 Instrument ID: NOEQUIP		1			320374	07/02/20 13:23	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320796	07/07/20 15:10	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/26/20 12:50	NJD	TAL PIT

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Prep

CMR = Carl Reagle

JL = James Lyu

Batch Type: Analysis

AVS = Abbey Smith

CMR = Carl Reagle

MJH = Matthew Hartman

NJD = Nicholas DiNardo

RSK = Robert Kurtz

# Client Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

**Client Sample ID: Field Blank #2**

**Lab Sample ID: 180-107680-1**

Date Collected: 06/26/20 08:30

Matrix: Water

Date Received: 06/29/20 09:23

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			06/30/20 20:26	1
Fluoride	<0.026		0.10	0.026	mg/L			06/30/20 20:26	1
Nitrate as N	<0.023	H H3	0.10	0.023	mg/L			06/30/20 20:26	1
Nitrite as N	<0.029	H H3	0.050	0.029	mg/L			06/30/20 20:26	1
Sulfate	<0.38		1.0	0.38	mg/L			06/30/20 20:26	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 02:05	1
Calcium	<0.13		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 02:05	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/30/20 15:21	07/03/20 02:05	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 02:05	1
Magnesium	<0.083		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 02:05	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/30/20 15:21	07/03/20 02:05	1
Potassium	<0.16		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 02:05	1
Sodium	<0.35		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 02:05	1

**Method: EPA 6020B - Metals (ICP/MS) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 01:27	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 01:27	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 13:20	1
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			07/07/20 14:43	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 14:43	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 14:43	1

# Client Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

**Client Sample ID: ARGWA-12**

**Lab Sample ID: 180-107680-2**

Date Collected: 06/26/20 10:15

Matrix: Water

Date Received: 06/29/20 09:23

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		1.0	0.32	mg/L			06/30/20 20:42	1
Fluoride	0.051	J	0.10	0.026	mg/L			06/30/20 20:42	1
Nitrate as N	0.12	H H3	0.10	0.023	mg/L			06/30/20 20:42	1
Nitrite as N	<0.029	H H3	0.050	0.029	mg/L			06/30/20 20:42	1
Sulfate	9.0		1.0	0.38	mg/L			06/30/20 20:42	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 02:09	1
Calcium	15		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 02:09	1
Cobalt	0.00013	J	0.0025	0.00013	mg/L		06/30/20 15:21	07/03/20 02:09	1
Lithium	0.0061		0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 02:09	1
Magnesium	8.9		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 02:09	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/30/20 15:21	07/03/20 02:09	1
Potassium	2.5		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 02:09	1
Sodium	11		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 02:09	1

### Method: EPA 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 01:30	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 01:30	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 13:21	1
Total Alkalinity as CaCO3 to pH 4.5	69		5.0	5.0	mg/L			07/07/20 14:50	1
Bicarbonate Alkalinity as CaCO3	69		5.0	5.0	mg/L			07/07/20 14:50	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 14:50	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.94				SU			06/26/20 10:15	1

# Client Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

**Client Sample ID: ARGWC-9**

**Lab Sample ID: 180-107680-3**

Date Collected: 06/26/20 12:50

Matrix: Water

Date Received: 06/29/20 09:23

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.4		1.0	0.32	mg/L			06/30/20 20:58	1
Fluoride	0.027	J	0.10	0.026	mg/L			06/30/20 20:58	1
Nitrate as N	0.54	H H3	0.10	0.023	mg/L			06/30/20 20:58	1
Nitrite as N	0.031	J H H3	0.050	0.029	mg/L			06/30/20 20:58	1
Sulfate	0.94	J	1.0	0.38	mg/L			06/30/20 20:58	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/30/20 15:23	07/03/20 02:12	1
Calcium	5.6		0.50	0.13	mg/L		06/30/20 15:23	07/03/20 02:12	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/30/20 15:23	07/03/20 02:12	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/30/20 15:23	07/03/20 02:12	1
Magnesium	2.4		0.50	0.083	mg/L		06/30/20 15:23	07/03/20 02:12	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/30/20 15:23	07/03/20 02:12	1
Potassium	1.8		0.50	0.16	mg/L		06/30/20 15:23	07/03/20 02:12	1
Sodium	6.7		0.50	0.35	mg/L		06/30/20 15:23	07/03/20 02:12	1

### Method: EPA 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 01:34	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 01:34	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 13:23	1
Total Alkalinity as CaCO3 to pH 4.1	29		5.0	5.0	mg/L			07/07/20 15:10	1
Bicarbonate Alkalinity as CaCO3	29		5.0	5.0	mg/L			07/07/20 15:10	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 15:10	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.85				SU			06/26/20 12:50	1

# QC Sample Results

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: MB 180-319944/39**  
**Matrix: Water**  
**Analysis Batch: 319944**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			06/30/20 15:15	1
Fluoride	<0.026		0.10	0.026	mg/L			06/30/20 15:15	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/30/20 15:15	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/30/20 15:15	1
Sulfate	<0.38		1.0	0.38	mg/L			06/30/20 15:15	1

**Lab Sample ID: MB 180-319944/6**  
**Matrix: Water**  
**Analysis Batch: 319944**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			06/30/20 05:32	1
Fluoride	<0.026		0.10	0.026	mg/L			06/30/20 05:32	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/30/20 05:32	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/30/20 05:32	1
Sulfate	<0.38		1.0	0.38	mg/L			06/30/20 05:32	1

**Lab Sample ID: LCS 180-319944/38**  
**Matrix: Water**  
**Analysis Batch: 319944**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	53.7		mg/L		107	90 - 110
Fluoride	2.50	2.62		mg/L		105	90 - 110
Nitrate as N	2.50	2.65		mg/L		106	90 - 110
Nitrite as N	2.50	2.58		mg/L		103	90 - 110
Sulfate	50.0	52.1		mg/L		104	90 - 110

**Lab Sample ID: 180-107680-3 MS**  
**Matrix: Water**  
**Analysis Batch: 319944**

**Client Sample ID: ARGWC-9**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.4		50.0	57.0		mg/L		103	90 - 110
Fluoride	0.027	J	2.50	2.56		mg/L		101	90 - 110
Nitrate as N	0.54	H H3	2.50	3.14		mg/L		104	90 - 110
Nitrite as N	0.031	J H H3	2.50	2.52		mg/L		100	90 - 110
Sulfate	0.94	J	50.0	51.9		mg/L		102	90 - 110

**Lab Sample ID: 180-107680-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 319944**

**Client Sample ID: ARGWC-9**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	5.4		50.0	57.3		mg/L		104	90 - 110	0	20
Fluoride	0.027	J	2.50	2.55		mg/L		101	90 - 110	0	20
Nitrate as N	0.54	H H3	2.50	3.14		mg/L		104	90 - 110	0	20
Nitrite as N	0.031	J H H3	2.50	2.54		mg/L		100	90 - 110	1	20
Sulfate	0.94	J	50.0	51.8		mg/L		102	90 - 110	0	20

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# QC Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-320069/2-A**  
**Matrix: Water**  
**Analysis Batch: 320452**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 320069**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/30/20 15:21	07/03/20 00:03	1
Iron	<0.020		0.050	0.020	mg/L		06/30/20 15:21	07/03/20 00:03	1
Calcium	<0.13		0.50	0.13	mg/L		06/30/20 15:21	07/03/20 00:03	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/30/20 15:21	07/03/20 00:03	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		06/30/20 15:21	07/03/20 00:03	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/30/20 15:21	07/03/20 00:03	1
Magnesium	<0.083		0.50	0.083	mg/L		06/30/20 15:21	07/03/20 00:03	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		06/30/20 15:21	07/03/20 00:03	1
Potassium	<0.16		0.50	0.16	mg/L		06/30/20 15:21	07/03/20 00:03	1
Sodium	<0.35		0.50	0.35	mg/L		06/30/20 15:21	07/03/20 00:03	1

**Lab Sample ID: LCS 180-320069/3-A**  
**Matrix: Water**  
**Analysis Batch: 320452**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 320069**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.25	1.24		mg/L		100	80 - 120
Iron	5.00	5.20		mg/L		104	80 - 120
Calcium	25.0	29.4		mg/L		118	80 - 120
Manganese	0.500	0.508		mg/L		102	80 - 120
Cobalt	0.500	0.530		mg/L		106	80 - 120
Lithium	0.500	0.526		mg/L		105	80 - 120
Magnesium	25.0	25.9		mg/L		103	80 - 120
Molybdenum	0.500	0.528		mg/L		106	80 - 120
Potassium	25.0	26.0		mg/L		104	80 - 120
Sodium	25.0	26.9		mg/L		108	80 - 120

## Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

**Lab Sample ID: MB 180-320341/1-A**  
**Matrix: Water**  
**Analysis Batch: 320374**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 320341**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	mg/L		07/02/20 11:40	07/02/20 12:53	1

**Lab Sample ID: LCS 180-320341/2-A**  
**Matrix: Water**  
**Analysis Batch: 320374**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 320341**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	11.6	9.95		mg/L		86	85 - 115



# QC Sample Results

Client: Southern Company  
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

## Method: SM2320 B - Alkalinity, Total

**Lab Sample ID: MB 180-320796/53**  
**Matrix: Water**  
**Analysis Batch: 320796**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			07/07/20 13:56	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 13:56	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 13:56	1

**Lab Sample ID: LCS 180-320796/52**  
**Matrix: Water**  
**Analysis Batch: 320796**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3 to pH 4.5	250	229		mg/L		92	90 - 110

**Lab Sample ID: 180-107680-3 DU**  
**Matrix: Water**  
**Analysis Batch: 320796**

**Client Sample ID: ARGWC-9**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Alkalinity as CaCO3 to pH 4.5	29		28.0		mg/L		3	20
Bicarbonate Alkalinity as CaCO3	29		28.0		mg/L		3	20
Carbonate Alkalinity as CaCO3	<5.0		<5.0		mg/L		NC	20

# QC Association Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

## HPLC/IC

### Analysis Batch: 319944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107680-1	Field Blank #2	Total/NA	Water	EPA 300.0 R2.1	
180-107680-2	ARGWA-12	Total/NA	Water	EPA 300.0 R2.1	
180-107680-3	ARGWC-9	Total/NA	Water	EPA 300.0 R2.1	
MB 180-319944/39	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
MB 180-319944/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-319944/38	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-107680-3 MS	ARGWC-9	Total/NA	Water	EPA 300.0 R2.1	
180-107680-3 MSD	ARGWC-9	Total/NA	Water	EPA 300.0 R2.1	

## Metals

### Prep Batch: 320069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107680-1	Field Blank #2	Dissolved	Water	3005A	
180-107680-1	Field Blank #2	Total Recoverable	Water	3005A	
180-107680-2	ARGWA-12	Dissolved	Water	3005A	
180-107680-2	ARGWA-12	Total Recoverable	Water	3005A	
180-107680-3	ARGWC-9	Dissolved	Water	3005A	
180-107680-3	ARGWC-9	Total Recoverable	Water	3005A	
MB 180-320069/2-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-320069/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 320452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107680-1	Field Blank #2	Dissolved	Water	EPA 6020B	320069
180-107680-1	Field Blank #2	Total Recoverable	Water	EPA 6020B	320069
180-107680-2	ARGWA-12	Dissolved	Water	EPA 6020B	320069
180-107680-2	ARGWA-12	Total Recoverable	Water	EPA 6020B	320069
180-107680-3	ARGWC-9	Dissolved	Water	EPA 6020B	320069
180-107680-3	ARGWC-9	Total Recoverable	Water	EPA 6020B	320069
MB 180-320069/2-A	Method Blank	Total Recoverable	Water	EPA 6020B	320069
LCS 180-320069/3-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	320069

## General Chemistry

### Prep Batch: 320341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107680-1	Field Blank #2	Total/NA	Water	9030B	
180-107680-2	ARGWA-12	Total/NA	Water	9030B	
180-107680-3	ARGWC-9	Total/NA	Water	9030B	
MB 180-320341/1-A	Method Blank	Total/NA	Water	9030B	
LCS 180-320341/2-A	Lab Control Sample	Total/NA	Water	9030B	

### Analysis Batch: 320374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107680-1	Field Blank #2	Total/NA	Water	EPA 9034	320341
180-107680-2	ARGWA-12	Total/NA	Water	EPA 9034	320341
180-107680-3	ARGWC-9	Total/NA	Water	EPA 9034	320341
MB 180-320341/1-A	Method Blank	Total/NA	Water	EPA 9034	320341
LCS 180-320341/2-A	Lab Control Sample	Total/NA	Water	EPA 9034	320341

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

Client: Southern Company  
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107680-1

## General Chemistry

### Analysis Batch: 320796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107680-1	Field Blank #2	Total/NA	Water	SM2320 B	
180-107680-2	ARGWA-12	Total/NA	Water	SM2320 B	
180-107680-3	ARGWC-9	Total/NA	Water	SM2320 B	
MB 180-320796/53	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-320796/52	Lab Control Sample	Total/NA	Water	SM2320 B	
180-107680-3 DU	ARGWC-9	Total/NA	Water	SM2320 B	

## Field Service / Mobile Lab

### Analysis Batch: 320074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107680-2	ARGWA-12	Total/NA	Water	Field Sampling	
180-107680-3	ARGWC-9	Total/NA	Water	Field Sampling	





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180-107680 Wwaybill

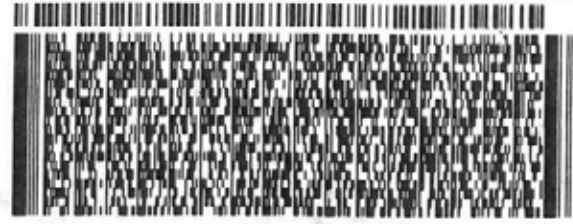
ORIGIN ID: MCHA (770) 421-3400  
DANIEL HOWARD  
AHEC (WOOD E&S)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

SHIP DATE: 26 JUN 20  
ACTWT: 47.65 LB  
CAD: 6994493/SSFE2110  
DIMS: 26x14x14 IN  
BILL THIRD PARTY

**SAMPLE RECEIVING**  
**EUROFINS TESTAMERICA**  
**301 ALPHA DR RIDG PARK**

**PITTSBURGH PA 15238**

(412) 963-7068 REF: 6122201429.2002  
INVT: DEPT:



TRK# 8121 9394 5819  
0215

**SATURDAY 12:00**  
**PRIORITY OVERNIGHT**

DSR AH:  
**15238**  
PA-US PIT

**XO AGCA**

*h/entres*



Uncorrected temp  
Thermometer ID

2.9 °C  
14

CF D Initials all

PT-WI-SR-001 effective 7/26/13

RT **98**  
FZ **B02**

1  
10:30 **A**  
5819  
06.29

**1 From**  
Sender's Name: DANIEL HOWARD  
Company: AHEC (WOOD E&S)  
Address: 1075 BIG SHANTY RD NW STE 100  
City: KENNESAW State: GA ZIP: 30144-3652  
Phone: 770-421-3400

**2 Your Internal Billing Preference**  
Sample Receiving 6122201429.2002  
Phone: 412-963-7068

**3 To**  
Recipient's Name: EUROFINS TESTAMERICA  
Company: EUROFINS TESTAMERICA  
Address: 301 ALPHA DR RIDG PARK  
City: PITTSBURGH State: PA ZIP: 15238  
Phone: 412-963-7068

**4 Express Package Service**  
Next Business Day  
FedEx First Overnight  
FedEx Priority Overnight  
FedEx Standard Overnight

**5 Packaging**  
FedEx Envelope\*  
FedEx Pak\*

**6 Special Handling and Delivery Signature**  
Saturday Delivery  
No Signature Required  
Direct Signat

**7 Payment** Bill to Recipient

**SDR**

**Saturday Delivery**

## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-107680-1

**Login Number: 107680**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Kovitch, Christina M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Product Name: Low-Flow System

Date: 2020-06-24 15:43:47

Project Information:

Operator Name Daniel Howard  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARAMW-3  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 646770  
Turbidity Make/Model Hatch 2100Q

Pump Information:

Pump Model/Type QED Sample Pro Bladder Pump  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 67 ft

Pump placement from TOC 62.9 ft

Well Information:

Well ID ARAMW-3  
Well diameter 2 in  
Well Total Depth 67.92 ft  
Screen Length 10 ft  
Depth to Water 24.68 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.4890493 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 17 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:19:29	3900.94	21.24	6.34	345.95	5.64	25.39	0.15	0.46
Last 5	15:24:29	4200.93	21.27	6.34	348.58	5.60	25.39	0.14	1.00
Last 5	15:29:29	4500.93	21.19	6.36	350.61	5.48	25.31	0.13	0.29
Last 5	15:34:29	4800.92	21.27	6.38	351.90	4.68	25.31	0.13	-1.68
Last 5	15:39:29	5100.91	21.17	6.38	350.83	4.91	25.31	0.12	-2.23
Variance 0			-0.08	0.02	2.03			-0.01	-0.71
Variance 1			0.09	0.02	1.29			-0.00	-1.97
Variance 2			-0.10	0.01	-1.07			-0.01	-0.55

Notes

ATAMW-3 sample time 1550

Grab Samples



Product Name: Low-Flow System

Date: 2020-06-24 12:12:38

Project Information:

Operator Name Daniel Howard  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARAMW-4  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 646770  
Turbidity Make/Model Hatch 2100Q

Pump Information:

Pump Model/Type Masterflex Peristaltic  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 57 ft

Pump placement from TOC 52 ft

Well Information:

Well ID ARAMW-4  
Well diameter 2 in  
Well Total Depth 57.65 ft  
Screen Length 10 ft  
Depth to Water 20.95 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.4444151 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.1 in  
Total Volume Pumped 17 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	11:49:43	300.06	20.96	5.77	1381.75	1.80	21.05	0.09	41.73
Last 5	11:54:43	600.02	21.05	5.77	1372.46	1.83	21.05	0.09	42.65
Last 5	11:59:43	900.01	21.04	5.77	1365.25	1.88	21.05	0.09	43.05
Last 5	12:04:43	1200.01	21.05	5.78	1358.92	1.66	21.05	0.08	43.13
Last 5	12:09:43	1500.00	20.93	5.78	1358.02	1.68	21.05	0.08	43.27
Variance 0			-0.01	0.00	-7.21			-0.00	0.39
Variance 1			0.01	0.01	-6.33			-0.00	0.08
Variance 2			-0.13	-0.00	-0.90			0.00	0.15

Notes

ARAMW-4 sample time 1210

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-24 16:16:03

Project Information:

Operator Name Ever Guillen  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARAMW-6  
ftLatitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type M Flex  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 32.90

Pump placement from TOC 27.90 ft

Well Information:

Well ID ARAMW-6  
Well diameter 2 in  
Well Total Depth 32.90 ft  
Screen Length 10 ft  
Depth to Water 13.08 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6268466 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 27 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond mS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:53:02	6899.83	22.77	6.32	0.38	5.91	13.91	0.15	15.10
Last 5	15:58:02	7199.83	22.96	6.33	0.37	5.06	13.91	0.15	13.34
Last 5	16:03:02	7499.83	23.09	6.32	0.38	5.38	13.91	0.15	16.83
Last 5	16:08:02	7799.83	22.94	6.33	0.37	5.07	13.91	0.15	16.69
Last 5	16:13:02	8099.83	22.73	6.33	0.37	4.83	13.91	0.15	16.44
Variance 0			0.13	-0.01	0.00			0.00	3.49
Variance 1			-0.15	0.01	-0.01			-0.00	-0.14
Variance 2			-0.21	0.00	-0.00			-0.00	-0.25

Notes

Sample time = 1620

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-25 16:11:41

Project Information:

Operator Name Ferdinand Mayila  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWA-3  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED Micropurge  
Tubing Type HDPE  
Tubing Diameter 0.25 in  
Tubing Length 40.5 ft  
  
Pump placement from TOC 35.5 ft

Well Information:

Well ID ARGWA-3  
Well diameter 2 in  
Well Total Depth 40.5 ft  
Screen Length 10.0 ft  
Depth to Water 34.2 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.09 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.01 in  
Total Volume Pumped 5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 3%	+/- 10		+/- 0.3	+/- 10
Last 5	15:48:43	1199.98	22.23	5.76	67.32	4.12	34.35	6.66	107.37
Last 5	15:53:43	1499.98	22.11	5.75	67.84	5.87	34.36	6.71	108.30
Last 5	15:58:43	1799.99	21.82	5.75	68.41	4.52	34.36	6.70	108.57
Last 5	16:03:45	2101.98	21.64	5.76	68.50	4.37	34.37	6.67	108.62
Last 5	16:08:45	2401.98	21.47	5.75	68.82	4.61	34.36	6.72	109.12
Variance 0			-0.30	-0.00	0.57			-0.01	0.27
Variance 1			-0.18	0.00	0.08			-0.03	0.05
Variance 2			-0.17	-0.00	0.32			0.04	0.49

Notes: Sample Time 1620

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-25 14:03:09

Project Information:

Operator Name Ever Guillen  
Company Name Wood  
Project Name Plant Arkwright CCR ASD  
Site Name ARGWA-5  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 30.00 ft

Pump placement from TOC 25.00 ft

Well Information:

Well ID ARGWA-5  
Well diameter 2 in  
Well Total Depth 30.00 ft  
Screen Length 10 ft  
Depth to Water 22.45 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6139027 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond mS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	13:40:01	900.03	19.25	5.86	0.09	1.91	22.62	6.22	84.37
Last 5	13:45:01	1200.03	19.43	5.87	0.09	1.19	22.62	6.23	83.33
Last 5	13:50:01	1500.03	19.31	5.87	0.09	1.73	22.62	6.21	82.75
Last 5	13:55:01	1799.92	19.15	5.87	0.09	1.12	22.62	6.27	82.38
Last 5	14:00:02	2100.92	19.02	5.87	0.09	0.90	22.62	6.21	82.51
Variance 0			-0.12	0.01	-0.00			-0.02	-0.58
Variance 1			-0.16	0.00	0.00			0.06	-0.37
Variance 2			-0.13	0.00	-0.00			-0.06	0.13

Notes

Sampled @ 1405

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-25 16:10:46

Project Information:

Operator Name Ever Guillen  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWC-7  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 50.20 ft

Pump placement from TOC 45.2 ft

Well Information:

Well ID ARGWC-7  
Well diameter 2 in  
Well Total Depth 50.20 ft  
Screen Length 10 ft  
Depth to Water 21.11 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.7040638 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond mS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:48:33	1590.03	24.06	5.75	0.17	0.77	21.36	3.21	87.28
Last 5	15:53:33	1889.92	24.33	5.75	0.17	0.64	21.36	3.21	86.77
Last 5	15:58:33	2189.92	23.59	5.75	0.17	0.66	21.36	3.21	85.17
Last 5	16:03:33	2489.92	23.08	5.75	0.17	0.72	21.36	3.21	83.80
Last 5	16:08:33	2789.92	22.64	5.75	0.17	0.58	21.36	3.21	82.45
Variance 0			-0.74	-0.00	-0.00			0.00	-1.60
Variance 1			-0.52	0.00	-0.00			0.01	-1.37
Variance 2			-0.44	0.00	0.00			-0.00	-1.35

Notes

Sampled @ 1615

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-23 13:04:52

Project Information:

Operator Name F Mayila  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWC-8  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HDPE

Pump Information:

Pump Model/Type QED Micropurge  
Tubing Type HDPE  
Tubing Diameter 2 in  
Tubing Length 43 ft  
Pump placement from TOC 38.1 ft

Well Information:

Well ID ARGWC-8  
Well diameter 2 in  
Well Total Depth 43.22 ft  
Screen Length 10 ft  
Depth to Water 25.63 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.09 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 60 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5%	+/- 0.1%	+/- 3%	+/- 10%		+/- 0.3	+/- 10
Last 5	12:44:02	599.95	20.39	6.38	396.82	4.58	25.64	0.07	77.34
Last 5	12:49:02	899.95	20.22	6.37	396.20	4.12	25.63	0.09	76.67
Last 5	12:54:02	1199.95	20.48	6.37	396.13	4.35	25.62	0.06	75.81
Last 5	12:59:02	1499.95	20.70	6.37	395.71	4.45	25.62	0.06	74.97
Last 5	13:04:04	1801.95	20.74	6.37	396.23	4.37	25.62	0.06	74.58
Variance 0			0.26	-0.01	-0.06			-0.03	-0.85
Variance 1			0.22	0.01	-0.42			-0.00	-0.84
Variance 2			0.03	-0.00	0.52			-0.00	-0.39

Notes: Sample time 1315

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-26 12:36:28

Project Information:

Operator Name Ferdinand Mayila  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWC-9  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type QED Micropurge  
Tubing Type HDPE  
Tubing Diameter 0.25 in  
Tubing Length 38.2 ft  
  
Pump placement from TOC 33.2 ft

Well Information:

Well ID ARGWC-9  
Well diameter 2 in  
Well Total Depth 38.2 ft  
Screen Length 10.0 ft  
Depth to Water 19.58 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.09 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.03 in  
Total Volume Pumped 29 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 3%	+/- 10		+/- 0.3	+/- 10
Last 5	12:13:12	5702.97	23.70	5.85	72.52	7.17	19.64	5.03	111.58
Last 5	12:18:12	6002.97	23.95	5.85	72.30	5.21	19.64	5.03	111.55
Last 5	12:23:12	6303.06	23.88	5.84	72.60	5.21	19.64	5.02	111.47
Last 5	12:28:12	6603.00	23.78	5.85	72.51	4.56	19.64	5.03	111.10
Last 5	12:33:12	6902.97	24.02	5.85	72.44	4.75	19.64	5.00	110.01
Variance 0			-0.08	-0.02	0.31			-0.01	-0.07
Variance 1			-0.09	0.02	-0.09			0.01	-0.37
Variance 2			0.23	-0.00	-0.07			-0.03	-1.09

Notes: Sample time 1250. Smartroll was restarted after overheating. Lost some electronic data but have backup hard copy.

Grab Samples



Product Name: Low-Flow System

Date: 2020-06-23 15:04:04

Project Information:

Operator Name Ever Guillen  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWC-10  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 38.35 ft

Pump placement from TOC 33.35 ft

Well Information:

Well ID ARGWC-10  
Well diameter 2 in  
Well Total Depth 38.35 ft  
Screen Length 10 ft  
Depth to Water 22.20 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6511722 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 60 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond mS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	14:38:41	16517.32	21.82	5.95	0.11	6.02	22.48	4.54	79.68
Last 5	14:43:41	16817.32	21.73	5.95	0.11	5.73	22.48	4.44	79.95
Last 5	14:48:41	17117.32	21.83	5.94	0.11	5.39	22.48	4.55	79.77
Last 5	14:53:41	17417.32	21.86	5.94	0.11	5.16	22.48	4.50	79.82
Last 5	14:58:41	17717.22	21.90	5.95	0.11	4.58	22.48	4.60	79.42
Variance 0			0.10	-0.01	0.00			0.11	-0.18
Variance 1			0.03	-0.00	-0.00			-0.05	0.05
Variance 2			0.03	0.01	0.00			0.10	-0.40

Notes

Sample time = 1515

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-26 10:18:05

Project Information:

Operator Name Daniel Howard  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWA-12  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 646770  
Turbidity Make/Model Hatch 2100Q

Pump Information:

Pump Model/Type QED Micropurge Bladder Pump  
Tubing Type HDPE  
Tubing Diameter .25 in  
Tubing Length 35 ft

Pump placement from TOC 29.2 ft

Well Information:

Well ID ARGWA-12  
Well diameter 2 in  
Well Total Depth 35.21 ft  
Screen Length 12 ft  
Depth to Water 14.42 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.8178456 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.45 in  
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	09:53:42	900.01	19.29	5.94	171.27	6.06	14.87	2.94	84.09
Last 5	09:58:42	1200.01	19.30	5.94	171.83	4.51	14.87	2.85	82.22
Last 5	10:03:42	1500.00	19.16	5.94	171.51	3.31	14.87	2.77	81.12
Last 5	10:08:42	1799.99	19.31	5.94	170.90	3.24	14.87	2.73	80.11
Last 5	10:13:42	2099.99	19.27	5.94	170.69	2.97	14.87	2.71	79.91
Variance 0			-0.14	0.00	-0.31			-0.08	-1.09
Variance 1			0.15	-0.00	-0.62			-0.04	-1.01
Variance 2			-0.04	-0.00	-0.21			-0.02	-0.20

Notes

ARGWA-12 sample time 1015

Grab Samples

ARGWA-12  
GW sample

Product Name: Low-Flow System

Date: 2020-06-25 15:16:49

Project Information:

Operator Name Daniel Howard  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWA-13  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 646770  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Micropurge Bladder Pump  
Tubing Type HDPE  
Tubing Diameter 0.25 in  
Tubing Length 43.3 ft

Pump placement from TOC 38.3 ft

Well Information:

Well ID ARGWA-13  
Well diameter 2 in  
Well Total Depth 43.31 ft  
Screen Length 10 ft  
Depth to Water 22.06 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.8979633 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.05 in  
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	14:52:51	900.02	19.09	5.85	840.70	2.06	22.59	1.91	67.85
Last 5	14:57:51	1200.01	18.87	5.83	835.67	1.91	22.59	1.83	68.30
Last 5	15:02:51	1500.00	18.83	5.82	826.00	1.19	22.59	1.78	68.82
Last 5	15:07:51	1800.00	18.89	5.81	819.59	1.09	22.59	1.76	69.23
Last 5	15:12:51	2099.99	18.86	5.80	811.89	0.83	22.59	1.74	69.74
Variance 0			-0.04	-0.01	-9.67			-0.05	0.52
Variance 1			0.06	-0.01	-6.41			-0.02	0.42
Variance 2			-0.02	-0.01	-7.71			-0.02	0.51

Notes

ARGWA-13 sample time 1514

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-25 13:31:54

Project Information:

Operator Name Ferdinand Mayila  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWA-14  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED Micropurge  
Tubing Type HDPE  
Tubing Diameter 0.25 in  
Tubing Length 58.45 ft  
Pump placement from TOC 53.45 ft

Well Information:

Well ID ARGWA-14  
Well diameter 2 in  
Well Total Depth 58.75 ft  
Screen Length 10.0 ft  
Depth to Water 40.96 ft

Pumping Information:

Final Pumping Rate 80 mL/min  
Total System Volume 0.09 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.4 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 3%	+/- 10		+/- 0.3	+/- 10
Last 5	13:07:22	1500.03	21.83	6.40	280.13	0.47	46.95	4.20	58.19
Last 5	13:12:22	1800.03	21.94	6.39	270.54	0.47	45.50	4.11	60.51
Last 5	13:17:22	2100.03	22.16	6.37	263.16	0.63	45.85	3.97	62.25
Last 5	13:22:22	2400.03	23.43	6.37	263.91	0.58	45.90	3.96	63.35
Last 5	13:27:22	2700.03	24.55	6.38	259.72	0.61	46.25	3.89	64.57
Variance 0			0.22	-0.02	-7.38			-0.14	1.75
Variance 1			1.27	0.00	0.75			-0.01	1.10
Variance 2			1.12	0.01	-4.19			-0.08	1.21

Notes: Sample time 1340

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-25 11:01:47

Project Information:

Operator Name Ferdinand Mayila  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWC-15  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED Micropurge  
Tubing Type HDPE  
Tubing Diameter 0.25 in  
Tubing Length 43 ft  
Pump placement from TOC 37.7 ft

Well Information:

Well ID ARGWC-15  
Well diameter 2 in  
Well Total Depth 43 ft  
sec Screen Length 10.0 ft  
Depth to Water 28.25 ft

Pumping Information:

Final Pumping Rat 80 mL/min  
Total System Volume 0.09 L  
Calculated Sample Rate 300  
Stabilization Drawdown .08 in  
Total Volume Pumped 7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5%	+/- 0.1%	+/- 3%	+/- 10%		+/- 0.3%	+/- 10%
Last 5	10:36:35	4202.98	23.88	6.30	192.09	5.48	30.46	6.83	95.34
Last 5	10:41:35	4502.93	23.70	6.30	192.70	4.83	30.52	6.75	95.73
Last 5	10:46:35	4802.93	23.16	6.32	192.75	4.46	30.60	6.47	94.48
Last 5	10:51:35	5102.93	22.83	6.32	193.27	4.39	30.65	6.34	94.12
Last 5	10:56:36	5403.93	22.62	6.32	191.78	4.25	30.68	6.18	93.26
Variance 0			-0.54	0.02	0.05			-0.29	-1.25
Variance 1			-0.33	-0.00	0.52			-0.12	-0.36
Variance 2			-0.21	0.00	-1.49			-0.16	-0.87

Notes: Sample time 110

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-24 09:57:02

Project Information:

Operator Name Ever Guillen  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWC-16  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 34.52 ft

Pump placement from TOC 29.62 ft

Well Information:

Well ID ARGWC-16  
Well diameter 2 in  
Well Total Depth 34.52 ft  
Screen Length 10 ft  
Depth to Water 19.56 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6340774 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 11 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond mS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	09:34:33	2099.93	18.55	5.20	0.60	0.54	19.61	2.32	91.80
Last 5	09:39:33	2399.93	18.57	5.20	0.60	0.78	19.61	2.20	90.82
Last 5	09:44:34	2700.93	18.53	5.20	0.60	0.50	19.61	2.12	89.88
Last 5	09:49:34	3000.92	18.53	5.20	0.60	0.47	19.61	2.05	90.43
Last 5	09:54:34	3300.93	18.53	5.20	0.60	0.39	10.61	1.97	88.75
Variance 0			-0.04	0.00	-0.00			-0.08	-0.94
Variance 1			0.00	0.00	-0.00			-0.07	0.55
Variance 2			-0.01	0.00	-0.00			-0.08	-1.68

Notes: Sample time 1000

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-24 12:32:15

Project Information:

Operator Name Ever Guillen  
Company Name Wood  
Project Name Plant Arkwright CCR ASD  
Site Name ARGWC-17  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 34.50 ft

Pump placement from TOC 24.50 ft

Well Information:

Well ID ARGWC-17  
Well diameter 2 in  
Well Total Depth 34.50 ft  
Screen Length 10 ft  
Depth to Water 21.25 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6339881 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 16 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond mS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	12:07:59	600.03	22.67	5.11	0.21	4.45	21.77	0.66	94.92
Last 5	12:12:59	900.03	22.58	5.11	0.21	3.73	21.77	0.63	93.51
Last 5	12:17:59	1200.03	22.85	5.11	0.21	2.99	21.77	0.64	93.03
Last 5	12:22:59	1499.93	22.54	5.10	0.21	2.43	21.77	0.63	92.29
Last 5	12:27:59	1799.93	23.07	5.11	0.21	2.37	21.77	0.61	92.28
Variance 0			0.27	-0.00	0.00			0.00	-0.48
Variance 1			-0.31	-0.01	0.00			-0.00	-0.74
Variance 2			0.54	0.01	-0.00			-0.02	-0.01

Notes

Battery pack lost connection. Restarted well. P  
Sample time = 1235

Grab Samples



Product Name: Low-Flow System

Date: 2020-06-24 13:17:08

Project Information:

Operator Name Ferdinand Mayila  
Company Name Wood  
Project Name Plant Arkwright AP3 ASD  
Site Name ARGWC-18  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED Micropurge  
Tubing Type HDPE  
Tubing Diameter 0.25 in  
Tubing Length 50.55 ft

Pump placement from TOC 45.55 ft

Well Information:

Well ID ARGWC-18  
Well diameter 2 in  
Well Total Depth 50.55 ft  
Screen Length 10 ft  
Depth to Water 27.65 ft

Pumping Information:

Final Pumping Rate 0 mL/min  
Total System Volume 0.09 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 53 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5%	+/- 0.1%	+/- 3%	+/- 10%		+/- 0.3%	+/- 10%
Last 5	12:36:59	10802.88	22.17	5.91	533.87	10.80	28.23	0.10	58.74
Last 5	12:46:59	11402.88	22.30	5.91	534.96	9.95	28.23	0.09	58.71
Last 5	12:51:59	11702.88	22.53	5.91	535.61	9.40	28.23	0.09	58.57
Last 5	12:56:59	12002.88	22.64	5.91	533.99	9.05	28.23	0.09	58.65
Last 5	13:02:00	12303.87	22.62	5.91	534.28	9.03	28.23	0.09	58.70
Variance 0			0.23	0.00	0.64			-0.00	-0.14
Variance 1			0.11	0.00	-1.61			0.01	0.08
Variance 2			-0.02	0.00	0.29			-0.00	0.05

Notes: Sample time 1320. Total and dissolved metals collected due to final turbidity

Grab Samples

## Georgia Power Site Sampling Data (GW)

Site Name: **Plant Arkwright**

Date: **6/23, 24, 25, 26/2020**

Well ID	Sample Date	Sample Time	Field Blank	Equipment Blank	Field Dup.	Additional Comments
ARGWC-8	6/23/20	1315				
ARGWC-10	6/23/20	1515				
Field Blank #1	6/23/20	0930	Field Blank #1			Field Blank For 6/23/20 Beginning of Sampling
AP3PZ-1A	6/23/20	0930				
DUP #1	6/23/20	—			AP3PZ-1A	Duplicate of AP3PZ-1A (DUP #1)
AP3PZ-2A	6/23/20	1345				
AP3PZ-3A	6/23/20	1308				
AP3PZ-4A	6/23/20	1552				
AP3PZ-5A	6/23/20	1705				
ARGWC-22	6/24/20	1005				
DUP #2	6/24/20	—			ARGWC-22	Duplicate of ARGWC-22 (DUP #2)
ARAMW-1	6/24/20	1245				
ARAMW-2	6/24/20	1640				
EB #1	6/24/20	0925		EB #1		Equip Blank of bladder pump
ARGWC-16	6/24/20	1000				
ARGWC-17	6/24/20	1235				
ARAMW-6	6/24/20	1620				
ARAMW-4	6/24/20	1210				
ARAMW-3	6/24/20	1345				
ARGWC-18	6/24/20	1320				
EB #2	6/25/20	0910		EB #2		Equip Blank of tubing use with peristaltic pump
ARGWC-23	6/25/20	1119				
ARGWC-21	6/25/20	1315				
ARGWA-19	6/25/20	1015				
ARGWA-20	6/25/20	1230				
ARGWC-15	6/25/20	1110				

Additional comments: Field Blank #1 and Field Blank #2 were taken using ASTM Type I/II reagent water. RICCA Brand Lot # 2002A53, Exp 8/2021. Equip Blank EB #1 was collected from QED Sample Pro Bladder Pump ID # 38796 using ASTM Type I/II reagent water RICCA Brand Lot # 2002A53, Exp 8/2021. Equip Blank EB #2 was collected from the HDPE tubing used with the peristaltic pump. Tubing lot # 12759-05. Reagent water used ASTM Type I/II RICCA Brand Lot # 2002A53, Exp 8/2021.



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-109846-1  
Client Project/Site: CCR - Plant Arkwright

For:  
Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
9/24/2020 4:40:14 PM

Shali Brown, Project Manager II  
(615)301-5031  
[Shali.Brown@Eurofinset.com](mailto:Shali.Brown@Eurofinset.com)

### LINKS

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[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Job ID: 180-109846-1**

**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

**Job Narrative  
180-109846-1**

### Comments

No additional comments.

### Receipt

The samples were received on 8/20/2020 9:30 AM, 8/21/2020 9:45 AM and 8/22/2020 10:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 9 coolers at receipt time were 1.1° C, 1.2° C, 1.5° C, 1.6° C, 2.1° C, 2.4° C, 2.6° C, 2.7° C and 3.6° C.

### Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWC-10 (180-109848-1). The container labels list an id of GWC-10 while the COC lists ARGWC10.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWC-9 (180-109848-3). The container labels list an id of GWC-9 while the COC lists ARGWC-9. The id's on the Coc were used.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWA-5 (180-109850-1). The container labels list an id of GWA-5 while the COC lists ARGWA-5.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWA-3 (180-109850-2). The container labels list an id of GWA-3 while the COC lists ARGWA-3.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWC-7 (180-109850-3). The container labels list an id of GWC-7 while the COC lists ARGWC-7. The id's on the Coc were used.

### GC Semi VOA

Method 300.0: The matrix spike and matrix spike duplicate (MS/MSD) recoveries for the following sample associated with analytical batch 180-326478 were outside control limits for Fluoride: (180-109846-B-2 MS) and (180-109846-B-2 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Metals

Methods 6020A, 6020B: The ICVL failed high for tin. Another (ICVL 180-330300/6) made from a separate stock solution was run and passes for 6020B method with 103% recovery ; therefore, the data has been reported.

Method 6020B: The method blank for preparation batch 180-327642 contained boron above the reporting limit (RL). None of the samples associated with this method blank contained the target compound above the RL; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 6020B: The method blank for preparation batch 180-327640 contained zinc above the reporting limit (RL). None of the samples associated with this method blank contained the target compound above the RL; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 7470A: The continuing calibration verification (CCV) associated with batch 180-328261 recovered above the upper control limit for mercury. The samples associated with this CCV were non-detects for the affected analytes or were below the reporting limit (RL); therefore, the data have been reported.

Method 7470A: The low level continuing calibration verification (CCVL) associated with batch 180-328261 recovered above the upper control limit for mercury. The samples associated with this CCVL were non-detects for the affected analytes or below the reporting limit (RL); therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

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## Job ID: 180-109846-1 (Continued)

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### Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-21
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-21
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	02-01-21



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-109846-1	ARGWA-14	Water	08/19/20 13:55	08/20/20 09:30	
180-109846-2	ARGWC-15	Water	08/19/20 10:05	08/20/20 09:30	
180-109846-3	ARGWC-16	Water	08/19/20 12:05	08/20/20 09:30	
180-109847-1	FB#1	Water	08/18/20 11:00	08/20/20 09:30	
180-109847-2	ARGWA-12	Water	08/18/20 13:00	08/20/20 09:30	
180-109847-3	ARGWA-13	Water	08/18/20 14:50	08/20/20 09:30	
180-109847-4	ARGWC-17	Water	08/18/20 14:45	08/20/20 09:30	
180-109848-1	ARGWC-10	Water	08/19/20 11:35	08/20/20 09:30	
180-109848-2	DUP-1	Water	08/19/20 00:00	08/20/20 09:30	
180-109848-3	ARGWC-9	Water	08/19/20 14:25	08/20/20 09:30	
180-109850-1	ARGWA-5	Water	08/18/20 11:35	08/20/20 09:30	
180-109850-2	ARGWA-3	Water	08/18/20 13:20	08/20/20 09:30	
180-109850-3	ARGWC-7	Water	08/18/20 15:25	08/20/20 09:30	
180-109851-1	EB#2	Water	08/19/20 09:15	08/20/20 09:30	
180-109851-2	ARGWA-19	Water	08/19/20 10:56	08/20/20 09:30	
180-109851-3	ARGWA-20	Water	08/19/20 13:44	08/20/20 09:30	
180-109851-4	ARGWC-22	Water	08/19/20 15:32	08/20/20 09:30	
180-109918-1	FB#2	Water	08/20/20 10:45	08/21/20 09:45	
180-109918-2	ARGWC-23	Water	08/20/20 12:15	08/21/20 09:45	
180-109918-3	DUP-2	Water	08/20/20 00:00	08/21/20 09:45	
180-109918-4	ARAMW-1	Water	08/20/20 14:36	08/21/20 09:45	
180-109918-5	ARAMW-2	Water	08/20/20 16:35	08/21/20 09:45	
180-109929-1	ARGWC-8	Water	08/20/20 10:35	08/21/20 09:45	
180-109929-2	ARGWC-18	Water	08/20/20 17:05	08/21/20 09:45	
180-109930-1	EB#1	Water	08/20/20 09:30	08/21/20 09:45	
180-109930-2	ARAMW-3	Water	08/20/20 14:45	08/21/20 09:45	
180-109930-3	ARAMW-4	Water	08/20/20 11:45	08/21/20 09:45	
180-109970-1	ARAMW-6	Water	08/21/20 09:45	08/22/20 10:00	
180-109970-2	ARGWC-21	Water	08/21/20 10:36	08/22/20 10:00	

# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT
Filtration	Sample Filtration	None	TAL PIT

#### Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Client Sample ID: ARGWA-14

## Lab Sample ID: 180-109846-1

Date Collected: 08/19/20 13:55

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326785	08/24/20 08:46	EPS	TAL PIT
Instrument ID: CHICS2000										
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 21:08	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:09	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/19/20 13:55	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-15

## Lab Sample ID: 180-109846-2

Date Collected: 08/19/20 10:05

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326478	08/21/20 13:28	MJH	TAL PIT
Instrument ID: CHICS2000										
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 21:11	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:13	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/19/20 10:05	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-16

## Lab Sample ID: 180-109846-3

Date Collected: 08/19/20 12:05

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326785	08/24/20 09:01	EPS	TAL PIT
Instrument ID: CHICS2000										
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 21:36	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:14	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/19/20 12:05	FDS	TAL PIT
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Client Sample ID: FB#1

Lab Sample ID: 180-109847-1

Date Collected: 08/18/20 11:00

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2000		1			326917	08/25/20 11:35	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			330300	09/17/20 21:40	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			328261	09/02/20 15:15	RJR	TAL PIT

## Client Sample ID: ARGWA-12

Lab Sample ID: 180-109847-2

Date Collected: 08/18/20 13:00

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2000		1			326917	08/25/20 11:50	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			330300	09/17/20 21:43	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			328261	09/02/20 15:16	RJR	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			326626	08/18/20 13:00	FDS	TAL PIT

## Client Sample ID: ARGWA-13

Lab Sample ID: 180-109847-3

Date Collected: 08/18/20 14:50

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			326890	08/25/20 14:31	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			330300	09/17/20 21:47	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			328261	09/02/20 15:17	RJR	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			326626	08/18/20 14:50	FDS	TAL PIT

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Client Sample ID: ARGWC-17

## Lab Sample ID: 180-109847-4

Date Collected: 08/18/20 14:45

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 14:47	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 21:50	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:21	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/18/20 14:45	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-10

## Lab Sample ID: 180-109848-1

Date Collected: 08/19/20 11:35

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 05:59	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 21:54	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:22	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/19/20 11:35	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: DUP-1

## Lab Sample ID: 180-109848-2

Date Collected: 08/19/20 00:00

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 06:46	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 22:06	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:23	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/19/20 00:00	FDS	TAL PIT
Instrument ID: NOEQUIP										



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Client Sample ID: ARGWC-9

## Lab Sample ID: 180-109848-3

Date Collected: 08/19/20 14:25

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 07:02	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 22:10	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:24	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/19/20 14:25	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-5

## Lab Sample ID: 180-109850-1

Date Collected: 08/18/20 11:35

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 07:50	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 17:56	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:25	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/18/20 11:35	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-3

## Lab Sample ID: 180-109850-2

Date Collected: 08/18/20 13:20

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 08:06	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 18:14	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:26	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/18/20 13:20	FDS	TAL PIT
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-7**

**Lab Sample ID: 180-109850-3**

**Date Collected: 08/18/20 15:25**

**Matrix: Water**

**Date Received: 08/20/20 09:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 08:21	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 18:18	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:27	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/18/20 15:25	FDS	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: EB#2**

**Lab Sample ID: 180-109851-1**

**Date Collected: 08/19/20 09:15**

**Matrix: Water**

**Date Received: 08/20/20 09:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 10:19	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 18:21	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:28	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	326608	08/21/20 11:11	AVS	TAL PIT
Instrument ID: NOEQUIP										

**Client Sample ID: ARGWA-19**

**Lab Sample ID: 180-109851-2**

**Date Collected: 08/19/20 10:56**

**Matrix: Water**

**Date Received: 08/20/20 09:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 11:50	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330300	09/17/20 18:25	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328261	09/02/20 15:29	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	Field Sampling		1			326626	08/19/20 10:56	FDS	TAL PIT
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWA-20**

**Lab Sample ID: 180-109851-3**

**Date Collected: 08/19/20 13:44**

**Matrix: Water**

**Date Received: 08/20/20 09:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			326890	08/25/20 12:06	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			330300	09/17/20 18:36	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			328261	09/02/20 15:30	RJR	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			326626	08/19/20 13:44	FDS	TAL PIT

**Client Sample ID: ARGWC-22**

**Lab Sample ID: 180-109851-4**

**Date Collected: 08/19/20 15:32**

**Matrix: Water**

**Date Received: 08/20/20 09:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			326890	08/25/20 10:35	EPS	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		10			326890	08/25/20 11:31	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			330300	09/17/20 18:39	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			330464	09/18/20 13:03	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			328261	09/02/20 15:34	RJR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	326608	08/21/20 11:11	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			326626	08/19/20 15:32	FDS	TAL PIT

**Client Sample ID: FB#2**

**Lab Sample ID: 180-109918-1**

**Date Collected: 08/20/20 10:45**

**Matrix: Water**

**Date Received: 08/21/20 09:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			326777	08/24/20 14:46	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			329135	09/10/20 01:16	DSH	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Client Sample ID: FB#2

## Lab Sample ID: 180-109918-1

Date Collected: 08/20/20 10:45

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328649	09/05/20 09:53	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	326682	08/22/20 08:53	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-23

## Lab Sample ID: 180-109918-2

Date Collected: 08/20/20 12:15

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326777	08/24/20 13:43	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			329135	09/10/20 01:19	DSH	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			329474	09/11/20 22:34	DSH	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328649	09/05/20 09:54	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	326682	08/22/20 08:53	AVS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			327279	08/20/20 12:15	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: DUP-2

## Lab Sample ID: 180-109918-3

Date Collected: 08/20/20 00:00

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326777	08/24/20 13:59	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			329135	09/10/20 01:23	DSH	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			330720	09/21/20 15:00	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328649	09/05/20 09:57	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	326682	08/22/20 08:53	AVS	TAL PIT
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Client Sample ID: DUP-2

## Lab Sample ID: 180-109918-3

Date Collected: 08/20/20 00:00

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1			327279	08/20/20 00:00	FDS	TAL PIT

## Client Sample ID: ARAMW-1

## Lab Sample ID: 180-109918-4

Date Collected: 08/20/20 14:36

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2000		1			326785	08/24/20 10:29	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			329135	09/10/20 01:26	DSH	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			328649	09/05/20 09:58	RJR	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			327279	08/20/20 14:36	FDS	TAL PIT

## Client Sample ID: ARAMW-2

## Lab Sample ID: 180-109918-5

Date Collected: 08/20/20 16:35

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			326777	08/24/20 12:32	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			329135	09/10/20 01:30	DSH	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			328649	09/05/20 09:59	RJR	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			327279	08/20/20 16:35	FDS	TAL PIT

## Client Sample ID: ARGWC-8

## Lab Sample ID: 180-109929-1

Date Collected: 08/20/20 10:35

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			327077	08/26/20 06:26	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			329135	09/10/20 01:33	DSH	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Client Sample ID: ARGWC-8

Lab Sample ID: 180-109929-1

Date Collected: 08/20/20 10:35

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328649	09/05/20 10:00	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			327279	08/20/20 10:35	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-18

Lab Sample ID: 180-109929-2

Date Collected: 08/20/20 17:05

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			327077	08/26/20 11:27	EPS	TAL PIT
Instrument ID: CHIC2100A										
Dissolved	Filtration	Filtration			250 mL	250 mL	326831	08/24/20 09:48	TJO	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Dissolved	Analysis	EPA 6020B		1			329135	09/10/20 01:40	DSH	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			329135	09/10/20 01:37	DSH	TAL PIT
Instrument ID: DORY										
Dissolved	Filtration	Filtration			250 mL	250 mL	326831	08/24/20 09:48	TJO	TAL PIT
Dissolved	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Dissolved	Analysis	EPA 7470A		1			328649	09/05/20 10:03	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328649	09/05/20 10:01	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			327279	08/20/20 17:05	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: EB#1

Lab Sample ID: 180-109930-1

Date Collected: 08/20/20 09:30

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			327077	08/26/20 11:59	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			329135	09/10/20 01:44	DSH	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328649	09/05/20 10:04	RJR	TAL PIT
Instrument ID: HGZ										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Client Sample ID: ARAMW-3

## Lab Sample ID: 180-109930-2

Date Collected: 08/20/20 14:45

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			327077	08/26/20 13:02	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:01	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			329135	09/10/20 01:55	DSH	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328649	09/05/20 10:05	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			327279	08/20/20 14:45	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-4

## Lab Sample ID: 180-109930-3

Date Collected: 08/20/20 11:45

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			327077	08/26/20 11:11	EPS	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:04	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			329135	09/10/20 02:12	DSH	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			50 mL	50 mL	328515	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328649	09/05/20 09:50	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			327279	08/20/20 11:45	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-6

## Lab Sample ID: 180-109970-1

Date Collected: 08/21/20 09:45

Matrix: Water

Date Received: 08/22/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			327578	08/28/20 15:07	MJH	TAL PIT
Instrument ID: CHICS2000										
Total Recoverable	Prep	3005A			50 mL	50 mL	328065	09/01/20 16:08	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			328773	09/04/20 22:07	RJR	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			50 mL	50 mL	328636	09/05/20 06:15	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328684	09/07/20 08:48	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			327279	08/21/20 09:45	FDS	TAL PIT
Instrument ID: NOEQUIP										



# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-21**

**Lab Sample ID: 180-109970-2**

**Date Collected: 08/21/20 10:36**

**Matrix: Water**

**Date Received: 08/22/20 10:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			327578	08/28/20 15:21	MJH	TAL PIT
Instrument ID: CHICS2000										
Total Recoverable	Prep	3005A			50 mL	50 mL	328065	09/01/20 16:08	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			328773	09/04/20 22:10	RJR	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			50 mL	50 mL	328636	09/05/20 06:15	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			328684	09/07/20 08:49	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			327279	08/21/20 10:36	FDS	TAL PIT
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Filtration

TJO = Tyler Oliver

Batch Type: Prep

RJR = Ron Rosenbaum

TJO = Tyler Oliver

Batch Type: Analysis

AVS = Abbey Smith

DSH = David Heakin

EPS = Evan Scheuer

FDS = Sampler Field

MJH = Matthew Hartman

RJR = Ron Rosenbaum

RSK = Robert Kurtz

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWA-14**

**Lab Sample ID: 180-109846-1**

Date Collected: 08/19/20 13:55

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.12		0.10	0.026	mg/L			08/24/20 08:46	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 21:08	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 21:08	1
Barium	0.041		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 21:08	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 21:08	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 21:08	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 21:08	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 21:08	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 21:08	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 21:08	1
Molybdenum	0.00065	J	0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 21:08	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 21:08	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 21:08	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:09	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.62				SU			08/19/20 13:55	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-15**

**Lab Sample ID: 180-109846-2**

Date Collected: 08/19/20 10:05

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.081	J F1	0.10	0.026	mg/L			08/21/20 13:28	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 21:11	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 21:11	1
Barium	0.028		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 21:11	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 21:11	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 21:11	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 21:11	1
Cobalt	0.00040	J	0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 21:11	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 21:11	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 21:11	1
Molybdenum	0.0016	J	0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 21:11	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 21:11	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 21:11	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:13	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.47				SU			08/19/20 10:05	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-16**

**Lab Sample ID: 180-109846-3**

Date Collected: 08/19/20 12:05

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/24/20 09:01	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 21:36	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 21:36	1
<b>Barium</b>	<b>0.045</b>		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 21:36	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 21:36	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 21:36	1
<b>Chromium</b>	<b>0.0021</b>		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 21:36	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 21:36	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 21:36	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 21:36	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 21:36	1
<b>Selenium</b>	<b>0.0029</b>	<b>J</b>	0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 21:36	1
<b>Thallium</b>	<b>0.00027</b>	<b>J</b>	0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 21:36	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:14	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>5.24</b>				SU			08/19/20 12:05	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: FB#1**

**Lab Sample ID: 180-109847-1**

Date Collected: 08/18/20 11:00

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 11:35	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 21:40	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 21:40	1
Barium	<0.0016		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 21:40	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 21:40	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 21:40	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 21:40	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 21:40	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 21:40	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 21:40	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 21:40	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 21:40	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 21:40	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:15	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWA-12**

**Lab Sample ID: 180-109847-2**

Date Collected: 08/18/20 13:00

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.041	J	0.10	0.026	mg/L			08/25/20 11:50	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 21:43	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 21:43	1
Barium	0.079		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 21:43	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 21:43	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 21:43	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 21:43	1
Cobalt	0.00019	J	0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 21:43	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 21:43	1
Lithium	0.0039	J	0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 21:43	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 21:43	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 21:43	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 21:43	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:16	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.48				SU			08/18/20 13:00	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWA-13**

**Lab Sample ID: 180-109847-3**

Date Collected: 08/18/20 14:50

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 14:31	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 21:47	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 21:47	1
<b>Barium</b>	<b>0.025</b>		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 21:47	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 21:47	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 21:47	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 21:47	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 21:47	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 21:47	1
<b>Lithium</b>	<b>0.0042</b>	<b>J</b>	0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 21:47	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 21:47	1
<b>Selenium</b>	<b>0.019</b>		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 21:47	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 21:47	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:17	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>6.15</b>				SU			08/18/20 14:50	1



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-17**

**Lab Sample ID: 180-109847-4**

Date Collected: 08/18/20 14:45

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 14:47	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 21:50	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 21:50	1
<b>Barium</b>	<b>0.062</b>		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 21:50	1
<b>Beryllium</b>	<b>0.00039</b>	<b>J</b>	0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 21:50	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 21:50	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 21:50	1
<b>Cobalt</b>	<b>0.030</b>		0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 21:50	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 21:50	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 21:50	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 21:50	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 21:50	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 21:50	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:21	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>5.07</b>				SU			08/18/20 14:45	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-109848-1**

Date Collected: 08/19/20 11:35

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 05:59	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 21:54	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 21:54	1
<b>Barium</b>	<b>0.034</b>		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 21:54	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 21:54	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 21:54	1
<b>Chromium</b>	<b>0.0049</b>		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 21:54	1
<b>Cobalt</b>	<b>0.00015 J</b>		0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 21:54	1
<b>Lead</b>	<b>0.00013 J</b>		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 21:54	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 21:54	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 21:54	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 21:54	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 21:54	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:22	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>7.06</b>				SU			08/19/20 11:35	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: DUP-1**

**Lab Sample ID: 180-109848-2**

Date Collected: 08/19/20 00:00

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 06:46	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 22:06	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 22:06	1
<b>Barium</b>	<b>0.034</b>		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 22:06	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 22:06	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 22:06	1
<b>Chromium</b>	<b>0.0051</b>		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 22:06	1
<b>Cobalt</b>	<b>0.00020</b>	<b>J</b>	0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 22:06	1
<b>Lead</b>	<b>0.00016</b>	<b>J</b>	0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 22:06	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 22:06	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 22:06	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 22:06	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 22:06	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:23	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>7.06</b>				SU			08/19/20 00:00	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-9**

**Lab Sample ID: 180-109848-3**

Date Collected: 08/19/20 14:25

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 07:02	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 22:10	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 22:10	1
<b>Barium</b>	<b>0.046</b>		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 22:10	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 22:10	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 22:10	1
<b>Chromium</b>	<b>0.0080</b>		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 22:10	1
<b>Cobalt</b>	<b>0.00013</b>	<b>J</b>	0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 22:10	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 22:10	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 22:10	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 22:10	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 22:10	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 22:10	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	<b>^</b>	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:24	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.21</b>				SU			08/19/20 14:25	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWA-5**

**Lab Sample ID: 180-109850-1**

Date Collected: 08/18/20 11:35

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 07:50	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:10	09/17/20 17:56	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:10	09/17/20 17:56	1
<b>Barium</b>	<b>0.031</b>		0.010	0.0016	mg/L		08/28/20 15:10	09/17/20 17:56	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:10	09/17/20 17:56	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:10	09/17/20 17:56	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 17:56	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 17:56	1
<b>Lead</b>	<b>0.00013</b>	<b>J</b>	0.0010	0.00013	mg/L		08/28/20 15:10	09/17/20 17:56	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:10	09/17/20 17:56	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:10	09/17/20 17:56	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:10	09/17/20 17:56	1
<b>Thallium</b>	<b>0.00021</b>	<b>J</b>	0.0010	0.00015	mg/L		08/28/20 15:10	09/17/20 17:56	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:25	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>6.18</b>				SU			08/18/20 11:35	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWA-3**

**Lab Sample ID: 180-109850-2**

Date Collected: 08/18/20 13:20

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 08:06	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:10	09/17/20 18:14	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:10	09/17/20 18:14	1
<b>Barium</b>	<b>0.021</b>		0.010	0.0016	mg/L		08/28/20 15:10	09/17/20 18:14	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:10	09/17/20 18:14	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:10	09/17/20 18:14	1
<b>Chromium</b>	<b>0.0027</b>		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 18:14	1
<b>Cobalt</b>	<b>0.00022</b>	J	0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 18:14	1
<b>Lead</b>	<b>0.00019</b>	J	0.0010	0.00013	mg/L		08/28/20 15:10	09/17/20 18:14	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:10	09/17/20 18:14	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:10	09/17/20 18:14	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:10	09/17/20 18:14	1
<b>Thallium</b>	<b>0.00036</b>	J	0.0010	0.00015	mg/L		08/28/20 15:10	09/17/20 18:14	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:26	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.47				SU			08/18/20 13:20	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-7**

**Lab Sample ID: 180-109850-3**

Date Collected: 08/18/20 15:25

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 08:21	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:10	09/17/20 18:18	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:10	09/17/20 18:18	1
<b>Barium</b>	<b>0.044</b>		0.010	0.0016	mg/L		08/28/20 15:10	09/17/20 18:18	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:10	09/17/20 18:18	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:10	09/17/20 18:18	1
<b>Chromium</b>	<b>0.0031</b>		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 18:18	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 18:18	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:10	09/17/20 18:18	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:10	09/17/20 18:18	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:10	09/17/20 18:18	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:10	09/17/20 18:18	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:10	09/17/20 18:18	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:27	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>6.70</b>				SU			08/18/20 15:25	1



# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: EB#2**

**Lab Sample ID: 180-109851-1**

Date Collected: 08/19/20 09:15

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			08/25/20 10:19	1
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 10:19	1
Sulfate	<0.38		1.0	0.38	mg/L			08/25/20 10:19	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:10	09/17/20 18:21	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:10	09/17/20 18:21	1
Barium	<0.0016		0.010	0.0016	mg/L		08/28/20 15:10	09/17/20 18:21	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:10	09/17/20 18:21	1
Boron	<0.039	^	0.080	0.039	mg/L		08/28/20 15:10	09/17/20 18:21	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:10	09/17/20 18:21	1
Calcium	<0.13		0.50	0.13	mg/L		08/28/20 15:10	09/17/20 18:21	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 18:21	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 18:21	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:10	09/17/20 18:21	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:10	09/17/20 18:21	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:10	09/17/20 18:21	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:10	09/17/20 18:21	1
<b>Thallium</b>	<b>0.00015</b>	<b>J</b>	0.0010	0.00015	mg/L		08/28/20 15:10	09/17/20 18:21	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:28	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/21/20 11:11	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWA-19**

**Lab Sample ID: 180-109851-2**

Date Collected: 08/19/20 10:56

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 11:50	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:10	09/17/20 18:25	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:10	09/17/20 18:25	1
<b>Barium</b>	<b>0.044</b>		0.010	0.0016	mg/L		08/28/20 15:10	09/17/20 18:25	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:10	09/17/20 18:25	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:10	09/17/20 18:25	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 18:25	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 18:25	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:10	09/17/20 18:25	1
<b>Lithium</b>	<b>0.0038</b>	<b>J</b>	0.0050	0.0034	mg/L		08/28/20 15:10	09/17/20 18:25	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:10	09/17/20 18:25	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:10	09/17/20 18:25	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:10	09/17/20 18:25	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:29	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>6.25</b>				SU			08/19/20 10:56	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWA-20**

**Lab Sample ID: 180-109851-3**

Date Collected: 08/19/20 13:44

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 12:06	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:10	09/17/20 18:36	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:10	09/17/20 18:36	1
<b>Barium</b>	<b>0.085</b>		0.010	0.0016	mg/L		08/28/20 15:10	09/17/20 18:36	1
<b>Beryllium</b>	<b>0.00022 J</b>		0.0025	0.00018	mg/L		08/28/20 15:10	09/17/20 18:36	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:10	09/17/20 18:36	1
<b>Chromium</b>	<b>0.0063</b>		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 18:36	1
<b>Cobalt</b>	<b>0.00064 J</b>		0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 18:36	1
<b>Lead</b>	<b>0.00039 J</b>		0.0010	0.00013	mg/L		08/28/20 15:10	09/17/20 18:36	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:10	09/17/20 18:36	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:10	09/17/20 18:36	1
<b>Selenium</b>	<b>0.0015 J</b>		0.0050	0.0015	mg/L		08/28/20 15:10	09/17/20 18:36	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:10	09/17/20 18:36	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:30	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>6.16</b>				SU			08/19/20 13:44	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-22**

**Lab Sample ID: 180-109851-4**

Date Collected: 08/19/20 15:32

Matrix: Water

Date Received: 08/20/20 09:30

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.7		1.0	0.32	mg/L			08/25/20 10:35	1
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 10:35	1
Sulfate	1000		10	3.8	mg/L			08/25/20 11:31	10

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:10	09/17/20 18:39	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:10	09/17/20 18:39	1
Barium	0.046		0.010	0.0016	mg/L		08/28/20 15:10	09/17/20 18:39	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:10	09/17/20 18:39	1
Boron	1.3		0.080	0.039	mg/L		08/28/20 15:10	09/18/20 13:03	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:10	09/17/20 18:39	1
Calcium	220	B	0.50	0.13	mg/L		08/28/20 15:10	09/17/20 18:39	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 18:39	1
Cobalt	0.0032		0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 18:39	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:10	09/17/20 18:39	1
Lithium	0.026		0.0050	0.0034	mg/L		08/28/20 15:10	09/17/20 18:39	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:10	09/17/20 18:39	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:10	09/17/20 18:39	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:10	09/17/20 18:39	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:34	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1400		10	10	mg/L			08/21/20 11:11	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.21				SU			08/19/20 15:32	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: FB#2**

**Lab Sample ID: 180-109918-1**

**Date Collected: 08/20/20 10:45**

**Matrix: Water**

**Date Received: 08/21/20 09:45**

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			08/24/20 14:46	1
Fluoride	<0.026		0.10	0.026	mg/L			08/24/20 14:46	1
Sulfate	<0.38		1.0	0.38	mg/L			08/24/20 14:46	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:16	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:16	1
Barium	<0.0016		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:16	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 01:16	1
<b>Boron</b>	<b>0.056</b>	<b>J ^</b>	0.080	0.039	mg/L		09/01/20 16:00	09/10/20 01:16	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 01:16	1
Calcium	<0.13		0.50	0.13	mg/L		09/01/20 16:00	09/10/20 01:16	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 01:16	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:16	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 01:16	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:16	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:16	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 01:16	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:16	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 09:53	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/22/20 08:53	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-23**

**Lab Sample ID: 180-109918-2**

Date Collected: 08/20/20 12:15

Matrix: Water

Date Received: 08/21/20 09:45

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.9		1.0	0.32	mg/L			08/24/20 13:43	1
Fluoride	0.19		0.10	0.026	mg/L			08/24/20 13:43	1
Sulfate	69		1.0	0.38	mg/L			08/24/20 13:43	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:19	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:19	1
Barium	0.16		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:19	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 01:19	1
Boron	0.44		0.080	0.039	mg/L		09/01/20 16:00	09/11/20 22:34	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 01:19	1
Calcium	69		0.50	0.13	mg/L		09/01/20 16:00	09/10/20 01:19	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 01:19	1
Cobalt	0.0023	J	0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:19	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 01:19	1
Lithium	0.036		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:19	1
Molybdenum	0.061		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:19	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 01:19	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:19	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 09:54	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		10	10	mg/L			08/22/20 08:53	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.33				SU			08/20/20 12:15	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: DUP-2**

**Lab Sample ID: 180-109918-3**

Date Collected: 08/20/20 00:00

Matrix: Water

Date Received: 08/21/20 09:45

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.9		1.0	0.32	mg/L			08/24/20 13:59	1
Fluoride	0.19		0.10	0.026	mg/L			08/24/20 13:59	1
Sulfate	70		1.0	0.38	mg/L			08/24/20 13:59	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:23	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:23	1
Barium	0.16		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:23	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 01:23	1
Boron	0.40		0.080	0.039	mg/L		09/01/20 16:00	09/21/20 15:00	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 01:23	1
Calcium	68		0.50	0.13	mg/L		09/01/20 16:00	09/10/20 01:23	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 01:23	1
Cobalt	0.0022	J	0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:23	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 01:23	1
Lithium	0.035		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:23	1
Molybdenum	0.061		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:23	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 01:23	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:23	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 09:57	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		10	10	mg/L			08/22/20 08:53	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.33				SU			08/20/20 00:00	1



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARAMW-1**

**Lab Sample ID: 180-109918-4**

Date Collected: 08/20/20 14:36

Matrix: Water

Date Received: 08/21/20 09:45

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.23		0.10	0.026	mg/L			08/24/20 10:29	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:26	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:26	1
Barium	0.055		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:26	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 01:26	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 01:26	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 01:26	1
Cobalt	0.0010	J	0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:26	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 01:26	1
Lithium	0.0066		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:26	1
Molybdenum	0.0076	J	0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:26	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 01:26	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:26	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 09:58	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.09				SU			08/20/20 14:36	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARAMW-2**

**Lab Sample ID: 180-109918-5**

Date Collected: 08/20/20 16:35

Matrix: Water

Date Received: 08/21/20 09:45

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/24/20 12:32	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:30	1
<b>Arsenic</b>	<b>0.084</b>		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:30	1
<b>Barium</b>	<b>0.14</b>		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:30	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 01:30	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 01:30	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 01:30	1
<b>Cobalt</b>	<b>0.0022</b>	<b>J</b>	0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:30	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 01:30	1
<b>Lithium</b>	<b>0.036</b>		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:30	1
<b>Molybdenum</b>	<b>0.0013</b>	<b>J</b>	0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:30	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 01:30	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:30	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 09:59	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>5.99</b>				SU			08/20/20 16:35	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-8**

**Lab Sample ID: 180-109929-1**

Date Collected: 08/20/20 10:35

Matrix: Water

Date Received: 08/21/20 09:45

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.054	J	0.10	0.026	mg/L			08/26/20 06:26	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:33	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:33	1
Barium	0.053		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:33	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 01:33	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 01:33	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 01:33	1
Cobalt	0.00023	J	0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:33	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 01:33	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:33	1
Molybdenum	0.042		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:33	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 01:33	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:33	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 10:00	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.34				SU			08/20/20 10:35	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-18**

**Lab Sample ID: 180-109929-2**

Date Collected: 08/20/20 17:05

Matrix: Water

Date Received: 08/21/20 09:45

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/26/20 11:27	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:37	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:37	1
<b>Barium</b>	<b>0.041</b>		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:37	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 01:37	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 01:37	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 01:37	1
<b>Cobalt</b>	<b>0.0015</b>	<b>J</b>	0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:37	1
<b>Lead</b>	<b>0.00028</b>	<b>J</b>	0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 01:37	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:37	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:37	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 01:37	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:37	1

### Method: EPA 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:40	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:40	1
<b>Barium</b>	<b>0.037</b>		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:40	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 01:40	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 01:40	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 01:40	1
<b>Cobalt</b>	<b>0.0013</b>	<b>J</b>	0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:40	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 01:40	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:40	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:40	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 01:40	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:40	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 10:01	1

### Method: EPA 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 10:03	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>6.43</b>				SU			08/20/20 17:05	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: EB#1**

**Lab Sample ID: 180-109930-1**

Date Collected: 08/20/20 09:30

Matrix: Water

Date Received: 08/21/20 09:45

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/26/20 11:59	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:44	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:44	1
Barium	<0.0016		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:44	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 01:44	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 01:44	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 01:44	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:44	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 01:44	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:44	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:44	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 01:44	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:44	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 10:04	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARAMW-3**

**Lab Sample ID: 180-109930-2**

Date Collected: 08/20/20 14:45

Matrix: Water

Date Received: 08/21/20 09:45

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/26/20 13:02	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:01	09/10/20 01:55	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:01	09/10/20 01:55	1
<b>Barium</b>	<b>0.093</b>		0.010	0.0016	mg/L		09/01/20 16:01	09/10/20 01:55	1
Beryllium	<0.00018	^	0.0025	0.00018	mg/L		09/01/20 16:01	09/10/20 01:55	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:01	09/10/20 01:55	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:01	09/10/20 01:55	1
<b>Cobalt</b>	<b>0.00056</b>	J	0.0025	0.00013	mg/L		09/01/20 16:01	09/10/20 01:55	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:01	09/10/20 01:55	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:01	09/10/20 01:55	1
<b>Molybdenum</b>	<b>0.0029</b>	J	0.015	0.00061	mg/L		09/01/20 16:01	09/10/20 01:55	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:01	09/10/20 01:55	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:01	09/10/20 01:55	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 10:05	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>6.24</b>				SU			08/20/20 14:45	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARAMW-4**

**Lab Sample ID: 180-109930-3**

Date Collected: 08/20/20 11:45

Matrix: Water

Date Received: 08/21/20 09:45

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/26/20 11:11	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:04	09/10/20 02:12	1
<b>Arsenic</b>	<b>0.00034</b>	<b>J</b>	0.0010	0.00031	mg/L		09/01/20 16:04	09/10/20 02:12	1
<b>Barium</b>	<b>0.053</b>		0.010	0.0016	mg/L		09/01/20 16:04	09/10/20 02:12	1
Beryllium	<0.00018	<sup>^</sup>	0.0025	0.00018	mg/L		09/01/20 16:04	09/10/20 02:12	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:04	09/10/20 02:12	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:04	09/10/20 02:12	1
<b>Cobalt</b>	<b>0.0050</b>		0.0025	0.00013	mg/L		09/01/20 16:04	09/10/20 02:12	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:04	09/10/20 02:12	1
<b>Lithium</b>	<b>0.012</b>		0.0050	0.0034	mg/L		09/01/20 16:04	09/10/20 02:12	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:04	09/10/20 02:12	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:04	09/10/20 02:12	1
<b>Thallium</b>	<b>0.00022</b>	<b>J</b>	0.0010	0.00015	mg/L		09/01/20 16:04	09/10/20 02:12	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 09:50	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>5.77</b>				SU			08/20/20 11:45	1



# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARAMW-6**

**Lab Sample ID: 180-109970-1**

Date Collected: 08/21/20 09:45

Matrix: Water

Date Received: 08/22/20 10:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.051	J	0.10	0.026	mg/L			08/28/20 15:07	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:08	09/04/20 22:07	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:08	09/04/20 22:07	1
Barium	0.049		0.010	0.0016	mg/L		09/01/20 16:08	09/04/20 22:07	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:08	09/04/20 22:07	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:08	09/04/20 22:07	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:08	09/04/20 22:07	1
Cobalt	0.0018	J	0.0025	0.00013	mg/L		09/01/20 16:08	09/04/20 22:07	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:08	09/04/20 22:07	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:08	09/04/20 22:07	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:08	09/04/20 22:07	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:08	09/04/20 22:07	1
Thallium	0.00018	J	0.0010	0.00015	mg/L		09/01/20 16:08	09/04/20 22:07	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/05/20 06:15	09/07/20 08:48	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.32				SU			08/21/20 09:45	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

**Client Sample ID: ARGWC-21**

**Lab Sample ID: 180-109970-2**

Date Collected: 08/21/20 10:36

Matrix: Water

Date Received: 08/22/20 10:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.084	J	0.10	0.026	mg/L			08/28/20 15:21	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:08	09/04/20 22:10	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:08	09/04/20 22:10	1
Barium	0.054		0.010	0.0016	mg/L		09/01/20 16:08	09/04/20 22:10	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:08	09/04/20 22:10	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:08	09/04/20 22:10	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:08	09/04/20 22:10	1
Cobalt	0.00066	J	0.0025	0.00013	mg/L		09/01/20 16:08	09/04/20 22:10	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:08	09/04/20 22:10	1
Lithium	0.013		0.0050	0.0034	mg/L		09/01/20 16:08	09/04/20 22:10	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:08	09/04/20 22:10	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:08	09/04/20 22:10	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:08	09/04/20 22:10	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/05/20 06:15	09/07/20 08:49	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.89				SU			08/21/20 10:36	1

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: MB 180-326478/18**  
**Matrix: Water**  
**Analysis Batch: 326478**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/21/20 11:35	1

**Lab Sample ID: LCS 180-326478/17**  
**Matrix: Water**  
**Analysis Batch: 326478**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.73		mg/L		109	90 - 110

**Lab Sample ID: 180-109846-2 MS**  
**Matrix: Water**  
**Analysis Batch: 326478**

**Client Sample ID: ARGWC-15**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.081	J F1	2.50	2.22	F1	mg/L		85	90 - 110

**Lab Sample ID: 180-109846-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 326478**

**Client Sample ID: ARGWC-15**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.081	J F1	2.50	2.21	F1	mg/L		85	90 - 110	1	20

**Lab Sample ID: MB 180-326777/6**  
**Matrix: Water**  
**Analysis Batch: 326777**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			08/24/20 06:29	1
Fluoride	<0.026		0.10	0.026	mg/L			08/24/20 06:29	1
Sulfate	<0.38		1.0	0.38	mg/L			08/24/20 06:29	1

**Lab Sample ID: LCS 180-326777/5**  
**Matrix: Water**  
**Analysis Batch: 326777**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	53.8		mg/L		108	90 - 110
Fluoride	2.50	2.57		mg/L		103	90 - 110
Sulfate	50.0	52.7		mg/L		105	90 - 110

**Lab Sample ID: MB 180-326785/6**  
**Matrix: Water**  
**Analysis Batch: 326785**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/24/20 08:17	1

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: LCS 180-326785/5**  
**Matrix: Water**  
**Analysis Batch: 326785**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.38		mg/L		95	90 - 110

**Lab Sample ID: MB 180-326890/6**  
**Matrix: Water**  
**Analysis Batch: 326890**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 05:13	1

**Lab Sample ID: LCS 180-326890/5**  
**Matrix: Water**  
**Analysis Batch: 326890**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.52		mg/L		101	90 - 110

**Lab Sample ID: 180-109847-4 MS**  
**Matrix: Water**  
**Analysis Batch: 326890**

**Client Sample ID: ARGWC-17**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.026		2.50	2.48		mg/L		99	90 - 110

**Lab Sample ID: 180-109847-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 326890**

**Client Sample ID: ARGWC-17**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.026		2.50	2.52		mg/L		101	90 - 110	1	20

**Lab Sample ID: 180-109848-1 MS**  
**Matrix: Water**  
**Analysis Batch: 326890**

**Client Sample ID: ARGWC-10**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.026		2.50	2.48		mg/L		99	90 - 110

**Lab Sample ID: 180-109848-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 326890**

**Client Sample ID: ARGWC-10**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.026		2.50	2.41		mg/L		97	90 - 110	3	20

**Lab Sample ID: MB 180-326917/18**  
**Matrix: Water**  
**Analysis Batch: 326917**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/25/20 10:20	1

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: LCS 180-326917/17**  
**Matrix: Water**  
**Analysis Batch: 326917**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.40		mg/L		96	90 - 110

**Lab Sample ID: 180-109847-2 MS**  
**Matrix: Water**  
**Analysis Batch: 326917**

**Client Sample ID: ARGWA-12**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.041	J	2.50	2.52		mg/L		99	90 - 110

**Lab Sample ID: 180-109847-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 326917**

**Client Sample ID: ARGWA-12**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Fluoride	0.041	J	2.50	2.52		mg/L		99	90 - 110	0	20

**Lab Sample ID: MB 180-327077/6**  
**Matrix: Water**  
**Analysis Batch: 327077**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/26/20 05:39	1

**Lab Sample ID: LCS 180-327077/5**  
**Matrix: Water**  
**Analysis Batch: 327077**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.55		mg/L		102	90 - 110

**Lab Sample ID: 180-109929-1 MS**  
**Matrix: Water**  
**Analysis Batch: 327077**

**Client Sample ID: ARGWC-8**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.054	J	2.50	2.62		mg/L		102	90 - 110

**Lab Sample ID: 180-109929-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 327077**

**Client Sample ID: ARGWC-8**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Fluoride	0.054	J	2.50	2.48		mg/L		97	90 - 110	5	20

**Lab Sample ID: 180-109930-2 MS**  
**Matrix: Water**  
**Analysis Batch: 327077**

**Client Sample ID: ARAMW-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.026		2.50	2.42		mg/L		97	90 - 110

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: 180-109930-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 327077**

**Client Sample ID: ARAMW-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.026		2.50	2.47		mg/L		99	90 - 110	2	20

**Lab Sample ID: MB 180-327578/6**  
**Matrix: Water**  
**Analysis Batch: 327578**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.026		0.10	0.026	mg/L			08/28/20 13:11	1

**Lab Sample ID: LCS 180-327578/5**  
**Matrix: Water**  
**Analysis Batch: 327578**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.43		mg/L		97	90 - 110

**Lab Sample ID: 180-109970-2 MS**  
**Matrix: Water**  
**Analysis Batch: 327578**

**Client Sample ID: ARGWC-21**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.084	J	2.50	2.55		mg/L		99	90 - 110

**Lab Sample ID: 180-109970-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 327578**

**Client Sample ID: ARGWC-21**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.084	J	2.50	2.75		mg/L		107	90 - 110	7	20

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-327640/1-A**  
**Matrix: Water**  
**Analysis Batch: 330300**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327640**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:02	09/17/20 20:39	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:02	09/17/20 20:39	1
Barium	<0.0016		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 20:39	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:02	09/17/20 20:39	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:02	09/17/20 20:39	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 20:39	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 20:39	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:02	09/17/20 20:39	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:02	09/17/20 20:39	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:02	09/17/20 20:39	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 20:39	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:02	09/17/20 20:39	1

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 180-327640/2-A**  
**Matrix: Water**  
**Analysis Batch: 330300**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327640**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.250	0.262		mg/L		105	80 - 120
Arsenic	1.00	1.05		mg/L		105	80 - 120
Barium	1.00	1.05		mg/L		105	80 - 120
Beryllium	0.500	0.525		mg/L		105	80 - 120
Cadmium	0.500	0.525		mg/L		105	80 - 120
Chromium	0.500	0.521		mg/L		104	80 - 120
Cobalt	0.500	0.520		mg/L		104	80 - 120
Lead	0.500	0.526		mg/L		105	80 - 120
Lithium	0.500	0.497		mg/L		99	80 - 120
Molybdenum	0.500	0.540		mg/L		108	80 - 120
Selenium	1.00	1.01		mg/L		101	80 - 120
Thallium	1.00	1.13		mg/L		113	80 - 120

**Lab Sample ID: 180-109846-2 MS**  
**Matrix: Water**  
**Analysis Batch: 330300**

**Client Sample ID: ARGWC-15**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327640**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	<0.00038		0.250	0.262		mg/L		105	75 - 125
Arsenic	<0.00031		1.00	1.06		mg/L		106	75 - 125
Barium	0.028		1.00	1.08		mg/L		106	75 - 125
Beryllium	<0.00018		0.500	0.523		mg/L		105	75 - 125
Cadmium	<0.00022		0.500	0.522		mg/L		104	75 - 125
Chromium	<0.0015		0.500	0.523		mg/L		105	75 - 125
Cobalt	0.00040	J	0.500	0.516		mg/L		103	75 - 125
Lead	<0.00013		0.500	0.529		mg/L		106	75 - 125
Lithium	<0.0034		0.500	0.513		mg/L		103	75 - 125
Molybdenum	0.0016	J	0.500	0.544		mg/L		109	75 - 125
Selenium	<0.0015		1.00	1.01		mg/L		101	75 - 125
Thallium	<0.00015		1.00	1.14		mg/L		114	75 - 125

**Lab Sample ID: 180-109846-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 330300**

**Client Sample ID: ARGWC-15**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327640**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	<0.00038		0.250	0.268		mg/L		107	75 - 125	3	20
Arsenic	<0.00031		1.00	1.06		mg/L		106	75 - 125	1	20
Barium	0.028		1.00	1.09		mg/L		106	75 - 125	1	20
Beryllium	<0.00018		0.500	0.510		mg/L		102	75 - 125	3	20
Cadmium	<0.00022		0.500	0.530		mg/L		106	75 - 125	2	20
Chromium	<0.0015		0.500	0.518		mg/L		104	75 - 125	1	20
Cobalt	0.00040	J	0.500	0.522		mg/L		104	75 - 125	1	20
Lead	<0.00013		0.500	0.530		mg/L		106	75 - 125	0	20
Lithium	<0.0034		0.500	0.496		mg/L		99	75 - 125	3	20
Molybdenum	0.0016	J	0.500	0.547		mg/L		109	75 - 125	0	20
Selenium	<0.0015		1.00	1.01		mg/L		101	75 - 125	0	20
Thallium	<0.00015		1.00	1.14		mg/L		114	75 - 125	1	20

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 180-327642/1-A**  
**Matrix: Water**  
**Analysis Batch: 330300**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327642**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.00038		0.0020	0.00038	mg/L		08/28/20 15:10	09/17/20 17:35	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/28/20 15:10	09/17/20 17:35	1
Barium	<0.0016		0.010	0.0016	mg/L		08/28/20 15:10	09/17/20 17:35	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/28/20 15:10	09/17/20 17:35	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/28/20 15:10	09/17/20 17:35	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 17:35	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 17:35	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/28/20 15:10	09/17/20 17:35	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/28/20 15:10	09/17/20 17:35	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/28/20 15:10	09/17/20 17:35	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/28/20 15:10	09/17/20 17:35	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/28/20 15:10	09/17/20 17:35	1

**Lab Sample ID: MB 180-327642/1-A**  
**Matrix: Water**  
**Analysis Batch: 330464**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327642**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	<0.039		0.080	0.039	mg/L		08/28/20 15:10	09/18/20 12:56	1

**Lab Sample ID: LCS 180-327642/2-A**  
**Matrix: Water**  
**Analysis Batch: 330300**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327642**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.07		mg/L		107	80 - 120
Barium	1.00	1.04		mg/L		104	80 - 120
Beryllium	0.500	0.523		mg/L		105	80 - 120
Cadmium	0.500	0.522		mg/L		104	80 - 120
Chromium	0.500	0.522		mg/L		104	80 - 120
Cobalt	0.500	0.520		mg/L		104	80 - 120
Lead	0.500	0.527		mg/L		105	80 - 120
Lithium	0.500	0.499		mg/L		100	80 - 120
Molybdenum	0.500	0.545		mg/L		109	80 - 120
Selenium	1.00	1.01		mg/L		101	80 - 120
Thallium	1.00	1.13		mg/L		113	80 - 120

**Lab Sample ID: LCS 180-327642/2-A**  
**Matrix: Water**  
**Analysis Batch: 330464**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327642**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: 180-109850-1 MS**  
**Matrix: Water**  
**Analysis Batch: 330300**

**Client Sample ID: ARGWA-5**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327642**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	%Rec. Limits
Antimony	<0.00038		0.250	0.260		mg/L		104	75 - 125	
Arsenic	<0.00031		1.00	1.08		mg/L		108	75 - 125	
Barium	0.031		1.00	1.08		mg/L		105	75 - 125	
Beryllium	<0.00018		0.500	0.516		mg/L		103	75 - 125	
Cadmium	<0.00022		0.500	0.526		mg/L		105	75 - 125	
Chromium	<0.0015		0.500	0.533		mg/L		107	75 - 125	
Cobalt	<0.00013		0.500	0.531		mg/L		106	75 - 125	
Lead	0.00013	J	0.500	0.535		mg/L		107	75 - 125	
Lithium	<0.0034		0.500	0.501		mg/L		100	75 - 125	
Molybdenum	<0.00061		0.500	0.558		mg/L		112	75 - 125	
Selenium	<0.0015		1.00	1.01		mg/L		101	75 - 125	
Thallium	0.00021	J	1.00	1.16		mg/L		116	75 - 125	

**Lab Sample ID: 180-109850-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 330300**

**Client Sample ID: ARGWA-5**  
**Prep Type: Total Recoverable**  
**Prep Batch: 327642**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Antimony	<0.00038		0.250	0.262		mg/L		105	75 - 125	1	20
Arsenic	<0.00031		1.00	1.06		mg/L		106	75 - 125	2	20
Barium	0.031		1.00	1.08		mg/L		105	75 - 125	0	20
Beryllium	<0.00018		0.500	0.511		mg/L		102	75 - 125	1	20
Cadmium	<0.00022		0.500	0.522		mg/L		104	75 - 125	1	20
Chromium	<0.0015		0.500	0.524		mg/L		105	75 - 125	2	20
Cobalt	<0.00013		0.500	0.524		mg/L		105	75 - 125	1	20
Lead	0.00013	J	0.500	0.527		mg/L		105	75 - 125	2	20
Lithium	<0.0034		0.500	0.495		mg/L		99	75 - 125	1	20
Molybdenum	<0.00061		0.500	0.544		mg/L		109	75 - 125	3	20
Selenium	<0.0015		1.00	1.00		mg/L		100	75 - 125	1	20
Thallium	0.00021	J	1.00	1.11		mg/L		111	75 - 125	4	20

**Lab Sample ID: MB 180-328062/1-A**  
**Matrix: Water**  
**Analysis Batch: 329135**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328062**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 00:30	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 00:30	1
Barium	<0.0016		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 00:30	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 00:30	1
Boron	<0.039	^	0.080	0.039	mg/L		09/01/20 16:00	09/10/20 00:30	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 00:30	1
Calcium	<0.13		0.50	0.13	mg/L		09/01/20 16:00	09/10/20 00:30	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 00:30	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 00:30	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 00:30	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 00:30	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 00:30	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 00:30	1

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 180-328062/1-A**  
**Matrix: Water**  
**Analysis Batch: 329135**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328062**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 00:30	1

**Lab Sample ID: MB 180-328062/1-A**  
**Matrix: Water**  
**Analysis Batch: 329474**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328062**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		09/01/20 16:00	09/11/20 22:27	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/11/20 22:27	1

**Lab Sample ID: PB 180-326831/1-E**  
**Matrix: Water**  
**Analysis Batch: 329135**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328062**

Analyte	PB Result	PB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 00:37	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 00:37	1
Barium	<0.0016		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 00:37	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:00	09/10/20 00:37	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:00	09/10/20 00:37	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:00	09/10/20 00:37	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 00:37	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:00	09/10/20 00:37	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 00:37	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 00:37	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:00	09/10/20 00:37	1
Thallium	0.000185	J	0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 00:37	1

**Lab Sample ID: LCS 180-328062/2-A**  
**Matrix: Water**  
**Analysis Batch: 329135**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328062**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.250	0.249		mg/L		100	80 - 120
Arsenic	1.00	0.945		mg/L		95	80 - 120
Barium	1.00	1.04		mg/L		104	80 - 120
Beryllium	0.500	0.525		mg/L		105	80 - 120
Cadmium	0.500	0.483		mg/L		97	80 - 120
Chromium	0.500	0.478		mg/L		96	80 - 120
Cobalt	0.500	0.477		mg/L		95	80 - 120
Lead	0.500	0.486		mg/L		97	80 - 120
Lithium	0.500	0.484		mg/L		97	80 - 120
Molybdenum	0.500	0.498		mg/L		100	80 - 120
Selenium	1.00	0.986		mg/L		99	80 - 120
Thallium	1.00	0.987		mg/L		99	80 - 120

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 180-328062/2-A**  
**Matrix: Water**  
**Analysis Batch: 329571**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328062**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1.25	1.32		mg/L		105	80 - 120

**Lab Sample ID: 180-109930-2 MS**  
**Matrix: Water**  
**Analysis Batch: 329135**

**Client Sample ID: ARAMW-3**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328062**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	<0.00038		0.250	0.255		mg/L		102	75 - 125
Arsenic	<0.00031		1.00	0.981		mg/L		98	75 - 125
Barium	0.093		1.00	1.16		mg/L		106	75 - 125
Beryllium	<0.00018	^	0.500	0.548	^	mg/L		110	75 - 125
Cadmium	<0.00022		0.500	0.492		mg/L		98	75 - 125
Chromium	<0.0015		0.500	0.489		mg/L		98	75 - 125
Cobalt	0.00056	J	0.500	0.486		mg/L		97	75 - 125
Lead	<0.00013		0.500	0.495		mg/L		99	75 - 125
Lithium	<0.0034		0.500	0.505		mg/L		101	75 - 125
Molybdenum	0.0029	J	0.500	0.513		mg/L		102	75 - 125
Selenium	<0.0015		1.00	0.983		mg/L		98	75 - 125
Thallium	<0.00015		1.00	1.00		mg/L		100	75 - 125

**Lab Sample ID: 180-109930-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 329135**

**Client Sample ID: ARAMW-3**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328062**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	<0.00038		0.250	0.251		mg/L		101	75 - 125	2	20
Arsenic	<0.00031		1.00	0.983		mg/L		98	75 - 125	0	20
Barium	0.093		1.00	1.14		mg/L		105	75 - 125	1	20
Beryllium	<0.00018	^	0.500	0.543	^	mg/L		109	75 - 125	1	20
Cadmium	<0.00022		0.500	0.486		mg/L		97	75 - 125	1	20
Chromium	<0.0015		0.500	0.485		mg/L		97	75 - 125	1	20
Cobalt	0.00056	J	0.500	0.483		mg/L		97	75 - 125	1	20
Lead	<0.00013		0.500	0.491		mg/L		98	75 - 125	1	20
Lithium	<0.0034		0.500	0.496		mg/L		99	75 - 125	2	20
Molybdenum	0.0029	J	0.500	0.505		mg/L		100	75 - 125	2	20
Selenium	<0.0015		1.00	0.985		mg/L		98	75 - 125	0	20
Thallium	<0.00015		1.00	0.998		mg/L		100	75 - 125	0	20

**Lab Sample ID: MB 180-328065/1-A**  
**Matrix: Water**  
**Analysis Batch: 328773**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328065**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:08	09/04/20 21:35	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		09/01/20 16:08	09/04/20 21:35	1
Barium	<0.0016		0.010	0.0016	mg/L		09/01/20 16:08	09/04/20 21:35	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		09/01/20 16:08	09/04/20 21:35	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		09/01/20 16:08	09/04/20 21:35	1
Chromium	<0.0015		0.0020	0.0015	mg/L		09/01/20 16:08	09/04/20 21:35	1

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 180-328065/1-A**  
**Matrix: Water**  
**Analysis Batch: 328773**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328065**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cobalt	<0.00013		0.0025	0.00013	mg/L		09/01/20 16:08	09/04/20 21:35	1
Lead	<0.00013		0.0010	0.00013	mg/L		09/01/20 16:08	09/04/20 21:35	1
Lithium	<0.0034		0.0050	0.0034	mg/L		09/01/20 16:08	09/04/20 21:35	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:08	09/04/20 21:35	1
Selenium	<0.0015		0.0050	0.0015	mg/L		09/01/20 16:08	09/04/20 21:35	1
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:08	09/04/20 21:35	1

**Lab Sample ID: LCS 180-328065/2-A**  
**Matrix: Water**  
**Analysis Batch: 328773**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 328065**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Antimony	0.250	0.261		mg/L		105	80 - 120
Arsenic	1.00	1.04		mg/L		104	80 - 120
Barium	1.00	1.08		mg/L		108	80 - 120
Beryllium	0.500	0.479		mg/L		96	80 - 120
Cadmium	0.500	0.514		mg/L		103	80 - 120
Chromium	0.500	0.498		mg/L		100	80 - 120
Cobalt	0.500	0.510		mg/L		102	80 - 120
Lead	0.500	0.510		mg/L		102	80 - 120
Lithium	0.500	0.483		mg/L		97	80 - 120
Molybdenum	0.500	0.522		mg/L		104	80 - 120
Selenium	1.00	0.995		mg/L		100	80 - 120
Thallium	1.00	1.03		mg/L		103	80 - 120

**Lab Sample ID: LCS 180-326831/2-E**  
**Matrix: Water**  
**Analysis Batch: 329135**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 328062**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Antimony	0.250	0.255		mg/L		102	80 - 120
Arsenic	1.00	0.960		mg/L		96	80 - 120
Barium	1.00	1.05		mg/L		105	80 - 120
Beryllium	0.500	0.518		mg/L		104	80 - 120
Boron	1.25	1.08	^	mg/L		87	80 - 120
Cadmium	0.500	0.482		mg/L		96	80 - 120
Calcium	25.0	26.6		mg/L		107	80 - 120
Chromium	0.500	0.492		mg/L		98	80 - 120
Cobalt	0.500	0.477		mg/L		95	80 - 120
Lead	0.500	0.491		mg/L		98	80 - 120
Lithium	0.500	0.480		mg/L		96	80 - 120
Molybdenum	0.500	0.494		mg/L		99	80 - 120
Selenium	1.00	0.977		mg/L		98	80 - 120
Thallium	1.00	0.980		mg/L		98	80 - 120

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 7470A - Mercury (CVAA)

**Lab Sample ID: MB 180-328121/1-A**  
**Matrix: Water**  
**Analysis Batch: 328261**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 328121**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	^	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:07	1

**Lab Sample ID: LCS 180-328121/2-A**  
**Matrix: Water**  
**Analysis Batch: 328261**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 328121**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00297	^	mg/L		119	80 - 120

**Lab Sample ID: 180-109846-1 MS**  
**Matrix: Water**  
**Analysis Batch: 328261**

**Client Sample ID: ARGWA-14**  
**Prep Type: Total/NA**  
**Prep Batch: 328121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00013	^	0.00100	0.00118	^	mg/L		118	75 - 125

**Lab Sample ID: 180-109846-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 328261**

**Client Sample ID: ARGWA-14**  
**Prep Type: Total/NA**  
**Prep Batch: 328121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	<0.00013	^	0.00100	0.00120	^	mg/L		120	75 - 125	2	20

**Lab Sample ID: MB 180-328515/1-A**  
**Matrix: Water**  
**Analysis Batch: 328649**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 328515**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 09:24	1

**Lab Sample ID: LCS 180-328515/2-A**  
**Matrix: Water**  
**Analysis Batch: 328649**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 328515**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00253		mg/L		101	80 - 120

**Lab Sample ID: MB 180-328516/1-A**  
**Matrix: Water**  
**Analysis Batch: 328649**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 328516**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 09:51	1

**Lab Sample ID: LCS 180-328516/2-A**  
**Matrix: Water**  
**Analysis Batch: 328649**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 328516**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00255		mg/L		102	80 - 120

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Method: EPA 7470A - Mercury (CVAA)

**Lab Sample ID: MB 180-328636/1-A**  
**Matrix: Water**  
**Analysis Batch: 328684**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 328636**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/05/20 06:15	09/07/20 08:30	1

**Lab Sample ID: LCS 180-328636/2-A**  
**Matrix: Water**  
**Analysis Batch: 328684**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 328636**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00263		mg/L		105	80 - 120

**Lab Sample ID: PB 180-326831/1-F**  
**Matrix: Water**  
**Analysis Batch: 328649**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 328516**

Analyte	PB Result	PB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		09/04/20 08:35	09/05/20 10:02	1

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: MB 180-326608/2**  
**Matrix: Water**  
**Analysis Batch: 326608**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/21/20 11:11	1

**Lab Sample ID: LCS 180-326608/1**  
**Matrix: Water**  
**Analysis Batch: 326608**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	567	602		mg/L		106	80 - 120

**Lab Sample ID: MB 180-326682/2**  
**Matrix: Water**  
**Analysis Batch: 326682**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/22/20 08:11	1

**Lab Sample ID: LCS 180-326682/1**  
**Matrix: Water**  
**Analysis Batch: 326682**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	567	562		mg/L		99	80 - 120



# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## HPLC/IC

### Analysis Batch: 326478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-2	ARGWC-15	Total/NA	Water	EPA 300.0 R2.1	
MB 180-326478/18	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-326478/17	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-109846-2 MS	ARGWC-15	Total/NA	Water	EPA 300.0 R2.1	
180-109846-2 MSD	ARGWC-15	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 326777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total/NA	Water	EPA 300.0 R2.1	
180-109918-2	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-109918-3	DUP-2	Total/NA	Water	EPA 300.0 R2.1	
180-109918-5	ARAMW-2	Total/NA	Water	EPA 300.0 R2.1	
MB 180-326777/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-326777/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 326785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-1	ARGWA-14	Total/NA	Water	EPA 300.0 R2.1	
180-109846-3	ARGWC-16	Total/NA	Water	EPA 300.0 R2.1	
180-109918-4	ARAMW-1	Total/NA	Water	EPA 300.0 R2.1	
MB 180-326785/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-326785/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 326890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109847-3	ARGWA-13	Total/NA	Water	EPA 300.0 R2.1	
180-109847-4	ARGWC-17	Total/NA	Water	EPA 300.0 R2.1	
180-109848-1	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	
180-109848-2	DUP-1	Total/NA	Water	EPA 300.0 R2.1	
180-109848-3	ARGWC-9	Total/NA	Water	EPA 300.0 R2.1	
180-109850-1	ARGWA-5	Total/NA	Water	EPA 300.0 R2.1	
180-109850-2	ARGWA-3	Total/NA	Water	EPA 300.0 R2.1	
180-109850-3	ARGWC-7	Total/NA	Water	EPA 300.0 R2.1	
180-109851-1	EB#2	Total/NA	Water	EPA 300.0 R2.1	
180-109851-2	ARGWA-19	Total/NA	Water	EPA 300.0 R2.1	
180-109851-3	ARGWA-20	Total/NA	Water	EPA 300.0 R2.1	
180-109851-4	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-109851-4	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
MB 180-326890/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-326890/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-109847-4 MS	ARGWC-17	Total/NA	Water	EPA 300.0 R2.1	
180-109847-4 MSD	ARGWC-17	Total/NA	Water	EPA 300.0 R2.1	
180-109848-1 MS	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	
180-109848-1 MSD	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 326917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109847-1	FB#1	Total/NA	Water	EPA 300.0 R2.1	
180-109847-2	ARGWA-12	Total/NA	Water	EPA 300.0 R2.1	
MB 180-326917/18	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-326917/17	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

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# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## HPLC/IC (Continued)

### Analysis Batch: 326917 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109847-2 MS	ARGWA-12	Total/NA	Water	EPA 300.0 R2.1	
180-109847-2 MSD	ARGWA-12	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 327077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109929-1	ARGWC-8	Total/NA	Water	EPA 300.0 R2.1	
180-109929-2	ARGWC-18	Total/NA	Water	EPA 300.0 R2.1	
180-109930-1	EB#1	Total/NA	Water	EPA 300.0 R2.1	
180-109930-2	ARAMW-3	Total/NA	Water	EPA 300.0 R2.1	
180-109930-3	ARAMW-4	Total/NA	Water	EPA 300.0 R2.1	
MB 180-327077/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-327077/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-109929-1 MS	ARGWC-8	Total/NA	Water	EPA 300.0 R2.1	
180-109929-1 MSD	ARGWC-8	Total/NA	Water	EPA 300.0 R2.1	
180-109930-2 MS	ARAMW-3	Total/NA	Water	EPA 300.0 R2.1	
180-109930-2 MSD	ARAMW-3	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 327578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109970-1	ARAMW-6	Total/NA	Water	EPA 300.0 R2.1	
180-109970-2	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
MB 180-327578/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-327578/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-109970-2 MS	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
180-109970-2 MSD	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	

## Metals

### Filtration Batch: 326831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109929-2	ARGWC-18	Dissolved	Water	Filtration	
PB 180-326831/1-E	Method Blank	Total Recoverable	Water	Filtration	
PB 180-326831/1-F	Method Blank	Dissolved	Water	Filtration	
LCS 180-326831/2-E	Lab Control Sample	Dissolved	Water	Filtration	

### Prep Batch: 327640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-1	ARGWA-14	Total Recoverable	Water	3005A	
180-109846-2	ARGWC-15	Total Recoverable	Water	3005A	
180-109846-3	ARGWC-16	Total Recoverable	Water	3005A	
180-109847-1	FB#1	Total Recoverable	Water	3005A	
180-109847-2	ARGWA-12	Total Recoverable	Water	3005A	
180-109847-3	ARGWA-13	Total Recoverable	Water	3005A	
180-109847-4	ARGWC-17	Total Recoverable	Water	3005A	
180-109848-1	ARGWC-10	Total Recoverable	Water	3005A	
180-109848-2	DUP-1	Total Recoverable	Water	3005A	
180-109848-3	ARGWC-9	Total Recoverable	Water	3005A	
MB 180-327640/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-327640/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-109846-2 MS	ARGWC-15	Total Recoverable	Water	3005A	
180-109846-2 MSD	ARGWC-15	Total Recoverable	Water	3005A	

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# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Metals

### Prep Batch: 327642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109850-1	ARGWA-5	Total Recoverable	Water	3005A	
180-109850-2	ARGWA-3	Total Recoverable	Water	3005A	
180-109850-3	ARGWC-7	Total Recoverable	Water	3005A	
180-109851-1	EB#2	Total Recoverable	Water	3005A	
180-109851-2	ARGWA-19	Total Recoverable	Water	3005A	
180-109851-3	ARGWA-20	Total Recoverable	Water	3005A	
180-109851-4	ARGWC-22	Total Recoverable	Water	3005A	
MB 180-327642/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-327642/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-109850-1 MS	ARGWA-5	Total Recoverable	Water	3005A	
180-109850-1 MSD	ARGWA-5	Total Recoverable	Water	3005A	

### Prep Batch: 328062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total Recoverable	Water	3005A	
180-109918-2	ARGWC-23	Total Recoverable	Water	3005A	
180-109918-3	DUP-2	Total Recoverable	Water	3005A	
180-109918-4	ARAMW-1	Total Recoverable	Water	3005A	
180-109918-5	ARAMW-2	Total Recoverable	Water	3005A	
180-109929-1	ARGWC-8	Total Recoverable	Water	3005A	
180-109929-2	ARGWC-18	Dissolved	Water	3005A	326831
180-109929-2	ARGWC-18	Total Recoverable	Water	3005A	
180-109930-1	EB#1	Total Recoverable	Water	3005A	
180-109930-2	ARAMW-3	Total Recoverable	Water	3005A	
180-109930-3	ARAMW-4	Total Recoverable	Water	3005A	
MB 180-328062/1-A	Method Blank	Total Recoverable	Water	3005A	
PB 180-326831/1-E	Method Blank	Total Recoverable	Water	3005A	326831
LCS 180-326831/2-E	Lab Control Sample	Dissolved	Water	3005A	326831
LCS 180-328062/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-109930-2 MS	ARAMW-3	Total Recoverable	Water	3005A	
180-109930-2 MSD	ARAMW-3	Total Recoverable	Water	3005A	

### Prep Batch: 328065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109970-1	ARAMW-6	Total Recoverable	Water	3005A	
180-109970-2	ARGWC-21	Total Recoverable	Water	3005A	
MB 180-328065/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-328065/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Prep Batch: 328121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-1	ARGWA-14	Total/NA	Water	7470A	
180-109846-2	ARGWC-15	Total/NA	Water	7470A	
180-109846-3	ARGWC-16	Total/NA	Water	7470A	
180-109847-1	FB#1	Total/NA	Water	7470A	
180-109847-2	ARGWA-12	Total/NA	Water	7470A	
180-109847-3	ARGWA-13	Total/NA	Water	7470A	
180-109847-4	ARGWC-17	Total/NA	Water	7470A	
180-109848-1	ARGWC-10	Total/NA	Water	7470A	
180-109848-2	DUP-1	Total/NA	Water	7470A	
180-109848-3	ARGWC-9	Total/NA	Water	7470A	

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# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Metals (Continued)

### Prep Batch: 328121 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109850-1	ARGWA-5	Total/NA	Water	7470A	
180-109850-2	ARGWA-3	Total/NA	Water	7470A	
180-109850-3	ARGWC-7	Total/NA	Water	7470A	
180-109851-1	EB#2	Total/NA	Water	7470A	
180-109851-2	ARGWA-19	Total/NA	Water	7470A	
180-109851-3	ARGWA-20	Total/NA	Water	7470A	
180-109851-4	ARGWC-22	Total/NA	Water	7470A	
MB 180-328121/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-328121/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-109846-1 MS	ARGWA-14	Total/NA	Water	7470A	
180-109846-1 MSD	ARGWA-14	Total/NA	Water	7470A	

### Analysis Batch: 328261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-1	ARGWA-14	Total/NA	Water	EPA 7470A	328121
180-109846-2	ARGWC-15	Total/NA	Water	EPA 7470A	328121
180-109846-3	ARGWC-16	Total/NA	Water	EPA 7470A	328121
180-109847-1	FB#1	Total/NA	Water	EPA 7470A	328121
180-109847-2	ARGWA-12	Total/NA	Water	EPA 7470A	328121
180-109847-3	ARGWA-13	Total/NA	Water	EPA 7470A	328121
180-109847-4	ARGWC-17	Total/NA	Water	EPA 7470A	328121
180-109848-1	ARGWC-10	Total/NA	Water	EPA 7470A	328121
180-109848-2	DUP-1	Total/NA	Water	EPA 7470A	328121
180-109848-3	ARGWC-9	Total/NA	Water	EPA 7470A	328121
180-109850-1	ARGWA-5	Total/NA	Water	EPA 7470A	328121
180-109850-2	ARGWA-3	Total/NA	Water	EPA 7470A	328121
180-109850-3	ARGWC-7	Total/NA	Water	EPA 7470A	328121
180-109851-1	EB#2	Total/NA	Water	EPA 7470A	328121
180-109851-2	ARGWA-19	Total/NA	Water	EPA 7470A	328121
180-109851-3	ARGWA-20	Total/NA	Water	EPA 7470A	328121
180-109851-4	ARGWC-22	Total/NA	Water	EPA 7470A	328121
MB 180-328121/1-A	Method Blank	Total/NA	Water	EPA 7470A	328121
LCS 180-328121/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	328121
180-109846-1 MS	ARGWA-14	Total/NA	Water	EPA 7470A	328121
180-109846-1 MSD	ARGWA-14	Total/NA	Water	EPA 7470A	328121

### Prep Batch: 328515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109930-3	ARAMW-4	Total/NA	Water	7470A	
MB 180-328515/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-328515/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Prep Batch: 328516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total/NA	Water	7470A	
180-109918-2	ARGWC-23	Total/NA	Water	7470A	
180-109918-3	DUP-2	Total/NA	Water	7470A	
180-109918-4	ARAMW-1	Total/NA	Water	7470A	
180-109918-5	ARAMW-2	Total/NA	Water	7470A	
180-109929-1	ARGWC-8	Total/NA	Water	7470A	
180-109929-2	ARGWC-18	Dissolved	Water	7470A	326831

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Metals (Continued)

### Prep Batch: 328516 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109929-2	ARGWC-18	Total/NA	Water	7470A	
180-109930-1	EB#1	Total/NA	Water	7470A	
180-109930-2	ARAMW-3	Total/NA	Water	7470A	
MB 180-328516/1-A	Method Blank	Total/NA	Water	7470A	
PB 180-326831/1-F	Method Blank	Dissolved	Water	7470A	326831
LCS 180-328516/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Prep Batch: 328636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109970-1	ARAMW-6	Total/NA	Water	7470A	
180-109970-2	ARGWC-21	Total/NA	Water	7470A	
MB 180-328636/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-328636/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 328649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total/NA	Water	EPA 7470A	328516
180-109918-2	ARGWC-23	Total/NA	Water	EPA 7470A	328516
180-109918-3	DUP-2	Total/NA	Water	EPA 7470A	328516
180-109918-4	ARAMW-1	Total/NA	Water	EPA 7470A	328516
180-109918-5	ARAMW-2	Total/NA	Water	EPA 7470A	328516
180-109929-1	ARGWC-8	Total/NA	Water	EPA 7470A	328516
180-109929-2	ARGWC-18	Dissolved	Water	EPA 7470A	328516
180-109929-2	ARGWC-18	Total/NA	Water	EPA 7470A	328516
180-109930-1	EB#1	Total/NA	Water	EPA 7470A	328516
180-109930-2	ARAMW-3	Total/NA	Water	EPA 7470A	328516
180-109930-3	ARAMW-4	Total/NA	Water	EPA 7470A	328515
MB 180-328515/1-A	Method Blank	Total/NA	Water	EPA 7470A	328515
MB 180-328516/1-A	Method Blank	Total/NA	Water	EPA 7470A	328516
PB 180-326831/1-F	Method Blank	Dissolved	Water	EPA 7470A	328516
LCS 180-328515/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	328515
LCS 180-328516/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	328516

### Analysis Batch: 328684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109970-1	ARAMW-6	Total/NA	Water	EPA 7470A	328636
180-109970-2	ARGWC-21	Total/NA	Water	EPA 7470A	328636
MB 180-328636/1-A	Method Blank	Total/NA	Water	EPA 7470A	328636
LCS 180-328636/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	328636

### Analysis Batch: 328773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109970-1	ARAMW-6	Total Recoverable	Water	EPA 6020B	328065
180-109970-2	ARGWC-21	Total Recoverable	Water	EPA 6020B	328065
MB 180-328065/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	328065
LCS 180-328065/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	328065

### Analysis Batch: 329135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total Recoverable	Water	EPA 6020B	328062
180-109918-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	328062

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Metals (Continued)

### Analysis Batch: 329135 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-3	DUP-2	Total Recoverable	Water	EPA 6020B	328062
180-109918-4	ARAMW-1	Total Recoverable	Water	EPA 6020B	328062
180-109918-5	ARAMW-2	Total Recoverable	Water	EPA 6020B	328062
180-109929-1	ARGWC-8	Total Recoverable	Water	EPA 6020B	328062
180-109929-2	ARGWC-18	Dissolved	Water	EPA 6020B	328062
180-109929-2	ARGWC-18	Total Recoverable	Water	EPA 6020B	328062
180-109930-1	EB#1	Total Recoverable	Water	EPA 6020B	328062
180-109930-2	ARAMW-3	Total Recoverable	Water	EPA 6020B	328062
180-109930-3	ARAMW-4	Total Recoverable	Water	EPA 6020B	328062
MB 180-328062/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	328062
PB 180-326831/1-E	Method Blank	Total Recoverable	Water	EPA 6020B	328062
LCS 180-326831/2-E	Lab Control Sample	Dissolved	Water	EPA 6020B	328062
LCS 180-328062/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	328062
180-109930-2 MS	ARAMW-3	Total Recoverable	Water	EPA 6020B	328062
180-109930-2 MSD	ARAMW-3	Total Recoverable	Water	EPA 6020B	328062

### Analysis Batch: 329474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	328062
MB 180-328062/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	328062

### Analysis Batch: 329571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-328062/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	328062

### Analysis Batch: 330300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-1	ARGWA-14	Total Recoverable	Water	EPA 6020B	327640
180-109846-2	ARGWC-15	Total Recoverable	Water	EPA 6020B	327640
180-109846-3	ARGWC-16	Total Recoverable	Water	EPA 6020B	327640
180-109847-1	FB#1	Total Recoverable	Water	EPA 6020B	327640
180-109847-2	ARGWA-12	Total Recoverable	Water	EPA 6020B	327640
180-109847-3	ARGWA-13	Total Recoverable	Water	EPA 6020B	327640
180-109847-4	ARGWC-17	Total Recoverable	Water	EPA 6020B	327640
180-109848-1	ARGWC-10	Total Recoverable	Water	EPA 6020B	327640
180-109848-2	DUP-1	Total Recoverable	Water	EPA 6020B	327640
180-109848-3	ARGWC-9	Total Recoverable	Water	EPA 6020B	327640
180-109850-1	ARGWA-5	Total Recoverable	Water	EPA 6020B	327642
180-109850-2	ARGWA-3	Total Recoverable	Water	EPA 6020B	327642
180-109850-3	ARGWC-7	Total Recoverable	Water	EPA 6020B	327642
180-109851-1	EB#2	Total Recoverable	Water	EPA 6020B	327642
180-109851-2	ARGWA-19	Total Recoverable	Water	EPA 6020B	327642
180-109851-3	ARGWA-20	Total Recoverable	Water	EPA 6020B	327642
180-109851-4	ARGWC-22	Total Recoverable	Water	EPA 6020B	327642
MB 180-327640/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	327640
MB 180-327642/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	327642
LCS 180-327640/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	327640
LCS 180-327642/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	327642
180-109846-2 MS	ARGWC-15	Total Recoverable	Water	EPA 6020B	327640
180-109846-2 MSD	ARGWC-15	Total Recoverable	Water	EPA 6020B	327640
180-109850-1 MS	ARGWA-5	Total Recoverable	Water	EPA 6020B	327642

Eurofins TestAmerica, Pittsburgh



# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Metals (Continued)

### Analysis Batch: 330300 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109850-1 MSD	ARGWA-5	Total Recoverable	Water	EPA 6020B	327642

### Analysis Batch: 330464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109851-4	ARGWC-22	Total Recoverable	Water	EPA 6020B	327642
MB 180-327642/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	327642
LCS 180-327642/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	327642

### Analysis Batch: 330720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-3	DUP-2	Total Recoverable	Water	EPA 6020B	328062

## General Chemistry

### Analysis Batch: 326608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109851-1	EB#2	Total/NA	Water	SM 2540C	
180-109851-4	ARGWC-22	Total/NA	Water	SM 2540C	
MB 180-326608/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-326608/1	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 326682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total/NA	Water	SM 2540C	
180-109918-2	ARGWC-23	Total/NA	Water	SM 2540C	
180-109918-3	DUP-2	Total/NA	Water	SM 2540C	
MB 180-326682/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-326682/1	Lab Control Sample	Total/NA	Water	SM 2540C	

## Field Service / Mobile Lab

### Analysis Batch: 326626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-1	ARGWA-14	Total/NA	Water	Field Sampling	
180-109846-2	ARGWC-15	Total/NA	Water	Field Sampling	
180-109846-3	ARGWC-16	Total/NA	Water	Field Sampling	
180-109847-2	ARGWA-12	Total/NA	Water	Field Sampling	
180-109847-3	ARGWA-13	Total/NA	Water	Field Sampling	
180-109847-4	ARGWC-17	Total/NA	Water	Field Sampling	
180-109848-1	ARGWC-10	Total/NA	Water	Field Sampling	
180-109848-2	DUP-1	Total/NA	Water	Field Sampling	
180-109848-3	ARGWC-9	Total/NA	Water	Field Sampling	
180-109850-1	ARGWA-5	Total/NA	Water	Field Sampling	
180-109850-2	ARGWA-3	Total/NA	Water	Field Sampling	
180-109850-3	ARGWC-7	Total/NA	Water	Field Sampling	
180-109851-2	ARGWA-19	Total/NA	Water	Field Sampling	
180-109851-3	ARGWA-20	Total/NA	Water	Field Sampling	
180-109851-4	ARGWC-22	Total/NA	Water	Field Sampling	

### Analysis Batch: 327279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-2	ARGWC-23	Total/NA	Water	Field Sampling	

Eurofins TestAmerica, Pittsburgh



# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-1

## Field Service / Mobile Lab (Continued)

### Analysis Batch: 327279 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-3	DUP-2	Total/NA	Water	Field Sampling	
180-109918-4	ARAMW-1	Total/NA	Water	Field Sampling	
180-109918-5	ARAMW-2	Total/NA	Water	Field Sampling	
180-109929-1	ARGWC-8	Total/NA	Water	Field Sampling	
180-109929-2	ARGWC-18	Total/NA	Water	Field Sampling	
180-109930-2	ARAMW-3	Total/NA	Water	Field Sampling	
180-109930-3	ARAMW-4	Total/NA	Water	Field Sampling	
180-109970-1	ARAMW-6	Total/NA	Water	Field Sampling	
180-109970-2	ARGWC-21	Total/NA	Water	Field Sampling	



<b>Client Information</b> Company: GA Power Address: 241 Ralph McGill Blvd SE City: Atlanta State, Zip: GA, 30308 Phone: 404-506-7116(Tel) Email: SCS Contacts: Project Name: CCR - Plant Airwright Site: Georgia		Lab P/N: Brown, Shali E-Mail: Shali.brown@eurofins.com Carrier Tracking No(s): Page: 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): Standard		Analysis Requested	
Sample Identification: FB#1 ARGWA-12 ARGWA-13 ARGWC-17		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - Nuge O - AshSO2 P - NaOHMS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Sample Date: 8/18/20 Sample Time: 1100 Sample Type (C=comp, G=grab): G Matrix (W=water, S=solid, O=soil): W		Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): Total Number of Containers: 3	
Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Special Instructions/Note: pH = 6.48 pH = 6.15 pH = 5.07	
Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab Archive For: Months	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: Dennis R Howard Date/Time: 8/18/20 1730 Company: Woodruff		Received by: Debra Abbott Date/Time: 8-30-20 Company: EPA	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seals Intact: A Yes A No		Cooler Temperature(s) °C and Other Remarks:	







Chain of Custody Record


244-ATLANTA

<b>Client Information</b> Client Contact: <b>Shawn Egwiler, Ashcroft</b> SCS Contacts: <b>Shawn Egwiler, Ashcroft</b> Company: <b>Ashcroft</b> GA Power Address: 241 Ralph McGill Blvd SE City: Atlanta State: GA Zip: 30308 Phone: 404-506-7116 (Tel) Email: <b>shawn.egwiler@eurofins.com</b> SCS Contacts Project Name: <b>CCR - Plant Arkwright</b> CCR - Plant Arkwright Site: Georgia		Lab PM: <b>Brown, Shall</b> E-Mail: <b>shall.brown@eurofins.com</b> Cancer Tracking (Yes)		COC No: Page: <b>1 of 1</b> Job #:	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: 18020201 SSO/W:		Analysis Requested: Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> App II metals (6208) + H <sub>2</sub> 7170H Fluoride 300-ORGM-28D Radium 226/228 (9315/9320)			
Sample Identification: <b>ARGWA-5</b> <b>ARGWA-3</b> <b>ARGWC-7</b>		Sample Date: <b>8/18/20</b> ↓ Sample Time: <b>1135</b> <b>1320</b> <b>1525</b>	Sample Type (C-comp, G-grab): <b>G</b> <b>G</b> <b>G</b>	Matrix (Prep, Split, Overlook, er-tube, etc): <b>W</b> <b>W</b> <b>W</b>	Preservation Code: <b>3 pH = 6.18</b> <b>3 pH = 6.47</b> <b>3 pH = 6.70</b>
Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For: _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/OC Requirements: 180-109850 Chain of Custody			
Empty Kit Requisitioned by: <b>Daniel Howard</b>		Method of Shipment: _____ Date/Time: <b>8/18/20 / 1730</b> Received by: <b>Daniel Howard</b> Date/Time: <b>8-20-20</b> Received by: <b>9130</b> Date/Time: _____			
Requisitioned by: Requisitioned by: Requisitioned by:		Cooler Temperature(s) °C and Other Remarks:			



**Chain of Custody Record**

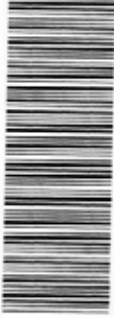
**244-ATLANTA**

<b>Client Information</b>		Sample: <b>D Howard, Es. Wilkes, Ashcroft</b>		Lab #M: <b>Brown, Shall</b>		COC No:	
Client Contact: <b>Es. Wilkes, Ashcroft</b>		Phone: <b>404-509-7116(Tel)</b>		E-Mail: <b>eswilkes@eurofinsat.com</b>		Page:	
Company: <b>GA Power</b>		Address: <b>241 Ralph McGill Blvd SE</b>		City: <b>Atlanta</b>		Job #:	
State: <b>GA</b>		City: <b>Atlanta</b>		State: <b>GA</b>		Analysis Requested:	
Phone: <b>404-509-7116(Tel)</b>		PO #:		WO #:		Preservation Codes:	
Email: <b>eswilkes@eurofinsat.com</b>		Project #:		Project Name:		M - Hexane N - None O - AsHClO2 C - Zn Acetate D - Nitric Acid E - HANISO4 F - MeOH G - Amchox H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDPA Other:	
CCR - Plant Airweight		Site: <b>Georgia</b>		Due Date Requested:		Total Number of Containers: <b>3</b>	
Sample Identification:		Sample Date:		Sample Time:		Special Instructions/Note:	
<b>FB#2</b>		<b>8/19/20</b>		<b>0915</b>		<b>3 pH = 6.25</b>	
<b>ARGWA-19</b>		<b>↓</b>		<b>1056</b>		<b>3 pH = 6.16</b>	
<b>ARGWA-20</b>		<b>↓</b>		<b>1344</b>		<b>3 pH = 6.21</b>	
<b>ARGWC-22</b>		<b>↓</b>		<b>1532</b>		<b>3 pH = 6.21</b>	
Possible Hazard Identification		Sample Type (C-comp, G-grab)		Matrix (Inorganic, Organic, Derivative)		Barcode: 	
<input checked="" type="checkbox"/> Non-Hazard		<b>G</b>		<b>W</b>		180-109851 Chain of Custody	
<input type="checkbox"/> Flammable		<b>G</b>		<b>W</b>			
<input type="checkbox"/> Skin Irritant		<b>G</b>		<b>W</b>			
<input type="checkbox"/> Poison B		<b>G</b>		<b>W</b>			
<input type="checkbox"/> Unknown		<b>G</b>		<b>W</b>			
<input type="checkbox"/> Radiological		<b>G</b>		<b>W</b>			
Deliverable Requested 1, II, III, IV, Other (specify)		Sample Date		Sample Time			
Empty Kit Relinquished by:		Date/Time		Date/Time			
Relinquished by: <b>Daniel Howard</b>		8/19/20/1815		8/20/20			
Relinquished by:		Date/Time		Date/Time			
Relinquished by:		Date/Time		Date/Time			
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Cooler Remarks:			



Chain of Custody Record

EUROFINNS  
 244-ATLANTA

<b>Client Information</b> Client Contact: <b>D Howard</b> SCS Contacts: <b>shall.brown@eurofins.com</b> Phone: <b>404-506-7116(Tel)</b>		Lab PM: <b>Brown, Shall</b> E-Mail: <b>shall.brown@eurofins.com</b>		COC No: Page: Job #:	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: CCR - Plant Assignment: SCS #: State:		Analysis Requested App IR in vials (6025B) + Hg (TH70A) Potassium 226/228 (535/5320) Chloride, sulfate, fluoride (300) TDS 2540G H Fluoride (300)		Preservation Codes: A - HCL B - NaOH C - AsHClO2 D - Nitric Acid E - HNO3O4 F - MeOH G - Ammonia H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDN Other: M - Hexane N - None O - AsHClO2 P - Nitric Acid Q - HNO3O4 R - H2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Ice V - Acetic Acid W - Me4A X - pH 4.5 Y - other (specify)	
Sample Identification FB#2 ARGWC-23 DUP-2 ARAMW-1 ARAMW-2		Sample Date 8/20/20 1045 1215 1436 1635		Sample Type (C=Comp, G=Grab) G G G G G	
Matrix (Prep, Brand, Overpack, etc.) W W W W W		Total Number of Containers 3 3 3 3 3		Special Instructions/Note: pH = 6.33 pH = 6.33 pH = 6.09 pH = 5.99	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab Archive For: _____ Months		180-109918 Chain of Custody 	
Delivered by: <b>David Howard</b> Relinquished by: <b>Dellie Western</b> Relinquished by:		Date/Time: <b>8/20/20 1840</b> Date/Time:		Date/Time: <b>8-21-20</b> Date/Time: <b>7:45</b> Date/Time:	
Empty Kit Relinquished by:		Method of Shipment:		Company: <b>Wood</b> Company:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature (°C) and Other Remarks:		Company:	





<b>Client Information</b> Company: Ever-Gillen, A Shareholders Client Contact: Leo PM Brown, Shali E-Ma: shali_brown@eurofinsintl.com SCS Contacts: Phone:		COC No: Page: Job #:	
Address: 241 Ralph McGill Blvd SE City: Atlanta State/Zip: GA, 30308 Phone: 404-506-7116(Tel) Email:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Ammonia H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Due Date Requested: TAT Requested (days): PO #:		Analysis Requested: Total Number of Containers:	
WO #:		Special Instructions (Note):	
Project #: 18020201 SCS Contacts: CCR - Plant Arkwright Site: Georgia		3 pH = 6.34 4 pH = 6.43	
Sample Identification: ARGWC-8 ARGWC-18		Special Instructions (Note): 180-109929 Chain of Custody	
Sample Date: 8/20/20 1035 8/20/20 1705		Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No):	
Sample Type: G W G W		Matrix (Precedence): (C=Comp, G=Grab, W=Water, O=Other)	
Sample Time:		App II metals + Hg (60208, 17107) App II metals + Hg (4704, 60208) Diss H Fluoride C (300) Radium 226/228 (315 R300)	
Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: Paul & Howard Date/Time: 8/20/20/1840		Received by: Debbie Watson Date/Time: 8-21-20 Company: ETAA Company:	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seals Intact:		Cooler Temperature(s):	
Yes <input type="checkbox"/> No <input type="checkbox"/>		Custody Seal No.:	



Chain of Custody Record

EUOFINS  
**244-ATLANTA**

<b>Client Information</b> Client Contact: <b>Ever Guillen</b> SCS Contacts: <b>Andrew Sherid</b> Email: <b>agill@brownbearins.net</b>		Lab PM: <b>Brown, Shali</b> E-Mail: <b>shali.brown@brownbearins.com</b>		Center Tracking # (s): COC No: Page: Job #
Due Date Requested: TAT Requested (day(s)): PO #: WO #: Project #: SCS Contacts: Project Name: CCR - Plant Arwright Site: Georgia		<b>Analysis Requested</b> Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NH4SC4 F - MeOH G - Amidor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - Reels O - ASHCO2 P - Na2O4S Q - Na2SO3 R - H2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - Me2A W - pH 4.5 X - other (specify)		
Sample Identification EA# 1 ARAMW-3 ARAMW-4		Total Number of Containers: <input checked="" type="checkbox"/> Special Instructions/Note: pH = 6.24 pH = 5.77		
Sample Date: 8/20/20 Sample Time: 0930 Sample Type: G Matrix: W		Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> P-Form HISMSD (Yes or No): <input checked="" type="checkbox"/> X H Fluoride (300) X V Arsenic (300) X V Lead (300) X V Cadmium (300) X V Chromium (300) X V Copper (300) X V Nickel (300) X V Manganese (300) X V Selenium (300) X V Vanadium (300) X V Zinc (300)		
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab Archive For: _____ Months		
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/OC Requirements:		
Empty Kit Relinquished by:		Method of Shipment:		
Relinquished by: <b>Daniel L Howard</b> Date/Time: 8/20/20 / 1840 Company: Wood		Received by: <b>University</b> Date/Time: 8-21-20 Company: University		
Relinquished by:		Received by:		
Relinquished by:		Received by:		
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Cooler Remarks:		





<b>Client Information</b> Client Contact: <b>Shall Brown</b> SCS Contacts: <b>Shall Brown</b> Company: <b>Shall Brown</b>		Lab #/ E-Label: <b>Shall Brown</b> E-Mail: <b>shall.brown@eurofins.net</b>		Carrier Tracking No(s): Page: <b>1 of 1</b> Job #:		COC No:	
Address: <b>241 Ralph McGill Blvd SE</b> City: <b>Atlanta</b> State, Zip: <b>GA, 30308</b> Phone: <b>404-506-7116(Tel)</b> Email:		Due Date Requested: TAT Requested (days): <b>Standard</b> PO #:		Analysis Requested Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): App II metals THg (6020M/THOM) Radium 226/228(9315/9320) Fluoride (300)		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - D. Water K - EDTA L - EDA Other:	
Project Name: <b>CCR - Plant Arkwright</b> Site: <b>Georgia</b>		Project #: <b>18020201</b> SSQ #		Total Number of Containers:		Special Instructions/Note: <b>3 pH = 6.32</b> <b>3 pH = 5.89</b>	
Sample Identification: <b>ARAMW-6</b> <b>ARGWC-21</b>		Sample Date: <b>8/21/2019</b> Sample Time: <b>1036</b> Sample Type (C=comp, G=grab): <b>G</b> Matrix (W=water, S=solid, G=grab): <b>W</b>		Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): App II metals THg (6020M/THOM) Radium 226/228(9315/9320) Fluoride (300)		Special Instructions/Note: <b>180-109970 Chain of Custody</b>	
Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab		Archive For: _____ Months		Special Instructions/QC Requirements:	
Empty Kit Relinquished by: <b>Daniel L Howard</b> Date/Time: <b>8/21/2019 1315</b>		Relinquished by: <b>Daniel L Howard</b> Date/Time: <b>8/21/2019 1315</b>		Relinquished by: <b>Daniel L Howard</b> Date/Time: <b>8/21/2019 1315</b>		Relinquished by: <b>Daniel L Howard</b> Date/Time: <b>8/21/2019 1315</b>	
Custody Seals Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Method of Shipment:	



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Recipient's Copy

94 5359

Form ID No. 0215

4 Express Package Service \*To most locations.

Next Business Day

FedEx First Overnight  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

FedEx Priority Overnight  
Next business morning. \* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

ORIGIN ID: MCNA (770) 421-3  
DANIEL HOWARD  
AMEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

Phone 770 421-3242

STE 100

Dept./Floor/Suite/Room

GA ZIP 30144-3659

01429, 2002

Phone 412 963-7055

RTDC

Dept./Floor/Suite/Room

Hold Weekday  
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

Hold Saturday  
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

ZIP

3826458

TO SAMPLE RECIEVIN  
EUROEINS TEST A  
301 ALPHA DR

PITTSBURGH PA

(412) 968-7868  
INVT  
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10:30A

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DSR

15238

-US PIT

1 AGC

Uncorrected temp  
Thermometer ID

27  
14

CF 0 Initials J

PT-WI-SR-001 effective 11/8/18



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TestAmet

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Recipient's

Express Package Service

\* To most locations.

Packages up to 150 lbs.  
for packages over 50 lbs.,  
FedEx Express Freight is required.

**Next Business Day**

**FedEx First Overnight**  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

**FedEx Priority Overnight**  
Second business morning. \* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

**2 or 3 Business Days**

**FedEx 2Day AM**  
Second business morning.  
Saturday Delivery NOT available.

**FedEx 2Day**  
Second business afternoon. \* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.

**FedEx Evening Courier**

ORIGIN ID: MCNA (770) 421-3400  
DANIEL HOWARD  
AMEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

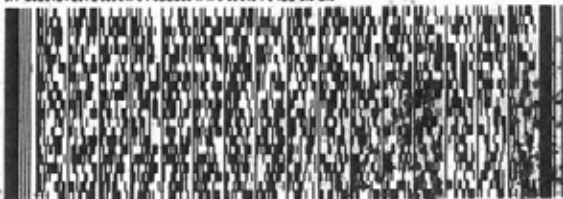
SHIP DATE: 18AUG20  
ACTWT: 58.00 LB  
CAD: 8994493/SSFE2110  
DIMS: 24x14x10 IN  
BILL THIRD PARTY

TO **SAMPLE RECEIVING**  
**EUROFINS TEST-AMERICA**  
**301 ALPHA DR**  
**RIDC PARK**  
**PITTSBURGH PA 15238**

(412) 983-7068

REF:

DEPT:



**FedEx**  
Express



**WED - 19 AUG 10:30A**  
**PRIORITY OVERNIGHT**

TRK# **8121 9394 5820**  
0215

**NA AGCA**

**15238**  
PA-US **PIT**

Uncorrected temp  
Thermometer ID

65  
14

CF 0 Initials JS

PT-WI-SR-001 effective 11/9/18



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Form ID No. **0215** Recipient's U

**Express Package Service** \* To most locations. Packages up to 150 lb. for packages over 100 lbs., use the FedEx Express Freight US Airtel.

**Next Business Day**  
 **FedEx First Overnight**  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.  
 **FedEx Priority Overnight**  
Next business morning. \* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.  
 **FedEx Standard Overnight**  
Next business afternoon. \* Saturday Delivery NOT available.

**2 or 3 Business Days**  
 **FedEx 2Day A.M.**  
Second business morning. Saturday Delivery NOT available.  
 **FedEx 2Day**  
Second business afternoon. \* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.  
 **FedEx Express Saver**  
Third business day. \* Saturday Delivery NOT available.

ORIGIN ID:MCNA (770) 421-3400  
DANIEL HOWARD  
AMEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

SHIP DATE: 19AUG20  
ACTWGT: 56.65 LB  
CAD: 6994493/SSFE2110  
DIMS: 24x13x14 IN  
BILL THIRD PARTY

TO **SAMPLE RECIEVING**  
**EUROFINS TEST AMERICA**  
**301 ALPHA DR**

**PITTSBURGH PA. 15238**  
(412) 963-7068 REF: DEPT:



**A**  
5360  
08.20

TRK# 8121 9394 5360  
0215

**THU - 20 AUG 10:30A**  
**PRIORITY OVERNIGHT**  
**DSR**  
**15238**  
**PA-US PIT**

**NA AGCA**

Uncorrected temp Thermometer ID: 11  
CF 0 Initials B



PT-WI-SR-001 effective 1/16/18

INS Env Trs 05884



ORIGIN ID:MCNA (770) 421-3402  
DANIEL HOWARD  
AMEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 100

SHIP DATE: 18AUG20  
ACTWGT: 42.15 LB  
CAD: 6994493/SSFE2110  
DIMS: 24x13x14 IN

KENNESAW, GA 30144  
UNITED STATES US

BILL THIRD PARTY

Form # 1500-92/06-27/05-EXP-07/21

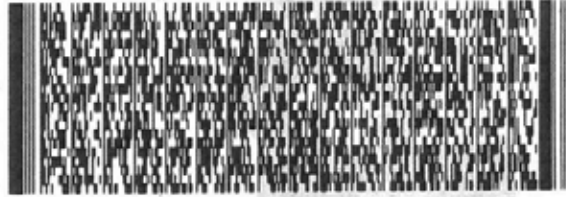
TO **SAMPLE RECEIVING**  
**EUROFINS TEST AMERICA**  
**301 ALPHA DR**  
**RIDC PARK**  
**PITTSBURGH PA 15238**

(412) 863-7068

REF:

INVT:

DEPT:



**FedEx**  
Express



**WED - 19 AUG 10:30A**  
**PRIORITY OVERNIGHT**

TRK# **8121 9394 5830**  
0215

**NA AGCA**

**AHS**  
**15238**

PA-US **PIT**

Uncorrected temp  
Thermometer ID

2.1 °C  
14

CF ○ Initials TS

PT-WI-SR-001 effective 11/8/18



180-109850 Waybill

Align Open End of FedEx Pouch Here





PT-WI-SR-001 effective 11/8/18  
CF Initials       
Uncorrected temp Thermometer ID     

FRI - 21 AUG 10:30A  
PRIORITY OVERNIGHT  
DSR  
15238  
PA-US P1T

**NA AGCA**

TRK# 8121 9394 5326  
0215



(412) 969-7068  
PITTSBURGH PA 15238

**SAMPLE RECEIVING**  
301 ALPHA DR  
RIDC PARK  
PITTSBURGH PA 15238

SHIP DATE: 20HUG20  
ACTWGT: 81.15 LB  
CAD: 6994483/85FE2110  
DIM5: 24x14x13 IN  
BILL THIRD PARTY

ORIGIN ID: KENNA (770) 421-3400  
DANIEL HOWARD  
AMEC (WOOD #18)  
1075 BIG SHANT RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

- 4 Express Package Service
- Next Business Day
- FedEx First Overnight
- FedEx Priority Overnight
- FedEx Standard Overnight
- FedEx 2Day
- 5 Packaging



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FedEx Tracking Number 8121 9394 5337

0215

Recipient's Copy

4 Express Package Service

Packages up to 150 lbs. For packages over 150 lbs., see the FedEx Express Freight US Aisle.

Next Business Day

FedEx First Overnight

ORIGIN ID: MCNA (770) 421-340  
DANIEL HOWARD  
AHEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 1  
KENNESAW, GA 30144  
UNITED STATES US

TO SAMPLE RECEIVING  
SAMPLE RECEIVING  
301 ALPHA DR  
RIDC PARK  
PITTSBURGH PA 15220

(412) 988-1101



180-109929 Waybill

FedEx Express



FRI - 21 AUG 10:30A  
PRIORITY OVERNIGHT

TRK/0215 8121 9394 5337

NA AGCA

15238  
PIT

Uncorrected temp  
Thermometer ID

CF 0 Initials JB

PT-WI-SR-001 effective 11/8/18



Phone 770 421-3349

SHANTY RD NW STE 100

State GA ZIP 30144-3652

6122 201 424 2002

Phone 412 963-7058

Finas Test America

Phi Dr RIDC Park

Hold Weekday  
FedEx location address  
REQUIRED. NOT available for  
FedEx First Overnight.

Hold Saturday  
FedEx location address  
REQUIRED. Available ONLY by  
FedEx Priority Overnight and  
FedEx 2Day to select locations.

State PA ZIP 15238

8129826458



8121 9394 5337

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PT-M-SR-001 effective 11/01/18  
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 Thermometer ID  
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 73

**NA AGCA**  
 TRK# 8121 9394 5315  
 0215

FR  
 PRIORITY OVERNIGHT  
 1-21 AUG 10:30A  
 DSR  
 15238  
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 PA-US



PITTSBURGH PA 15238  
 RIDGE PARK  
 301 ALPHA DR

**SAMPLE RECEIVING**  
 UNITED STATES US  
 KENNESAW, GA 30144  
 1078 BIG SHANTY RD NW STE 100  
 DANIEL HOWARD  
 (770) 421-3400  
 ORIGIN ID: MCHN

SHIP DATE: 20H0520  
 ACTWGT: 54.65 LB  
 DIMS: 24X13X14 IN  
 CRD: 6994493/85F2110  
 BIL 12.80  
 5135  
 10:30  
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 67

Special Handling and Delivery Signature Options

FedEx Envelope  
 FedEx Pak  
 FedEx Box  
 FedEx Tube  
 OMI

FedEx Standard Overnight  
 FedEx Priority Overnight  
 FedEx First Overnight  
 Next Business Day  
 FedEx 2Day A.M.  
 FedEx 2Day  
 FedEx Express Saver

FedEx 2Day A.M.  
 FedEx 2Day  
 FedEx Express Saver

FedEx Standard Overnight  
 FedEx Priority Overnight  
 FedEx First Overnight  
 Next Business Day  
 FedEx 2Day A.M.  
 FedEx 2Day  
 FedEx Express Saver

FedEx Standard Overnight  
 FedEx Priority Overnight  
 FedEx First Overnight  
 Next Business Day  
 FedEx 2Day A.M.  
 FedEx 2Day  
 FedEx Express Saver



18C-109930 Waybill

Recipient's Copy

0215



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FID: 84105 21A0520 MCNA 556C2/7709/05A2  
 PT-WI-SR-001 effective 11/8/18  
 Initials CF  
 Thermometer ID 24  
 Uncorrected temp 24

**X0 AGCA**

FedEx  
 8121 9394 5348  
 SATURDAY 12:00P  
 PRIORITY OVERNIGHT  
 DSR  
 15238  
 PA-US  
 PIT




REF: 6122201429.2002  
 (412) 968-7056  
**PITTSBURGH PA 15238**  
 301 ALPHA DR  
**EUROFINS TEST AMERICA**  
 10 EUROFINS TEST AMERICA  
 UNITED STATES US  
 KENESAM, GA 30144  
 1075 BIG SHANTY RD NW STE 100  
 RHEC, WOOD EATS  
 W/EL HOWARD  
 ID:MCNA (220) 421-3400  
 SHIP DATE: 21AUG20  
 ACTWGT: 54.00 LB  
 CAD: 6994493/55F22110  
 DIMS: 24x15x15 IN  
 BILL THIRD PARTY

180-109970 Waybill  


## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-1

**Login Number: 109846**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-1

**Login Number: 109847**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-1

**Login Number: 109848**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-1

**Login Number: 109850**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-1

**Login Number: 109851**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-1

**Login Number: 109918**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-1

**Login Number: 109929**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-1

**Login Number: 109930**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-1

**Login Number: 109970**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-109846-2  
Client Project/Site: CCR - Plant Arkwright

For:  
Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
10/8/2020 5:03:16 PM

Shali Brown, Project Manager II  
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### LINKS

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**TotalAccess**

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416

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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Job ID: 180-109846-2**

**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

### Job Narrative 180-109846-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 8/20/2020 9:30 AM, 8/21/2020 9:45 AM and 8/22/2020 10:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 9 coolers at receipt time were 1.1° C, 1.2° C, 1.5° C, 1.6° C, 2.1° C, 2.4° C, 2.6° C, 2.7° C and 3.6° C.

#### Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWC-10 (180-109848-1). The container labels list an id of GWC-10 while the COC lists ARGWC-10. The id's on the Coc were used.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWC-9 (180-109848-3). The container labels list an id of GWC-9 while the COC lists ARGWC-9. The id's on the Coc were used.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWA-5 (180-109850-1). The container labels list an id of GWA-5 while the COC lists ARGWA-5. The id's on the Coc were used.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWA-3 (180-109850-2). The container labels list an id of GWA-3 while the COC lists ARGWA-3. The id's on the Coc were used.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ARGWC-7 (180-109850-3). The container labels list an id of GWC-7 while the COC lists ARGWC-7. The id's on the Coc were used.

#### RAD

Methods 903.0, 9315: Radium-226 prep batch 160-480640:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

ARGWA-14 (180-109846-1), ARGWC-15 (180-109846-2), ARGWC-16 (180-109846-3), FB#1 (180-109847-1), ARGWA-12 (180-109847-2), ARGWA-13 (180-109847-3), ARGWC-17 (180-109847-4), ARGWC-10 (180-109848-1), DUP-1 (180-109848-2), ARGWC-9 (180-109848-3), (LCS 160-480640/1-A) and (MB 160-480640/24-A)

Method 9315: Radium-226 prep batch 160-480684:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

ARGWA-5 (180-109850-1), ARGWA-3 (180-109850-2), ARGWC-7 (180-109850-3), EB#2 (180-109851-1), ARGWA-19 (180-109851-2), ARGWA-20 (180-109851-3), ARGWC-22 (180-109851-4), (LCS 160-480684/1-A), (LCSD 160-480684/2-A) and (MB 160-480684/10-A)

Methods 903.0, 9315: Radium-226 prep batch 160-481082:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

FB#2 (180-109918-1), ARGWC-23 (180-109918-2), DUP-2 (180-109918-3), ARAMW-1 (180-109918-4), ARAMW-2 (180-109918-5), ARGWC-8 (180-109929-1), ARGWC-18 (180-109929-2), ARAMW-6 (180-109970-1), ARGWC-21 (180-109970-2), (LCS 160-481082/1-A), (LCSD 160-481082/2-A) and (MB 160-481082/24-A)

Methods 903.0, 9315: Radium-226 prep batch 160-481232:

# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Job ID: 180-109846-2 (Continued)

### Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EB#1 (180-109930-1), ARAMW-3 (180-109930-2), ARAMW-4 (180-109930-3), (LCS 160-481232/1-A) and (MB 160-481232/23-A)

Methods 904.0, 9320: Radium-228 prep batch 160-481237:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EB#1 (180-109930-1), ARAMW-3 (180-109930-2), ARAMW-4 (180-109930-3), (LCS 160-481237/1-A) and (MB 160-481237/23-A)

Methods 904.0, 9320: Radium-228 prep batch 160-480651:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

ARGWA-14 (180-109846-1), ARGWC-15 (180-109846-2), ARGWC-16 (180-109846-3), FB#1 (180-109847-1), ARGWA-12 (180-109847-2), ARGWA-13 (180-109847-3), ARGWC-17 (180-109847-4), ARGWC-10 (180-109848-1), DUP-1 (180-109848-2), ARGWC-9 (180-109848-3), (LCS 160-480651/1-A) and (MB 160-480651/24-A)

Method 9320: Radium-228 prep batch 160-480689:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EB#2 (180-109851-1), (LCS 160-480689/1-A), (LCSD 160-480689/2-A) and (MB 160-480689/10-A)

Method 9320: Ra228 160-480689

The laboratory control sample (LCS) recovery (137%) was high, outside acceptance criteria 75-125% indicating a potential high bias to sample activity. Activity in the sample was less than the MDC and is reported with this narrative.

Methods 904.0, 9320: Radium-228 prep batch 160-481085:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

FB#2 (180-109918-1), ARGWC-23 (180-109918-2), ARAMW-1 (180-109918-4), ARAMW-2 (180-109918-5), ARGWC-8 (180-109929-1), ARGWC-18 (180-109929-2), ARAMW-6 (180-109970-1), ARGWC-21 (180-109970-2), (LCS 160-481085/1-A), (LCSD 160-481085/2-A) and (MB 160-481085/24-A)

Method 9320: Radium-228 prep batch 160-482400:

The method blank (MB) associated with the preparation batch 160-482400 and analytical batch 160-483126, has activity above the MDC and RL. Per client request, the data has been reported with this narrative.

Method 9320: Radium-228 prep batch 160-482400:

The Radium-228 laboratory control sample duplicate (LCSD) recovery (134%) associated with the following samples is outside the standard upper QC limit (125%) indicating a potential positive bias for that analyte. However the recovery falls within in house statistical limits (upper limit 138%). Per client request, the data have been reported with this narrative. ARGWA-5 (180-109850-1), ARGWA-3 (180-109850-2), ARGWC-7 (180-109850-3), ARGWA-19 (180-109851-2), ARGWA-20 (180-109851-3), ARGWC-22 (180-109851-4), (LCS 160-482400/1-A), (LCSD 160-482400/2-A) and (MB 160-482400/9-A)

Method 9320: Radium-228 prep batch 160-482400:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

ARGWA-5 (180-109850-1), ARGWA-3 (180-109850-2), ARGWC-7 (180-109850-3), ARGWA-19 (180-109851-2), ARGWA-20 (180-109851-3), ARGWC-22 (180-109851-4), (LCS 160-482400/1-A), (LCSD 160-482400/2-A) and (MB 160-482400/9-A)

# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Job ID: 180-109846-2 (Continued)

### Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Method 9320: Radium-228 prep batch 160-483141:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

DUP-2 (180-109918-3), (LCS 160-483141/1-A), (LCSD 160-483141/2-A) and (MB 160-483141/4-A)

Method PrecSep\_0: Radium 228 Prep Batch 160-480689:

Insufficient sample volume was available to perform a sample duplicate for the following samples: ARGWA-5 (180-109850-1), ARGWA-3 (180-109850-2), ARGWC-7 (180-109850-3), EB#2 (180-109851-1), ARGWA-19 (180-109851-2), ARGWA-20 (180-109851-3) and ARGWC-22 (180-109851-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep\_0: Radium 228 Prep Batch 160-481237:

Samples 240-135743-1 and 240-135511-2 were prepared at a reduced aliquot due to yellow discoloration and a cloudy appearance: EB#1 (180-109930-1), ARAMW-3 (180-109930-2) and ARAMW-4 (180-109930-3). All samples were prepared at a reduced aliquot to insure sufficient volume remains if needed for analysis: <CommaMerge>.

Method PrecSep\_0: Radium 228 Prep Batch 160-482400:

The following samples were prepared at a reduced aliquot to insure sufficient volume remains if needed for analysis: ARGWA-5 (180-109850-1), ARGWA-3 (180-109850-2), ARGWC-7 (180-109850-3), ARGWA-19 (180-109851-2), ARGWA-20 (180-109851-3) and ARGWC-22 (180-109851-4).

Method PrecSep\_0: Radium 228 Prep Batch 160-482400:

Insufficient sample volume was available to perform a sample duplicate for the following samples: ARGWA-5 (180-109850-1), ARGWA-3 (180-109850-2), ARGWC-7 (180-109850-3), ARGWA-19 (180-109851-2), ARGWA-20 (180-109851-3) and ARGWC-22 (180-109851-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep\_0: Radium 228 Prep Batch 160-483141:

Insufficient sample volume was available to perform a sample duplicate for the following sample: DUP-2 (180-109918-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep\_0: Radium 228 Prep Batch 160-483141:

The following sample was prepared at a reduced aliquot due to re-prep: DUP-2 (180-109918-3).

Method PrecSep-21: Radium 226 Prep Batch 160-480684:

Insufficient sample volume was available to perform a sample duplicate for the following samples: ARGWA-5 (180-109850-1), ARGWA-3 (180-109850-2), ARGWC-7 (180-109850-3), EB#2 (180-109851-1), ARGWA-19 (180-109851-2), ARGWA-20 (180-109851-3) and ARGWC-22 (180-109851-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-481232:

Samples 240-135743-1 and 240-135511-2 were prepared at a reduced aliquot due to yellow discoloration and a cloudy appearance: EB#1 (180-109930-1), ARAMW-3 (180-109930-2) and ARAMW-4 (180-109930-3). All samples were prepared at a reduced aliquot to insure sufficient volume remains if needed for analysis: <CommaMerge>.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Qualifiers

### Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	10-05-20
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	02-28-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-109846-1	ARGWA-14	Water	08/19/20 13:55	08/20/20 09:30	
180-109846-2	ARGWC-15	Water	08/19/20 10:05	08/20/20 09:30	
180-109846-3	ARGWC-16	Water	08/19/20 12:05	08/20/20 09:30	
180-109847-1	FB#1	Water	08/18/20 11:00	08/20/20 09:30	
180-109847-2	ARGWA-12	Water	08/18/20 13:00	08/20/20 09:30	
180-109847-3	ARGWA-13	Water	08/18/20 14:50	08/20/20 09:30	
180-109847-4	ARGWC-17	Water	08/18/20 14:45	08/20/20 09:30	
180-109848-1	ARGWC-10	Water	08/19/20 11:35	08/20/20 09:30	
180-109848-2	DUP-1	Water	08/19/20 00:00	08/20/20 09:30	
180-109848-3	ARGWC-9	Water	08/19/20 14:25	08/20/20 09:30	
180-109850-1	ARGWA-5	Water	08/18/20 11:35	08/20/20 09:30	
180-109850-2	ARGWA-3	Water	08/18/20 13:20	08/20/20 09:30	
180-109850-3	ARGWC-7	Water	08/18/20 15:25	08/20/20 09:30	
180-109851-1	EB#2	Water	08/19/20 09:15	08/20/20 09:30	
180-109851-2	ARGWA-19	Water	08/19/20 10:56	08/20/20 09:30	
180-109851-3	ARGWA-20	Water	08/19/20 13:44	08/20/20 09:30	
180-109851-4	ARGWC-22	Water	08/19/20 15:32	08/20/20 09:30	
180-109918-1	FB#2	Water	08/20/20 10:45	08/21/20 09:45	
180-109918-2	ARGWC-23	Water	08/20/20 12:15	08/21/20 09:45	
180-109918-3	DUP-2	Water	08/20/20 00:00	08/21/20 09:45	
180-109918-4	ARAMW-1	Water	08/20/20 14:36	08/21/20 09:45	
180-109918-5	ARAMW-2	Water	08/20/20 16:35	08/21/20 09:45	
180-109929-1	ARGWC-8	Water	08/20/20 10:35	08/21/20 09:45	
180-109929-2	ARGWC-18	Water	08/20/20 17:05	08/21/20 09:45	
180-109930-1	EB#1	Water	08/20/20 09:30	08/21/20 09:45	
180-109930-2	ARAMW-3	Water	08/20/20 14:45	08/21/20 09:45	
180-109930-3	ARAMW-4	Water	08/20/20 11:45	08/21/20 09:45	
180-109970-1	ARAMW-6	Water	08/21/20 09:45	08/22/20 10:00	
180-109970-2	ARGWC-21	Water	08/21/20 10:36	08/22/20 10:00	

# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

#### Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

#### Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Client Sample ID: ARGWA-14

Lab Sample ID: 180-109846-1

Date Collected: 08/19/20 13:55

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.10 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 11:21	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.10 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482102	09/10/20 12:19	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-15

Lab Sample ID: 180-109846-2

Date Collected: 08/19/20 10:05

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.48 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 11:21	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.48 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482102	09/10/20 12:19	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-16

Lab Sample ID: 180-109846-3

Date Collected: 08/19/20 12:05

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.56 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 11:22	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.56 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482102	09/10/20 12:20	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: FB#1

Lab Sample ID: 180-109847-1

Date Collected: 08/18/20 11:00

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.98 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 11:22	SCB	TAL SL
Instrument ID: GFPCRED										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Client Sample ID: FB#1

## Lab Sample ID: 180-109847-1

Date Collected: 08/18/20 11:00

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.98 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482102	09/10/20 12:20	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-12

## Lab Sample ID: 180-109847-2

Date Collected: 08/18/20 13:00

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.27 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 11:22	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.27 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482102	09/10/20 12:20	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-13

## Lab Sample ID: 180-109847-3

Date Collected: 08/18/20 14:50

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.64 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 11:22	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.64 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482102	09/10/20 12:20	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-17

## Lab Sample ID: 180-109847-4

Date Collected: 08/18/20 14:45

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.83 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 11:22	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.83 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482102	09/10/20 12:20	SCB	TAL SL
Instrument ID: GFPCBLUE										

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# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Client Sample ID: ARGWC-17

## Lab Sample ID: 180-109847-4

Date Collected: 08/18/20 14:45

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL

## Client Sample ID: ARGWC-10

## Lab Sample ID: 180-109848-1

Date Collected: 08/19/20 11:35

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.89 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 11:23	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.89 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482071	09/10/20 12:22	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: DUP-1

## Lab Sample ID: 180-109848-2

Date Collected: 08/19/20 00:00

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.10 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 11:23	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.10 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482071	09/10/20 12:22	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-9

## Lab Sample ID: 180-109848-3

Date Collected: 08/19/20 14:25

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.50 mL	1.0 g	480640	08/24/20 15:59	AVB	TAL SL
Total/NA	Analysis	9315		1			482515	09/15/20 13:55	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.50 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis	9320		1			482071	09/10/20 12:22	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Client Sample ID: ARGWA-5

Lab Sample ID: 180-109850-1

Date Collected: 08/18/20 11:35

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.23 mL	1.0 g	480684	08/25/20 11:29	AVB	TAL SL
Total/NA	Analysis	9315		1			482643	09/16/20 08:04	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			750.08 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis	9320		1			483126	09/21/20 11:52	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			484497	10/02/20 17:53	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-3

Lab Sample ID: 180-109850-2

Date Collected: 08/18/20 13:20

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.90 mL	1.0 g	480684	08/25/20 11:29	AVB	TAL SL
Total/NA	Analysis	9315		1			482643	09/16/20 09:50	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			749.34 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis	9320		1			483126	09/21/20 11:52	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			484497	10/02/20 17:53	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-7

Lab Sample ID: 180-109850-3

Date Collected: 08/18/20 15:25

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.96 mL	1.0 g	480684	08/25/20 11:29	AVB	TAL SL
Total/NA	Analysis	9315		1			482613	09/16/20 09:49	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			750.00 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis	9320		1			483126	09/21/20 11:53	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			484497	10/02/20 17:53	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: EB#2

Lab Sample ID: 180-109851-1

Date Collected: 08/19/20 09:15

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.44 mL	1.0 g	480684	08/25/20 11:29	AVB	TAL SL
Total/NA	Analysis	9315		1			482613	09/16/20 09:50	SCB	TAL SL
Instrument ID: GFPCBLUE										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Client Sample ID: EB#2

## Lab Sample ID: 180-109851-1

Date Collected: 08/19/20 09:15

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			999.44 mL	1.0 g	480689	08/25/20 12:41	AVB	TAL SL
Total/NA	Analysis	9320		1			481799	09/09/20 13:23	SCB	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			484497	10/02/20 17:53	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-19

## Lab Sample ID: 180-109851-2

Date Collected: 08/19/20 10:56

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.35 mL	1.0 g	480684	08/25/20 11:29	AVB	TAL SL
Total/NA	Analysis	9315		1			482613	09/16/20 12:20	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			749.87 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis	9320		1			483126	09/21/20 11:53	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			484497	10/02/20 17:53	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-20

## Lab Sample ID: 180-109851-3

Date Collected: 08/19/20 13:44

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.17 mL	1.0 g	480684	08/25/20 11:29	AVB	TAL SL
Total/NA	Analysis	9315		1			482613	09/16/20 12:21	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			749.41 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis	9320		1			483126	09/21/20 11:53	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			484497	10/02/20 17:53	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-22

## Lab Sample ID: 180-109851-4

Date Collected: 08/19/20 15:32

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.16 mL	1.0 g	480684	08/25/20 11:29	AVB	TAL SL
Total/NA	Analysis	9315		1			482613	09/16/20 14:43	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			750.49 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis	9320		1			483126	09/21/20 11:53	SCB	TAL SL
Instrument ID: GFPCBLUE										

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Client Sample ID: ARGWC-22

## Lab Sample ID: 180-109851-4

Date Collected: 08/19/20 15:32

Matrix: Water

Date Received: 08/20/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			484497	10/02/20 17:53	CMM	TAL SL

## Client Sample ID: FB#2

## Lab Sample ID: 180-109918-1

Date Collected: 08/20/20 10:45

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.65 mL	1.0 g	481082	08/28/20 16:42	AVB	TAL SL
Total/NA	Analysis	9315		1			483033	09/21/20 10:52	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.65 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis	9320		1			482946	09/18/20 11:58	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			483465	09/23/20 12:33	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-23

## Lab Sample ID: 180-109918-2

Date Collected: 08/20/20 12:15

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.18 mL	1.0 g	481082	08/28/20 16:42	AVB	TAL SL
Total/NA	Analysis	9315		1			483033	09/21/20 10:52	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.18 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis	9320		1			482957	09/18/20 11:59	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			483465	09/23/20 12:33	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: DUP-2

## Lab Sample ID: 180-109918-3

Date Collected: 08/20/20 00:00

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.21 mL	1.0 g	481082	08/28/20 16:42	AVB	TAL SL
Total/NA	Analysis	9315		1			483033	09/21/20 10:52	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			749.11 mL	1.0 g	483141	09/21/20 14:11	RBR	TAL SL
Total/NA	Analysis	9320		1			484399	09/30/20 12:41	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			483465	09/23/20 12:33	CMM	TAL SL
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Client Sample ID: ARAMW-1

Lab Sample ID: 180-109918-4

Date Collected: 08/20/20 14:36

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.06 mL	1.0 g	481082	08/28/20 16:42	AVB	TAL SL
Total/NA	Analysis	9315		1			483033	09/21/20 10:52	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.06 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis	9320		1			482957	09/18/20 12:00	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			483465	09/23/20 12:33	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-2

Lab Sample ID: 180-109918-5

Date Collected: 08/20/20 16:35

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.58 mL	1.0 g	481082	08/28/20 16:42	AVB	TAL SL
Total/NA	Analysis	9315		1			483033	09/21/20 12:46	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.58 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis	9320		1			482957	09/18/20 12:00	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			483465	09/23/20 12:33	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-8

Lab Sample ID: 180-109929-1

Date Collected: 08/20/20 10:35

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.96 mL	1.0 g	481082	08/28/20 16:42	AVB	TAL SL
Total/NA	Analysis	9315		1			483033	09/21/20 12:46	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.96 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis	9320		1			482957	09/18/20 12:00	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			483465	09/23/20 12:33	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-18

Lab Sample ID: 180-109929-2

Date Collected: 08/20/20 17:05

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.67 mL	1.0 g	481082	08/28/20 16:42	AVB	TAL SL
Total/NA	Analysis	9315		1			483033	09/21/20 12:46	SCB	TAL SL
Instrument ID: GFPCRED										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Client Sample ID: ARGWC-18

## Lab Sample ID: 180-109929-2

Date Collected: 08/20/20 17:05

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.67 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis	9320		1			482957	09/18/20 12:00	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			483465	09/23/20 12:33	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: EB#1

## Lab Sample ID: 180-109930-1

Date Collected: 08/20/20 09:30

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.85 mL	1.0 g	481232	08/31/20 13:50	AVB	TAL SL
Total/NA	Analysis	9315		1			483161	09/22/20 09:54	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			749.85 mL	1.0 g	481237	08/31/20 14:14	AVB	TAL SL
Total/NA	Analysis	9320		1			481801	09/09/20 13:13	CMM	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			484496	10/02/20 17:52	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-3

## Lab Sample ID: 180-109930-2

Date Collected: 08/20/20 14:45

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.36 mL	1.0 g	481232	08/31/20 13:50	AVB	TAL SL
Total/NA	Analysis	9315		1			483161	09/22/20 09:55	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			750.36 mL	1.0 g	481237	08/31/20 14:14	AVB	TAL SL
Total/NA	Analysis	9320		1			481801	09/09/20 13:14	CMM	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			484496	10/02/20 17:52	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-4

## Lab Sample ID: 180-109930-3

Date Collected: 08/20/20 11:45

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.18 mL	1.0 g	481232	08/31/20 13:50	AVB	TAL SL
Total/NA	Analysis	9315		1			483161	09/22/20 09:55	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			749.18 mL	1.0 g	481237	08/31/20 14:14	AVB	TAL SL
Total/NA	Analysis	9320		1	1.0 mL	1.0 mL	481801	09/09/20 13:14	CMM	TAL SL
Instrument ID: GFPCPURPLE										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Client Sample ID: ARAMW-4

## Lab Sample ID: 180-109930-3

Date Collected: 08/20/20 11:45

Matrix: Water

Date Received: 08/21/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			484496	10/02/20 17:52	CMM	TAL SL

## Client Sample ID: ARAMW-6

## Lab Sample ID: 180-109970-1

Date Collected: 08/21/20 09:45

Matrix: Water

Date Received: 08/22/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.25 mL	1.0 g	481082	08/28/20 16:42	AVB	TAL SL
Total/NA	Analysis	9315		1			483033	09/21/20 12:46	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.25 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis	9320		1			482957	09/18/20 12:00	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			483465	09/23/20 12:33	CMM	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-21

## Lab Sample ID: 180-109970-2

Date Collected: 08/21/20 10:36

Matrix: Water

Date Received: 08/22/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.57 mL	1.0 g	481082	08/28/20 16:42	AVB	TAL SL
Total/NA	Analysis	9315		1			483033	09/21/20 12:46	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.57 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis	9320		1			482957	09/18/20 12:00	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			483465	09/23/20 12:33	CMM	TAL SL
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

**Analyst References:**

Lab: TAL SL

Batch Type: Prep

AVB = Amber Bleem

RBR = Rachael Ratcliff

Batch Type: Analysis

CAH = Chris Hough

CMM = Chelsea Mazariegos

SCB = Sarah Bernsen

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWA-14**

**Lab Sample ID: 180-109846-1**

Date Collected: 08/19/20 13:55

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0256	U	0.0765	0.0765	1.00	0.144	pCi/L	08/24/20 15:59	09/15/20 11:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.1		40 - 110					08/24/20 15:59	09/15/20 11:21	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0805	U	0.258	0.258	1.00	0.480	pCi/L	08/24/20 18:23	09/10/20 12:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.1		40 - 110					08/24/20 18:23	09/10/20 12:19	1
Y Carrier	85.2		40 - 110					08/24/20 18:23	09/10/20 12:19	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0549	U	0.269	0.269	5.00	0.480	pCi/L		09/17/20 10:50	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-15**

**Lab Sample ID: 180-109846-2**

Date Collected: 08/19/20 10:05

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0702	U	0.0795	0.0798	1.00	0.129	pCi/L	08/24/20 15:59	09/15/20 11:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					08/24/20 15:59	09/15/20 11:21	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.468		0.260	0.264	1.00	0.391	pCi/L	08/24/20 18:23	09/10/20 12:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					08/24/20 18:23	09/10/20 12:19	1
Y Carrier	81.5		40 - 110					08/24/20 18:23	09/10/20 12:19	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.538		0.272	0.276	5.00	0.391	pCi/L		09/17/20 10:50	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-16**

**Lab Sample ID: 180-109846-3**

Date Collected: 08/19/20 12:05

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.161		0.0973	0.0983	1.00	0.124	pCi/L	08/24/20 15:59	09/15/20 11:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.4		40 - 110					08/24/20 15:59	09/15/20 11:22	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.144	U	0.269	0.269	1.00	0.459	pCi/L	08/24/20 18:23	09/10/20 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.4		40 - 110					08/24/20 18:23	09/10/20 12:20	1
Y Carrier	83.0		40 - 110					08/24/20 18:23	09/10/20 12:20	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.306	U	0.286	0.286	5.00	0.459	pCi/L		09/17/20 10:50	1



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: FB#1**

**Lab Sample ID: 180-109847-1**

Date Collected: 08/18/20 11:00

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00971	U	0.0738	0.0738	1.00	0.144	pCi/L	08/24/20 15:59	09/15/20 11:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110					08/24/20 15:59	09/15/20 11:22	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.533</b>		0.333	0.337	1.00	0.515	pCi/L	08/24/20 18:23	09/10/20 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110					08/24/20 18:23	09/10/20 12:20	1
Y Carrier	83.4		40 - 110					08/24/20 18:23	09/10/20 12:20	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Combined Radium 226 + 228</b>	<b>0.543</b>		0.341	0.345	5.00	0.515	pCi/L		09/17/20 10:50	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWA-12**

**Lab Sample ID: 180-109847-2**

Date Collected: 08/18/20 13:00

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.110	U	0.0818	0.0824	1.00	0.111	pCi/L	08/24/20 15:59	09/15/20 11:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.0		40 - 110					08/24/20 15:59	09/15/20 11:22	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.477	U	0.335	0.338	1.00	0.521	pCi/L	08/24/20 18:23	09/10/20 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.0		40 - 110					08/24/20 18:23	09/10/20 12:20	1
Y Carrier	77.4		40 - 110					08/24/20 18:23	09/10/20 12:20	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Combined Radium 226 + 228</b>	<b>0.587</b>		0.345	0.348	5.00	0.521	pCi/L		09/17/20 10:50	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWA-13**

**Lab Sample ID: 180-109847-3**

Date Collected: 08/18/20 14:50

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0366	U	0.0581	0.0582	1.00	0.101	pCi/L	08/24/20 15:59	09/15/20 11:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.4		40 - 110					08/24/20 15:59	09/15/20 11:22	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.344	U	0.261	0.263	1.00	0.410	pCi/L	08/24/20 18:23	09/10/20 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.4		40 - 110					08/24/20 18:23	09/10/20 12:20	1
Y Carrier	83.7		40 - 110					08/24/20 18:23	09/10/20 12:20	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.380	U	0.267	0.269	5.00	0.410	pCi/L		09/17/20 10:50	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-17**

**Lab Sample ID: 180-109847-4**

Date Collected: 08/18/20 14:45

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0989	U	0.0751	0.0756	1.00	0.104	pCi/L	08/24/20 15:59	09/15/20 11:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.2		40 - 110					08/24/20 15:59	09/15/20 11:22	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.324	U	0.246	0.248	1.00	0.386	pCi/L	08/24/20 18:23	09/10/20 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.2		40 - 110					08/24/20 18:23	09/10/20 12:20	1
Y Carrier	83.4		40 - 110					08/24/20 18:23	09/10/20 12:20	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Combined Radium 226 + 228</b>	<b>0.423</b>		0.257	0.259	5.00	0.386	pCi/L		09/17/20 10:50	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-109848-1**

Date Collected: 08/19/20 11:35

Matrix: Water

Date Received: 08/20/20 09:30

## Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0672	U	0.0665	0.0668	1.00	0.102	pCi/L	08/24/20 15:59	09/15/20 11:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.1		40 - 110					08/24/20 15:59	09/15/20 11:23	1

## Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0942	U	0.245	0.245	1.00	0.451	pCi/L	08/24/20 18:23	09/10/20 12:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.1		40 - 110					08/24/20 18:23	09/10/20 12:22	1
Y Carrier	81.9		40 - 110					08/24/20 18:23	09/10/20 12:22	1

## Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0271	U	0.254	0.254	5.00	0.451	pCi/L		09/17/20 10:50	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: DUP-1**  
**Date Collected: 08/19/20 00:00**  
**Date Received: 08/20/20 09:30**

**Lab Sample ID: 180-109848-2**  
**Matrix: Water**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0617	U	0.0657	0.0659	1.00	0.103	pCi/L	08/24/20 15:59	09/15/20 11:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.6		40 - 110					08/24/20 15:59	09/15/20 11:23	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.285	U	0.231	0.233	1.00	0.464	pCi/L	08/24/20 18:23	09/10/20 12:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.6		40 - 110					08/24/20 18:23	09/10/20 12:22	1
Y Carrier	79.3		40 - 110					08/24/20 18:23	09/10/20 12:22	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.224	U	0.240	0.242	5.00	0.464	pCi/L		09/17/20 10:50	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-9**

**Lab Sample ID: 180-109848-3**

Date Collected: 08/19/20 14:25

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0965		0.0703	0.0708	1.00	0.0930	pCi/L	08/24/20 15:59	09/15/20 13:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.2		40 - 110					08/24/20 15:59	09/15/20 13:55	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0279	U	0.272	0.272	1.00	0.479	pCi/L	08/24/20 18:23	09/10/20 12:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.2		40 - 110					08/24/20 18:23	09/10/20 12:22	1
Y Carrier	81.5		40 - 110					08/24/20 18:23	09/10/20 12:22	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.124	U	0.281	0.281	5.00	0.479	pCi/L		09/17/20 10:50	1



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWA-5**

**Lab Sample ID: 180-109850-1**

Date Collected: 08/18/20 11:35

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0111	U	0.0550	0.0550	1.00	0.109	pCi/L	08/25/20 11:29	09/16/20 08:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					08/25/20 11:29	09/16/20 08:04	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.11	*	0.432	0.444	1.00	0.597	pCi/L	09/14/20 10:14	09/21/20 11:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					09/14/20 10:14	09/21/20 11:52	1
Y Carrier	81.9		40 - 110					09/14/20 10:14	09/21/20 11:52	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.12		0.435	0.447	5.00	0.597	pCi/L		10/02/20 17:53	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWA-3**

**Lab Sample ID: 180-109850-2**

Date Collected: 08/18/20 13:20

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0283	U	0.0621	0.0622	1.00	0.114	pCi/L	08/25/20 11:29	09/16/20 09:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					08/25/20 11:29	09/16/20 09:50	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.104	U *	0.299	0.299	1.00	0.520	pCi/L	09/14/20 10:14	09/21/20 11:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					09/14/20 10:14	09/21/20 11:52	1
Y Carrier	82.6		40 - 110					09/14/20 10:14	09/21/20 11:52	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.132	U	0.305	0.305	5.00	0.520	pCi/L		10/02/20 17:53	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-7**

**Lab Sample ID: 180-109850-3**

Date Collected: 08/18/20 15:25

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0331	U	0.0879	0.0880	1.00	0.159	pCi/L	08/25/20 11:29	09/16/20 09:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		40 - 110					08/25/20 11:29	09/16/20 09:49	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.343	U *	0.360	0.362	1.00	0.588	pCi/L	09/14/20 10:14	09/21/20 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.2		40 - 110					09/14/20 10:14	09/21/20 11:53	1
Y Carrier	81.9		40 - 110					09/14/20 10:14	09/21/20 11:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.376	U	0.371	0.373	5.00	0.588	pCi/L		10/02/20 17:53	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: EB#2**

**Lab Sample ID: 180-109851-1**

Date Collected: 08/19/20 09:15

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0278	U	0.0658	0.0658	1.00	0.121	pCi/L	08/25/20 11:29	09/16/20 09:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		40 - 110					08/25/20 11:29	09/16/20 09:50	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0971	U *	0.314	0.314	1.00	0.546	pCi/L	08/25/20 12:41	09/09/20 13:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		40 - 110					08/25/20 12:41	09/09/20 13:23	1
Y Carrier	78.5		40 - 110					08/25/20 12:41	09/09/20 13:23	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.125	U	0.321	0.321	5.00	0.546	pCi/L		10/02/20 17:53	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWA-19**

**Lab Sample ID: 180-109851-2**

Date Collected: 08/19/20 10:56

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0997	U	0.100	0.100	1.00	0.159	pCi/L	08/25/20 11:29	09/16/20 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					08/25/20 11:29	09/16/20 12:20	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.194	U *	0.371	0.372	1.00	0.632	pCi/L	09/14/20 10:14	09/21/20 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.0		40 - 110					09/14/20 10:14	09/21/20 11:53	1
Y Carrier	84.1		40 - 110					09/14/20 10:14	09/21/20 11:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.294	U	0.384	0.385	5.00	0.632	pCi/L		10/02/20 17:53	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWA-20**

**Lab Sample ID: 180-109851-3**

Date Collected: 08/19/20 13:44

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.100	U	0.0809	0.0814	1.00	0.119	pCi/L	08/25/20 11:29	09/16/20 12:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					08/25/20 11:29	09/16/20 12:21	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.840	*	0.402	0.409	1.00	0.582	pCi/L	09/14/20 10:14	09/21/20 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.3		40 - 110					09/14/20 10:14	09/21/20 11:53	1
Y Carrier	81.1		40 - 110					09/14/20 10:14	09/21/20 11:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.940		0.410	0.417	5.00	0.582	pCi/L		10/02/20 17:53	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-22**

**Lab Sample ID: 180-109851-4**

Date Collected: 08/19/20 15:32

Matrix: Water

Date Received: 08/20/20 09:30

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0279	U	0.0970	0.0970	1.00	0.178	pCi/L	08/25/20 11:29	09/16/20 14:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.2		40 - 110					08/25/20 11:29	09/16/20 14:43	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.560	U *	0.458	0.461	1.00	0.731	pCi/L	09/14/20 10:14	09/21/20 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.1		40 - 110					09/14/20 10:14	09/21/20 11:53	1
Y Carrier	78.9		40 - 110					09/14/20 10:14	09/21/20 11:53	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.587	U	0.468	0.471	5.00	0.731	pCi/L		10/02/20 17:53	1



# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: FB#2**

**Lab Sample ID: 180-109918-1**

Date Collected: 08/20/20 10:45

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.117	U	0.101	0.101	1.00	0.146	pCi/L	08/28/20 16:42	09/21/20 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.4		40 - 110					08/28/20 16:42	09/21/20 10:52	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.312	U	0.367	0.368	1.00	0.605	pCi/L	08/28/20 17:17	09/18/20 11:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.4		40 - 110					08/28/20 17:17	09/18/20 11:58	1
Y Carrier	72.9		40 - 110					08/28/20 17:17	09/18/20 11:58	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.429	U	0.381	0.382	5.00	0.605	pCi/L		09/23/20 12:33	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-23**

**Lab Sample ID: 180-109918-2**

Date Collected: 08/20/20 12:15

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.101	U	0.102	0.102	1.00	0.159	pCi/L	08/28/20 16:42	09/21/20 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.1		40 - 110					08/28/20 16:42	09/21/20 10:52	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.141	U	0.263	0.263	1.00	0.447	pCi/L	08/28/20 17:17	09/18/20 11:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.1		40 - 110					08/28/20 17:17	09/18/20 11:59	1
Y Carrier	81.1		40 - 110					08/28/20 17:17	09/18/20 11:59	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.242	U	0.282	0.282	5.00	0.447	pCi/L		09/23/20 12:33	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: DUP-2**

**Lab Sample ID: 180-109918-3**

Date Collected: 08/20/20 00:00

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.130	U	0.115	0.115	1.00	0.173	pCi/L	08/28/20 16:42	09/21/20 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.4		40 - 110					08/28/20 16:42	09/21/20 10:52	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.266	U	0.400	0.401	1.00	0.670	pCi/L	09/21/20 14:11	09/30/20 12:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					09/21/20 14:11	09/30/20 12:41	1
Y Carrier	89.3		40 - 110					09/21/20 14:11	09/30/20 12:41	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.396	U	0.416	0.417	5.00	0.670	pCi/L		09/23/20 12:33	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARAMW-1**

**Lab Sample ID: 180-109918-4**

Date Collected: 08/20/20 14:36

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.121	U	0.104	0.105	1.00	0.155	pCi/L	08/28/20 16:42	09/21/20 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.4		40 - 110					08/28/20 16:42	09/21/20 10:52	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.406	U	0.321	0.323	1.00	0.509	pCi/L	08/28/20 17:17	09/18/20 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.4		40 - 110					08/28/20 17:17	09/18/20 12:00	1
Y Carrier	75.5		40 - 110					08/28/20 17:17	09/18/20 12:00	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Combined Radium 226 + 228</b>	<b>0.527</b>		0.337	0.340	5.00	0.509	pCi/L		09/23/20 12:33	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARAMW-2**

**Lab Sample ID: 180-109918-5**

Date Collected: 08/20/20 16:35

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.516</b>		0.150	0.157	1.00	0.109	pCi/L	08/28/20 16:42	09/21/20 12:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					08/28/20 16:42	09/21/20 12:46	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>3.61</b>		0.462	0.569	1.00	0.413	pCi/L	08/28/20 17:17	09/18/20 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					08/28/20 17:17	09/18/20 12:00	1
Y Carrier	80.4		40 - 110					08/28/20 17:17	09/18/20 12:00	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Combined Radium 226 + 228</b>	<b>4.13</b>		0.486	0.590	5.00	0.413	pCi/L		09/23/20 12:33	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-8**

**Lab Sample ID: 180-109929-1**

Date Collected: 08/20/20 10:35

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.136		0.0990	0.0997	1.00	0.136	pCi/L	08/28/20 16:42	09/21/20 12:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					08/28/20 16:42	09/21/20 12:46	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00477	U	0.249	0.249	1.00	0.444	pCi/L	08/28/20 17:17	09/18/20 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					08/28/20 17:17	09/18/20 12:00	1
Y Carrier	82.6		40 - 110					08/28/20 17:17	09/18/20 12:00	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.140	U	0.268	0.268	5.00	0.444	pCi/L		09/23/20 12:33	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-18**

**Lab Sample ID: 180-109929-2**

Date Collected: 08/20/20 17:05

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0554	U	0.0711	0.0713	1.00	0.117	pCi/L	08/28/20 16:42	09/21/20 12:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.5		40 - 110					08/28/20 16:42	09/21/20 12:46	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.136	U	0.233	0.233	1.00	0.395	pCi/L	08/28/20 17:17	09/18/20 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.5		40 - 110					08/28/20 17:17	09/18/20 12:00	1
Y Carrier	84.5		40 - 110					08/28/20 17:17	09/18/20 12:00	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.191	U	0.244	0.244	5.00	0.395	pCi/L		09/23/20 12:33	1



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: EB#1**

**Lab Sample ID: 180-109930-1**

Date Collected: 08/20/20 09:30

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0471	U	0.0764	0.0765	1.00	0.133	pCi/L	08/31/20 13:50	09/22/20 09:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		40 - 110					08/31/20 13:50	09/22/20 09:54	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.106	U	0.348	0.348	1.00	0.609	pCi/L	08/31/20 14:14	09/09/20 13:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		40 - 110					08/31/20 14:14	09/09/20 13:13	1
Y Carrier	82.6		40 - 110					08/31/20 14:14	09/09/20 13:13	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.154	U	0.356	0.356	5.00	0.609	pCi/L		10/02/20 17:52	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARAMW-3**

**Lab Sample ID: 180-109930-2**

Date Collected: 08/20/20 14:45

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0239	U	0.0600	0.0600	1.00	0.141	pCi/L	08/31/20 13:50	09/22/20 09:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					08/31/20 13:50	09/22/20 09:55	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.113	U	0.381	0.382	1.00	0.707	pCi/L	08/31/20 14:14	09/09/20 13:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					08/31/20 14:14	09/09/20 13:14	1
Y Carrier	79.6		40 - 110					08/31/20 14:14	09/09/20 13:14	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.137	U	0.386	0.387	5.00	0.707	pCi/L		10/02/20 17:52	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARAMW-4**

**Lab Sample ID: 180-109930-3**

Date Collected: 08/20/20 11:45

Matrix: Water

Date Received: 08/21/20 09:45

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.204		0.110	0.112	1.00	0.135	pCi/L	08/31/20 13:50	09/22/20 09:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.3		40 - 110					08/31/20 13:50	09/22/20 09:55	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.419	U	0.434	0.436	1.00	0.708	pCi/L	08/31/20 14:14	09/09/20 13:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.3		40 - 110					08/31/20 14:14	09/09/20 13:14	1
Y Carrier	87.5		40 - 110					08/31/20 14:14	09/09/20 13:14	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.624	U	0.448	0.450	5.00	0.708	pCi/L		10/02/20 17:52	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARAMW-6**

**Lab Sample ID: 180-109970-1**

Date Collected: 08/21/20 09:45

Matrix: Water

Date Received: 08/22/20 10:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.142	U	0.120	0.121	1.00	0.179	pCi/L	08/28/20 16:42	09/21/20 12:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.3		40 - 110					08/28/20 16:42	09/21/20 12:46	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.143	U	0.295	0.295	1.00	0.505	pCi/L	08/28/20 17:17	09/18/20 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.3		40 - 110					08/28/20 17:17	09/18/20 12:00	1
Y Carrier	80.4		40 - 110					08/28/20 17:17	09/18/20 12:00	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.285	U	0.318	0.319	5.00	0.505	pCi/L		09/23/20 12:33	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

**Client Sample ID: ARGWC-21**

**Lab Sample ID: 180-109970-2**

Date Collected: 08/21/20 10:36

Matrix: Water

Date Received: 08/22/20 10:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0115	U	0.0905	0.0905	1.00	0.176	pCi/L	08/28/20 16:42	09/21/20 12:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		40 - 110					08/28/20 16:42	09/21/20 12:46	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.461</b>		0.264	0.267	1.00	0.394	pCi/L	08/28/20 17:17	09/18/20 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		40 - 110					08/28/20 17:17	09/18/20 12:00	1
Y Carrier	79.6		40 - 110					08/28/20 17:17	09/18/20 12:00	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Combined Radium 226 + 228</b>	<b>0.472</b>		0.279	0.282	5.00	0.394	pCi/L		09/23/20 12:33	1

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-480640/24-A**  
**Matrix: Water**  
**Analysis Batch: 482515**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 480640**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.04136	U	0.0641	0.0642	1.00	0.111	pCi/L	08/24/20 17:59	09/15/20 13:55	1
Carrier	MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	MB Qualifier	40 - 110					08/24/20 17:59	09/15/20 13:55	1
	92.1									

**Lab Sample ID: LCS 160-480640/1-A**  
**Matrix: Water**  
**Analysis Batch: 482515**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 480640**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.31		1.14	1.00	0.135	pCi/L	91	75 - 125
Carrier	LCS	LCS	Limits						
Ba Carrier	%Yield	Qualifier	40 - 110						
	74.3								

**Lab Sample ID: MB 160-480684/10-A**  
**Matrix: Water**  
**Analysis Batch: 482613**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 480684**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.01097	U	0.0590	0.0590	1.00	0.116	pCi/L	08/25/20 11:29	09/16/20 14:43	1
Carrier	MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	MB Qualifier	40 - 110					08/25/20 11:29	09/16/20 14:43	1
	87.6									

**Lab Sample ID: LCS 160-480684/1-A**  
**Matrix: Water**  
**Analysis Batch: 482613**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 480684**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	9.909		1.06	1.00	0.157	pCi/L	87	75 - 125
Carrier	LCS	LCS	Limits						
Ba Carrier	%Yield	Qualifier	40 - 110						
	89.1								

**Lab Sample ID: LCSD 160-480684/2-A**  
**Matrix: Water**  
**Analysis Batch: 482613**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 480684**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium-226	11.3	10.37		1.10	1.00	0.119	pCi/L	91	75 - 125	0.21	1

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Method: 9315 - Radium-226 (GFPC) (Continued)

**Lab Sample ID: LCSD 160-480684/2-A**  
**Matrix: Water**  
**Analysis Batch: 482613**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 480684**

	<i>LCSD</i>	<i>LCSD</i>	
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>
Ba Carrier	86.1		40 - 110

**Lab Sample ID: MB 160-481082/24-A**  
**Matrix: Water**  
**Analysis Batch: 483033**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 481082**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.04354	U	0.0772	0.0773	1.00	0.137	pCi/L	08/28/20 16:42	09/21/20 12:46	1

	<i>MB</i>	<i>MB</i>	
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>
Ba Carrier	93.6		40 - 110

	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	08/28/20 16:42	09/21/20 12:46	1

**Lab Sample ID: LCS 160-481082/1-A**  
**Matrix: Water**  
**Analysis Batch: 483033**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 481082**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	9.948		1.12	1.00	0.128	pCi/L	88	75 - 125

	<i>LCS</i>	<i>LCS</i>	
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>
Ba Carrier	84.1		40 - 110

**Lab Sample ID: LCSD 160-481082/2-A**  
**Matrix: Water**  
**Analysis Batch: 483033**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 481082**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	10.11		1.14	1.00	0.151	pCi/L	89	75 - 125	0.07	1

	<i>LCSD</i>	<i>LCSD</i>	
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>
Ba Carrier	82.9		40 - 110

**Lab Sample ID: MB 160-481232/23-A**  
**Matrix: Water**  
**Analysis Batch: 483161**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 481232**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.08056	U	0.0728	0.0732	1.00	0.109	pCi/L	08/31/20 13:50	09/22/20 11:59	1

	<i>MB</i>	<i>MB</i>	
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>
Ba Carrier	94.8		40 - 110

	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	08/31/20 13:50	09/22/20 11:59	1

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Method: 9315 - Radium-226 (GFPC) (Continued)

**Lab Sample ID: LCS 160-481232/1-A**  
**Matrix: Water**  
**Analysis Batch: 483161**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 481232**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
Radium-226	15.1	13.59		1.42	1.00	0.121	pCi/L	90	75 - 125	
<b>Carrier</b>	<b>%Yield</b>	<b>LCS Qualifier</b>	<b>Limits</b>							
Ba Carrier	84.1		40 - 110							

## Method: 9320 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-480651/24-A**  
**Matrix: Water**  
**Analysis Batch: 482071**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 480651**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Carrier</b>	<b>%Yield</b>	<b>MB Qualifier</b>	<b>Limits</b>							
Ba Carrier	92.1		40 - 110							
Y Carrier	85.2		40 - 110							
								<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
								08/24/20 18:23	09/10/20 12:22	1
								08/24/20 18:23	09/10/20 12:22	1

**Lab Sample ID: LCS 160-480651/1-A**  
**Matrix: Water**  
**Analysis Batch: 482102**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 480651**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
Radium-228	7.82	8.153		1.08	1.00	0.560	pCi/L	104	75 - 125	
<b>Carrier</b>	<b>%Yield</b>	<b>LCS Qualifier</b>	<b>Limits</b>							
Ba Carrier	74.3		40 - 110							
Y Carrier	79.6		40 - 110							

**Lab Sample ID: MB 160-480689/10-A**  
**Matrix: Water**  
**Analysis Batch: 481811**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 480689**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Carrier</b>	<b>%Yield</b>	<b>MB Qualifier</b>	<b>Limits</b>							
Ba Carrier	87.6		40 - 110							
Y Carrier	86.0		40 - 110							
								<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
								08/25/20 12:41	09/09/20 13:26	1
								08/25/20 12:41	09/09/20 13:26	1

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-480689/1-A**  
**Matrix: Water**  
**Analysis Batch: 481799**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 480689**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									75	125
Radium-228	7.82	10.69	*	1.30	1.00	0.596	pCi/L	137	75	125
<b>LCS LCS</b>										
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Ba Carrier	89.1		40 - 110							
Y Carrier	76.6		40 - 110							

**Lab Sample ID: LCSD 160-480689/2-A**  
**Matrix: Water**  
**Analysis Batch: 481799**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 480689**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	Limit
									75	125	0.46	1
Radium-228	7.82	9.539		1.19	1.00	0.634	pCi/L	122	75	125	0.46	1
<b>LCSD LCSD</b>												
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	86.1		40 - 110									
Y Carrier	82.2		40 - 110									

**Lab Sample ID: MB 160-481085/24-A**  
**Matrix: Water**  
**Analysis Batch: 482957**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 481085**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
								08/28/20 17:17	09/18/20 12:00	09/18/20 12:00	12:00	1
Radium-228	0.1718	U	0.210	0.210	1.00	0.347	pCi/L	08/28/20 17:17	09/18/20 12:00	09/18/20 12:00	12:00	1
<b>MB MB</b>												
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>		<b>Prepared</b>		<b>Analyzed</b>		<b>Dil Fac</b>			
Ba Carrier	93.6		40 - 110		08/28/20 17:17		09/18/20 12:00		1			
Y Carrier	88.6		40 - 110		08/28/20 17:17		09/18/20 12:00		1			

**Lab Sample ID: LCS 160-481085/1-A**  
**Matrix: Water**  
**Analysis Batch: 482946**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 481085**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									75	125
Radium-228	7.80	8.379		1.05	1.00	0.503	pCi/L	107	75	125
<b>LCS LCS</b>										
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Ba Carrier	84.1		40 - 110							
Y Carrier	82.2		40 - 110							

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCSD 160-481085/2-A**  
**Matrix: Water**  
**Analysis Batch: 482946**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 481085**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	
									75 - 125	0.47	Limit	
Radium-228	7.80	7.434		0.978	1.00	0.518	pCi/L	95	75 - 125	0.47	1	
<b>Carrier</b>												
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	82.9		40 - 110									
Y Carrier	79.3		40 - 110									

**Lab Sample ID: MB 160-481237/23-A**  
**Matrix: Water**  
**Analysis Batch: 481838**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 481237**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
								08/31/20 14:14	09/09/20 13:16	08/31/20 14:14	09/09/20 13:16	
Radium-228	-0.006322	U	0.314	0.314	1.00	0.564	pCi/L	08/31/20 14:14	09/09/20 13:16			1
<b>Carrier</b>												
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>		
Ba Carrier	94.8		40 - 110					08/31/20 14:14	09/09/20 13:16	1		1
Y Carrier	84.5		40 - 110					08/31/20 14:14	09/09/20 13:16	1		1

**Lab Sample ID: LCS 160-481237/1-A**  
**Matrix: Water**  
**Analysis Batch: 481801**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 481237**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits			
									75 - 125			
Radium-228	10.4	10.82		1.39	1.00	0.707	pCi/L	104	75 - 125			
<b>Carrier</b>												
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	84.1		40 - 110									
Y Carrier	82.6		40 - 110									

**Lab Sample ID: MB 160-482400/9-A**  
**Matrix: Water**  
**Analysis Batch: 483126**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 482400**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
								09/14/20 10:14	09/21/20 11:53	09/14/20 10:14	09/21/20 11:53	
Radium-228	1.266		0.458	0.473	1.00	0.620	pCi/L	09/14/20 10:14	09/21/20 11:53			1
<b>Carrier</b>												
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>		
Ba Carrier	79.5		40 - 110					09/14/20 10:14	09/21/20 11:53	1		1
Y Carrier	81.5		40 - 110					09/14/20 10:14	09/21/20 11:53	1		1

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-482400/1-A**  
**Matrix: Water**  
**Analysis Batch: 483126**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 482400**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									75	125
Radium-228	10.4	12.18		1.46	1.00	0.526	pCi/L	117	75 - 125	
<b>LCS LCS</b>										
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Ba Carrier	81.0		40 - 110							
Y Carrier	86.0		40 - 110							

**Lab Sample ID: LCSD 160-482400/2-A**  
**Matrix: Water**  
**Analysis Batch: 483126**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 482400**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	Limit
									75	125	0.54	1
Radium-228	10.4	13.89	*	1.69	1.00	0.690	pCi/L	134	75 - 125	0.54	1	
<b>LCSD LCSD</b>												
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	70.9		40 - 110									
Y Carrier	83.4		40 - 110									

**Lab Sample ID: MB 160-483141/4-A**  
**Matrix: Water**  
**Analysis Batch: 484399**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 483141**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
								09/21/20 14:11	09/30/20 12:43	09/21/20 14:11	09/30/20 12:43	1
Radium-228	0.1677	U	0.434	0.435	1.00	0.752	pCi/L	09/21/20 14:11	09/30/20 12:43	09/21/20 14:11	09/30/20 12:43	1
<b>MB MB</b>												
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>		<b>Prepared</b>		<b>Analyzed</b>		<b>Dil Fac</b>			
Ba Carrier	63.9		40 - 110		09/21/20 14:11		09/30/20 12:43		1			
Y Carrier	85.2		40 - 110		09/21/20 14:11		09/30/20 12:43		1			

**Lab Sample ID: LCS 160-483141/1-A**  
**Matrix: Water**  
**Analysis Batch: 484399**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 483141**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									75	125
Radium-228	10.4	11.05		1.41	1.00	0.674	pCi/L	107	75 - 125	
<b>LCS LCS</b>										
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Ba Carrier	81.3		40 - 110							
Y Carrier	80.4		40 - 110							

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCSD 160-483141/2-A**  
**Matrix: Water**  
**Analysis Batch: 484399**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 483141**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	
									Min	Max	RER	Limit
Radium-228	10.4	10.75		1.39	1.00	0.640	pCi/L	104	75	125	0.11	1

Carrier	LCSD		Limits
	%Yield	Qualifier	
Ba Carrier	80.7		40 - 110
Y Carrier	78.9		40 - 110

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# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Rad

### Prep Batch: 480640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-1	ARGWA-14	Total/NA	Water	PrecSep-21	
180-109846-2	ARGWC-15	Total/NA	Water	PrecSep-21	
180-109846-3	ARGWC-16	Total/NA	Water	PrecSep-21	
180-109847-1	FB#1	Total/NA	Water	PrecSep-21	
180-109847-2	ARGWA-12	Total/NA	Water	PrecSep-21	
180-109847-3	ARGWA-13	Total/NA	Water	PrecSep-21	
180-109847-4	ARGWC-17	Total/NA	Water	PrecSep-21	
180-109848-1	ARGWC-10	Total/NA	Water	PrecSep-21	
180-109848-2	DUP-1	Total/NA	Water	PrecSep-21	
180-109848-3	ARGWC-9	Total/NA	Water	PrecSep-21	
MB 160-480640/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-480640/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 480651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-1	ARGWA-14	Total/NA	Water	PrecSep_0	
180-109846-2	ARGWC-15	Total/NA	Water	PrecSep_0	
180-109846-3	ARGWC-16	Total/NA	Water	PrecSep_0	
180-109847-1	FB#1	Total/NA	Water	PrecSep_0	
180-109847-2	ARGWA-12	Total/NA	Water	PrecSep_0	
180-109847-3	ARGWA-13	Total/NA	Water	PrecSep_0	
180-109847-4	ARGWC-17	Total/NA	Water	PrecSep_0	
180-109848-1	ARGWC-10	Total/NA	Water	PrecSep_0	
180-109848-2	DUP-1	Total/NA	Water	PrecSep_0	
180-109848-3	ARGWC-9	Total/NA	Water	PrecSep_0	
MB 160-480651/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-480651/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

### Prep Batch: 480684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109850-1	ARGWA-5	Total/NA	Water	PrecSep-21	
180-109850-2	ARGWA-3	Total/NA	Water	PrecSep-21	
180-109850-3	ARGWC-7	Total/NA	Water	PrecSep-21	
180-109851-1	EB#2	Total/NA	Water	PrecSep-21	
180-109851-2	ARGWA-19	Total/NA	Water	PrecSep-21	
180-109851-3	ARGWA-20	Total/NA	Water	PrecSep-21	
180-109851-4	ARGWC-22	Total/NA	Water	PrecSep-21	
MB 160-480684/10-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-480684/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-480684/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 480689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109851-1	EB#2	Total/NA	Water	PrecSep_0	
MB 160-480689/10-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-480689/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-480689/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 481082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total/NA	Water	PrecSep-21	

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# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Rad (Continued)

### Prep Batch: 481082 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-2	ARGWC-23	Total/NA	Water	PrecSep-21	
180-109918-3	DUP-2	Total/NA	Water	PrecSep-21	
180-109918-4	ARAMW-1	Total/NA	Water	PrecSep-21	
180-109918-5	ARAMW-2	Total/NA	Water	PrecSep-21	
180-109929-1	ARGWC-8	Total/NA	Water	PrecSep-21	
180-109929-2	ARGWC-18	Total/NA	Water	PrecSep-21	
180-109970-1	ARAMW-6	Total/NA	Water	PrecSep-21	
180-109970-2	ARGWC-21	Total/NA	Water	PrecSep-21	
MB 160-481082/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-481082/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-481082/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 481085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total/NA	Water	PrecSep_0	
180-109918-2	ARGWC-23	Total/NA	Water	PrecSep_0	
180-109918-4	ARAMW-1	Total/NA	Water	PrecSep_0	
180-109918-5	ARAMW-2	Total/NA	Water	PrecSep_0	
180-109929-1	ARGWC-8	Total/NA	Water	PrecSep_0	
180-109929-2	ARGWC-18	Total/NA	Water	PrecSep_0	
180-109970-1	ARAMW-6	Total/NA	Water	PrecSep_0	
180-109970-2	ARGWC-21	Total/NA	Water	PrecSep_0	
MB 160-481085/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-481085/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-481085/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 481232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109930-1	EB#1	Total/NA	Water	PrecSep-21	
180-109930-2	ARAMW-3	Total/NA	Water	PrecSep-21	
180-109930-3	ARAMW-4	Total/NA	Water	PrecSep-21	
MB 160-481232/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-481232/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 481237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109930-1	EB#1	Total/NA	Water	PrecSep_0	
180-109930-2	ARAMW-3	Total/NA	Water	PrecSep_0	
180-109930-3	ARAMW-4	Total/NA	Water	PrecSep_0	
MB 160-481237/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-481237/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

### Prep Batch: 482400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109850-1	ARGWA-5	Total/NA	Water	PrecSep_0	
180-109850-2	ARGWA-3	Total/NA	Water	PrecSep_0	
180-109850-3	ARGWC-7	Total/NA	Water	PrecSep_0	
180-109851-2	ARGWA-19	Total/NA	Water	PrecSep_0	
180-109851-3	ARGWA-20	Total/NA	Water	PrecSep_0	
180-109851-4	ARGWC-22	Total/NA	Water	PrecSep_0	
MB 160-482400/9-A	Method Blank	Total/NA	Water	PrecSep_0	

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# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

## Rad (Continued)

### Prep Batch: 482400 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 160-482400/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-482400/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 483141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-3	DUP-2	Total/NA	Water	PrecSep_0	
MB 160-483141/4-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-483141/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-483141/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	









<b>Client Information</b>		Sampler: <b>DHoward, EGillen, AShore</b>		Lab PM: Brown, Shali		Carrier Tracking No(s)		COC No	
Client Contact: SCS Contacts		Phone		E-Mail: shali.brown@eurofins.com				Page: 1 of 1	
Company: G4 Power		Address: 241 Ralph McGill Blvd SE		City: Atlanta		State: GA		Zip: 30308	
Phone: 404-508-7116(Tel)		PO #		WO #		Project #		SSON#	
Email: SCS Contacts		Project Name: UCR - Plant Arkwright		Site: Georgia		Analysis Requested		Job #:	
Due Date Requested:		TAT Requested (days):		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Preservation Codes:	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (Water, Soils, Organics, etc.)	
Preservation Code:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers		Special Instructions/Note:	
ARGWA-5		8/18/20		1135		G		W	
ARGWA-3		↓		1320		G		W	
ARGWC-7		↓		1525		G		W	
								1 1 1	
								1 1 1	
								1 1 1	
								3	
								3	
								3	
								pH = 6.18	
								pH = 6.47	
								pH = 6.70	
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For: _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: <b>D Howard</b>		Date/Time: 8/18/20 / 1730		Company: <b>Wood E&amp;IS</b>		Received by: <b>Rebecca Watson</b>		Date/Time: 8-20-20	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time: 9:30	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					



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<b>Client Information</b> Client Contact: <i>D Howard, E Guillen, A Shredits</i> SCS Contact: _____		Sampler: <i>D Howard, E Guillen, A Shredits</i> Lab PM: Brown, Shali Phone: _____ E-Mail: <i>shali.brown@eurofins.com</i>		Carrier Tracking No(s): _____ OOC No: _____	
Company: <i>GA Power</i> Address: <i>241 Ralph McGill Blvd SE</i> City: <i>Atlanta</i> State, Zip: <i>GA, 30308</i> Phone: <i>404-505-7116(Tel)</i> Email: _____ SCS Contacts: _____ Project Name: <i>CCR - Plant Arkwright</i> Site: <i>Georgia</i>		Due Date Requested: _____ TAT Requested (days): _____ POB: _____ WOP: _____ Project #: <i>18020201</i> SSOWP: _____		Analysis Requested Job #: _____ Preservation Codes: A - HCL      M - Hexane B - NaOH      N - None C - Zn Acetate      O - AsNaO2 D - Nitric Acid      P - Na2O4S E - NaHSO4      Q - Na2SO3 F - MeOH      R - Na2S2O8 G - Amchlor      S - H2SO4 H - Ascorbic Acid      T - TSP Dodecahydric I - Ice      U - Acetone J - DeWater      V - MCAA K - EDTA      W - pH 4-5 L - ED4      Z - other (specify)	
Sample Identification Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (Inorganic, Organic, Divalent, etc) Preservation Code:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)		Total Number of containers	
EB#2 ARGWA-19 ARGWA-20 ARGWC-22		8/19/20 0915 1056 1344 1532		G W G W G W G W	
		DD HH HH HH		X X X X X X X X	
		DD HH HH HH		X X X X X X X X	
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Recipient's Copy

94 5359

Form ID No. 0215

4 Express Package Service \*To most locations.

Next Business Day

FedEx First Overnight  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

FedEx Priority Overnight  
Next business morning. \* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

ORIGIN ID: MCNA (770) 421-3  
DANIEL HOWARD  
AMEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

Phone 770 421-3242

STE 100

Dept./Floor/Suite/Room

GA ZIP 30144-3659

01429, 2002

Phone 412 963-7055

RTDC

Dept./Floor/Suite/Room

Hold Weekday  
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

Hold Saturday  
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

ZIP

3826458

TO SAMPLE RECIEVIN  
EUROEINS TEST A  
301 ALPHA DR

PITTSBURGH PA

(412) 968-7868

edk  
Expr

E

10:30A

ERNIGHT

DSR

15238

-US PIT

1 AGC

Uncorrected temp  
Thermometer ID

27  
14

CF 0 Initials J

PT-WI-SR-001 effective 11/8/18



180-109846 Waybill

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TestAmet

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Recipient's

Express Package Service \* To most locations.

Packages up to 100 lbs.  
for packages over 50 lbs.  
FedEx Express Freight

**Next Business Day**

**FedEx First Overnight**  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

**FedEx Priority Overnight**  
Second business morning. \* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

**2 or 3 Business Days**

**FedEx 2Day AM**  
Second business morning. Saturday Delivery NOT available.

**FedEx 2Day**  
Second business afternoon. \* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.

FedEx Express Saver

ORIGIN ID: MCNA (770) 421-3400  
DANIEL HOWARD  
AMEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

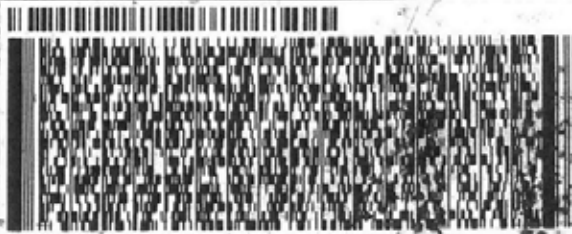
SHIP DATE: 18AUG20  
ACTWT: 58.00 LB  
CAD: 8994493/SSE2110  
DIMS: 24x14x10 IN  
BILL THIRD PARTY

TO **SAMPLE RECEIVING**  
**EUROFINS TEST-AMERICA**  
**301 ALPHA DR**  
**RIDC PARK**  
**PITTSBURGH PA 15238**

(412) 983-7068

REF:

DEPT:



**FedEx**  
Express



**WED - 19 AUG 10:30A**  
**PRIORITY OVERNIGHT**

TRK# 8121 9394 5820  
0215

**NA AGCA**

15238  
PA-US PIT

Uncorrected temp 65  
Thermometer ID 14  
CF 0 Initials JS

PT-WI-SR-001 effective 11/9/18



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MURS  
Form ID No. **0215** Recipient's

**Express Package Service** \* To most locations. Packages up to 150 lb. for packages over 100 lbs., use the FedEx Express Freight US Airtel.

**Next Business Day**  
 **FedEx First Overnight**  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.  
 **FedEx Priority Overnight**  
Next business morning. \* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.  
 **FedEx Standard Overnight**  
Next business afternoon. \* Saturday Delivery NOT available.

**2 or 3 Business Days**  
 **FedEx 2Day A.M.**  
Second business morning. Saturday Delivery NOT available.  
 **FedEx 2Day**  
Second business afternoon. \* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.  
 **FedEx Express Saver**  
Third business day. \* Saturday Delivery NOT available.

ORIGIN ID: MCNA (770) 421-3400  
DANIEL HOWARD  
AMEC (WOOD E+1S)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

SHIP DATE: 19AUG20  
ACTWT: 56.65 LB  
CAD: 6994493/SSFE2110  
DIMS: 24x13x14 IN  
BILL THIRD PARTY

TO **SAMPLE RECIEVING**  
**EUROFINS TEST AMERICA**  
**301 ALPHA DR**

**PITTSBURGH PA. 15238**  
(412) 963-7068 REF: DEPT:



**A**  
5360  
08.20

TRK# 8121 9394 5360  
0215

**THU - 20 AUG 10:30A**  
**PRIORITY OVERNIGHT**  
**DSR**  
**15238**  
**PA-US PIT**

**NA AGCA**

Uncorrected temp  
Thermometer ID 11  
CF 0 Initials B



PT-WI-SR-001 effective 1/16/18

INS Env Trk 05884



ORIGIN ID:MCNA (770) 421-3402  
DANIEL HOWARD  
AMEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 100

SHIP DATE: 18AUG20  
ACTWGT: 42.15 LB  
CAD: 6994493/SSFE2110  
DIMS: 24x13x14 IN

KENNESAW, GA 30144  
UNITED STATES US

BILL THIRD PARTY

Form # 1500-927/06-27/05-EXP-07/21

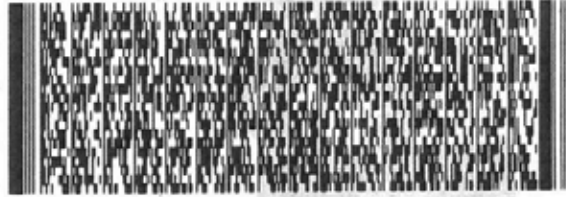
TO **SAMPLE RECEIVING**  
**EUROFINS TEST AMERICA**  
**301 ALPHA DR**  
**RIDC PARK**  
**PITTSBURGH PA 15238**

(412) 863-7068

REF:

INVT:

DEPT:



**FedEx**  
Express



141811700200027

TRK# 8121 9394 5830  
0215

WED - 19 AUG 10:30A  
PRIORITY OVERNIGHT

**NA AGCA**

AHS  
15238  
PA-US PIT

Uncorrected temp  
Thermometer ID

2.1 °C  
14

CF ○ Initials TS

PT-WI-SR-001 effective 11/8/18



180-109850 Waybill

Align Open End of FedEx Pouch Here



PT-WI-SR-001 effective 11/8/18  
CF Initials       
Uncorrected temp Thermometer ID     

FRI - 21 AUG 10:30A  
PRIORITY OVERNIGHT  
DSR  
15238  
PA-US PIT

**NA AGCA**

TRK# 8121 9394 5326  
0215



(412) 969-7068  
PITTSBURGH PA 15238

**SAMPLE RECEIVING**  
301 ALPHA DR  
RIDC PARK  
PITTSBURGH PA 15238

SHIP DATE: 20HUG20  
ACTMGT: 81.15 LB  
CAD: 6994493/85FE2110  
DIM5: 24x14x13 IN  
BILL THIRD PARTY

ORIGIN ID: KENNA (770) 421-3400  
DANIEL HOWARD  
AMEC (WOOD #18)  
1075 BIG SHANT RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

- 4 Express Package Service
- Next Business Day
- FedEx First Overnight
- FedEx Priority Overnight
- FedEx Standard Overnight
- FedEx 2Day
- FedEx Home Delivery

Form 0215



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FedEx Tracking Number 8121 9394 5337

0215

Recipient's Copy

4 Express Package Service

Packages up to 150 lbs. For packages over 150 lbs., see the FedEx Express Freight US Aisle.

Next Business Day

FedEx First Overnight

ORIGIN ID: MCNA (770) 421-340  
DANIEL HOWARD  
AHEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 1  
KENNESAW, GA 30144  
UNITED STATES US

TO SAMPLE RECEIVING  
SAMPLE RECEIVING  
301 ALPHA DR  
RIDC PARK  
PITTSBURGH PA 15220

(412) 988-1101



180-109929 Waybill

FedEx Express



FRI - 21 AUG 10:30A  
PRIORITY OVERNIGHT

TRK/0215 8121 9394 5337

NA AGCA

15238  
PIT

Uncorrected temp  
Thermometer ID

CF 0 Initials JB

PT-WI-SR-001 effective 11/8/18



Phone 770 421-3349

SHANTY RD NW STE 100

State GA ZIP 30144-3652

6122 201 424 2002

Phone 412 963-7058

Receiving Test America

301 Alpha Dr RIDC Park

Hold Weekday  
FedEx location address  
REQUIRED. NOT available for  
FedEx First Overnight.

Hold Saturday  
FedEx location address  
REQUIRED. Available ONLY by  
FedEx Priority Overnight and  
FedEx 2Day to select locations.

State PA ZIP 15238

8129826458



8121 9394 5337

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PT-M-SR-001 effective 11/01/18  
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NA AGCA  
TRK# 8121 9394 5315  
0215

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PRIORITY OVERNIGHT  
1-21 AUG 10:30A  
15238  
DSR  
PIT  
PA-US



PITTSBURGH PA 15238  
RIDE & PARK  
301 ALPHA DR  
SAMPLE RECEIVING

ORIGIN ID: MCHN (720) 421-3400  
DANIEL HOWARD  
REC (WOOD E 119)  
1078 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

SHIP DATE: 20H0520  
ACTWGT: 54.65 LB  
CRD: 6994493/85F2110  
DIM5: 24X13X14 IN  
BIL 12.80  
5135  
10:30  
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RT 67

Special Handling and Delivery Signature Options

Next Business Day  
 FedEx First Overnight  
 FedEx Priority Overnight  
 FedEx Standard Overnight  
 Next Business Day

2 or 3 Business Days  
 FedEx 2Day AM  
 FedEx 2Day  
 FedEx Express Saver

5 Packaging  
 FedEx Envelope  
 FedEx Pak  
 FedEx Box  
 FedEx Tube  
 Omb

6  
 FedEx Signature  
 FedEx Signature  
 FedEx Signature

Recipient's Copy



18C-109930 Waybill



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FID: 84105 21A0520 MCNA 56BC2/7709/05A2  
 PT-WI-SR-001 effective 11/8/18  
 Initials CF  
 Thermometer ID 24  
 Uncorrected temp 24

**X0 AGCA**

FedEx  
 8121 9394 5348  
 SATURDAY 12:00P  
 PRIORITY OVERNIGHT  
 DSR  
 15238  
 PA-US  
 PIT




REF: 6122201429.2002  
 (412) 968-7056  
**PITTSBURGH PA 15238**  
 301 ALPHA DR  
**EUROFINS TEST AMERICA**  
 10 EUROFINS TEST AMERICA  
 UNITED STATES US  
 KENESAM, GA 30144  
 1075 BIG SHANTY RD NW STE 100  
 RHEC, WOOD BRIS  
 W/EL HOWARD  
 ID:MCNA (220) 421-3400

SHIP DATE: 21AUG20  
 ACTWGT: 54.00 LB  
 CAD: 6994493/55F22110  
 DIMS: 24x15x15 IN  
 BILL THIRD PARTY

180-109970 Waybill  


# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109846**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109846**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 08/22/20 12:41 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109847**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109847**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 08/22/20 12:41 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109848**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109848**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 08/22/20 12:41 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109850**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109850**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 08/22/20 12:41 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109851**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109851**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 08/22/20 12:41 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109918**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109918**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 08/25/20 02:54 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109929**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109929**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 08/25/20 02:54 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109930**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109930**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 08/25/20 02:54 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109970**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-109846-2

**Login Number: 109970**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 08/25/20 02:54 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Product Name: Low-Flow System

Date: 2020-08-18 13:19:42

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWA-3  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 40.5 ft

Pump placement from TOC 35.5 ft

Well Information:

Well ID ARGWA-3  
Well diameter 2 in  
Well Total Depth 40.5 ft  
Screen Length 10 ft  
Depth to Water 34.66 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6607687 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	12:58:03	1800.03	19.44	6.40	74.91	7.46	34.82	6.83	87.78
Last 5	13:03:03	2099.88	19.40	6.42	74.39	6.51	34.82	6.83	87.12
Last 5	13:08:03	2399.88	19.50	6.43	74.70	5.67	34.82	6.84	87.28
Last 5	13:13:03	2699.97	19.56	6.46	74.51	4.86	34.82	6.85	86.59
Last 5	13:18:03	2999.91	19.50	6.47	74.21	4.52	34.82	6.87	86.81
Variance 0			0.11	0.02	0.31			0.01	0.17
Variance 1			0.05	0.03	-0.20			0.01	-0.70
Variance 2			-0.05	0.01	-0.30			0.02	0.22

Notes

Sample time=1320

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-18 11:35:20

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWA-5  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 30.00 ft

Pump placement from TOC 25.00 ft

Well Information:

Well ID ARGWA-5  
Well diameter 2 in  
Well Total Depth 30.00 ft  
Screen Length 10 ft  
Depth to Water 23.03 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6139027 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	11:11:57	899.88	17.79	6.08	80.72	1.78	23.15	6.92	96.22
Last 5	11:16:57	1199.88	17.92	6.08	82.27	2.33	23.15	6.62	92.38
Last 5	11:21:57	1499.87	17.74	6.09	82.27	1.72	23.15	6.48	88.89
Last 5	11:26:57	1799.88	17.77	6.16	80.48	1.19	23.15	6.46	87.97
Last 5	11:31:57	2099.88	17.73	6.18	81.33	0.77	23.15	6.36	86.39
Variance 0			-0.18	0.00	0.01			-0.15	-3.49
Variance 1			0.03	0.07	-1.80			-0.02	-0.92
Variance 2			-0.04	0.02	0.85			-0.11	-1.58

Notes

Sample time= 1135

Grab Samples



Product Name: Low-Flow System

Date: 2020-08-18 13:03:49

Project Information:

Operator Name Daniel Howard  
Company Name Wood E&IS  
Project Name Plant Arkwright CCR  
Site Name ARGWA-12  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 407447  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Micropurgededicated  
Tubing Type HDPE  
Tubing Diameter .25 in  
Tubing Length 35 ft

Pump placement from TOC 29.2 ft

Well Information:

Well ID ARGWA-12  
Well diameter 2 in  
Well Total Depth 35.2 ft  
Screen Length 12 ft  
Depth to Water 15.1 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.8178456 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.02 in  
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	12:39:02	900.38	21.13	6.55	189.97	6.79	15.47	2.94	118.38
Last 5	12:44:02	1200.38	21.09	6.53	189.48	5.23	15.48	2.92	115.30
Last 5	12:49:02	1500.38	21.24	6.49	189.25	4.93	15.48	2.90	113.38
Last 5	12:54:02	1800.39	21.29	6.49	188.48	3.51	15.49	2.87	112.30
Last 5	12:59:02	2100.39	21.25	6.48	188.26	3.85	15.49	2.87	112.79
Variance 0			0.15	-0.03	-0.23			-0.02	-1.92
Variance 1			0.05	-0.01	-0.77			-0.03	-1.09
Variance 2			-0.04	-0.01	-0.22			-0.00	0.49

Notes

ARGWA-12 sample time 1300.

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-18 14:50:59

Project Information:

Operator Name Daniel Howard  
Company Name Wood E&IS  
Project Name Plant Arkwright CCR  
Site Name ARGWA-13  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 407447  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Micropurgededicated  
Tubing Type HDPE  
Tubing Diameter .25 in  
Tubing Length 43.3 ft

Pump placement from TOC 38.3 ft

Well Information:

Well ID ARGWA-13  
Well diameter 2 in  
Well Total Depth 43.31 ft  
Screen Length 10 ft  
Depth to Water 23.34 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.8979633 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.03 in  
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	14:27:20	900.03	19.68	6.20	1147.97	1.92	23.79	1.39	101.39
Last 5	14:32:20	1200.03	19.63	6.19	1150.71	1.39	23.79	1.25	98.01
Last 5	14:37:20	1500.02	19.69	6.18	1145.85	1.58	23.79	1.20	96.51
Last 5	14:42:20	1800.02	19.69	6.16	1142.28	1.32	23.79	1.16	95.28
Last 5	14:47:20	2100.02	19.61	6.15	1136.43	1.01	23.79	1.12	94.29
Variance 0			0.06	-0.01	-4.86			-0.06	-1.49
Variance 1			-0.00	-0.02	-3.57			-0.04	-1.23
Variance 2			-0.07	-0.00	-5.85			-0.04	-0.99

Notes

ARGWA-13 sample time 1450.

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-19 14:06:51

Project Information:

Operator Name Andreas Shorebits  
Company Name Wood  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWA-14  
Latitude 32° 54' 8.95"  
Longitude -83° -40' -57.63"  
Sonde SN 369323  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 55 ft  
Pump placement from TOC 53.45 ft

Well Information:

Well ID ARGWA-14  
Well diameter 2.00 in  
Well Total Depth 58.45 ft  
Screen Length 10 ft  
Depth to Water 44.44 ft

Pumping Information:

Final Pumping Rate 80 mL/min  
Total System Volume 0.7254883 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 32.6 in  
Total Volume Pumped 2.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 20
Last 5	13:28:00	600.02	22.87	6.40	431.03	0.75	45.52	4.38	143.63
Last 5	13:33:00	900.15	22.25	6.60	449.71	0.66	46.07	4.09	126.50
Last 5	13:38:00	1200.48	22.24	6.63	425.95	0.64	46.71	5.05	143.18
Last 5	13:43:00	1500.46	22.39	6.64	401.34	0.58	47.18	5.36	149.79
Last 5	13:48:00	1800.45	22.35	6.56	327.32	0.56	47.55	5.70	158.84
Variance 0			-0.01	0.03	-23.75			0.97	16.68
Variance 1			0.14	0.01	-24.61			0.31	6.60
Variance 2			-0.04	-0.08	-74.03			0.33	9.05

Notes

Start purging well @ 13:20, stop @ 13:48; Initial purge rate of 90 ml/min reduced to 80 ml/min @ 13:34; Sample collected @ 13:55 prior to water level drawing below sand pack; pH @ sampling is 6.45; Weather is overcast 29 degrees C

Grab Samples

ARGWA-14  
Groundwater sample

Product Name: Low-Flow System

Date: 2020-08-18 15:25:00

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWC-7  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 50.2 ft

Pump placement from TOC 45.2 ft

Well Information:

Well ID ARGWC-7  
Well diameter 2 in  
Well Total Depth 50.2 ft  
Screen Length 10 ft  
Depth to Water 22.18 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.7040638 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:02:12	1201.03	19.48	6.55	143.61	2.43	22.43	3.65	93.21
Last 5	15:07:12	1501.03	19.36	6.62	144.43	1.31	22.43	3.65	92.80
Last 5	15:12:12	1801.03	19.36	6.64	143.78	0.96	22.43	3.62	91.74
Last 5	15:17:12	2101.02	19.29	6.67	143.46	0.57	22.43	3.64	94.47
Last 5	15:22:12	2401.49	19.24	6.70	143.93	0.51	22.43	3.65	89.26
Variance 0			0.00	0.03	-0.65			-0.02	-1.06
Variance 1			-0.08	0.03	-0.32			0.02	2.73
Variance 2			-0.05	0.03	0.47			0.01	-5.21

Notes

Sample time=1525

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-20 10:34:42

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWC-8  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 407447  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QEDdedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 43.23 ft

Pump placement from TOC 38.23 ft

Well Information:

Well ID ARGWC-8  
Well diameter 2 in  
Well Total Depth 43.22 ft  
Screen Length 10 ft  
Depth to Water 26.15 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6729538 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	10:11:45	1500.03	20.29	6.45	451.83	8.48	26.63	0.12	98.71
Last 5	10:16:45	1800.03	20.38	6.66	451.37	7.85	26.63	0.12	90.86
Last 5	10:21:45	2100.03	20.26	6.36	450.06	6.82	26.63	0.12	99.72
Last 5	10:26:45	2400.03	20.31	6.33	452.06	5.64	26.63	0.11	97.98
Last 5	10:31:45	2700.03	20.30	6.34	451.67	4.06	26.63	0.12	97.12
Variance 0			-0.12	-0.30	-1.31			-0.00	8.87
Variance 1			0.05	-0.03	2.00			-0.00	-1.74
Variance 2			-0.00	0.02	-0.39			0.00	-0.87

Notes

Sample time=1035

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-19 14:24:49

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWC-9  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 38.2 ft

Pump placement from TOC 33.2 ft

Well Information:

Well ID ARGWC-9  
Well diameter 2 in  
Well Total Depth 38.2 ft  
Screen Length 10 ft  
Depth to Water 20.78 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6505027 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 35 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	14:03:02	4499.88	19.38	7.16	70.87	8.79	21.13	6.39	74.47
Last 5	14:08:03	4800.73	19.37	7.18	70.86	7.67	21.13	6.39	73.99
Last 5	14:13:03	5100.73	19.44	7.20	70.81	6.59	21.13	6.36	75.07
Last 5	14:18:03	5400.73	19.37	7.18	70.91	5.21	21.13	6.35	73.54
Last 5	14:23:03	5700.73	19.42	7.21	70.90	4.62	21.13	6.35	72.85
Variance 0			0.07	0.02	-0.05			-0.03	1.08
Variance 1			-0.07	-0.02	0.11			-0.01	-1.54
Variance 2			0.04	0.02	-0.01			0.00	-0.68

Notes

Sample time = 1425

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-19 11:36:18

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWC-10  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 459710  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 38.35 ft

Pump placement from TOC 33.35 ft

Well Information:

Well ID ARGWC-10  
Well diameter 2 in  
Well Total Depth 38.35 ft  
Screen Length 10 ft  
Depth to Water 21.27 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6511722 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 33 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	11:11:20	8700.58	19.32	7.04	91.75	6.18	21.63	4.34	71.18
Last 5	11:16:20	9000.59	19.42	7.05	92.13	5.84	21.63	4.39	70.59
Last 5	11:21:20	9300.58	19.59	7.07	91.64	5.11	21.63	4.39	71.20
Last 5	11:26:20	9600.58	19.32	7.08	91.40	5.10	21.73	4.40	70.66
Last 5	11:31:20	9900.58	19.32	7.06	91.17	4.89	21.63	4.34	70.41
Variance 0			0.17	0.01	-0.49			0.00	0.61
Variance 1			-0.27	0.01	-0.24			0.01	-0.54
Variance 2			0.01	-0.02	-0.23			-0.06	-0.25

Notes

Sample time =1135

Grab Samples



Product Name: Low-Flow System

Date: 2020-08-19 10:13:39

Project Information:

Operator Name Andreas Shorebits  
Company Name Wood  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWC-15  
Latitude 32° 54' 8.95"  
Longitude -83° -40' -57.63"  
Sonde SN 369323  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 39 ft

Pump placement from TOC 38 ft

Well Information:

Well ID ARGWC-15  
Well diameter 2.00 in  
Well Total Depth 43 ft  
Screen Length 10 ft  
Depth to Water 28.22 ft

Pumping Information:

Final Pumping Rate 90 mL/min  
Total System Volume 0.6540735 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 332 in  
Total Volume Pumped 3.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 20
Last 5	09:36:56	1200.03	20.91	6.85	210.84	3.53	30.42	4.08	185.92
Last 5	09:41:56	1500.02	21.04	6.69	211.19	2.74	30.79	4.08	185.88
Last 5	09:46:56	1799.91	21.10	6.60	211.99	2.05	31.17	4.01	185.38
Last 5	09:51:56	2099.91	21.27	6.55	213.17	1.45	31.42	3.87	183.61
Last 5	09:56:56	2399.91	21.08	6.51	214.46	1.48	31.72	3.77	185.10
Variance 0			0.06	-0.09	0.79			-0.07	-0.49
Variance 1			0.17	-0.05	1.19			-0.13	-1.77
Variance 2			-0.19	-0.04	1.29			-0.10	1.49

Notes

Start purging well @ 09:18, stop @ 09:57; Purge rate held constant @ 90 ml/min; Collect sample @ 10:05; pH pre sample collection is 6.47; Weather is sunny 23 degrees C

Grab Samples

ARGWC-15  
Groundwater sample

Product Name: Low-Flow System

Date: 2020-08-19 12:11:47

Project Information:

Operator Name Andreas Shorebits  
Company Name Wood  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWC-16  
Latitude 32° 54' 8.95"  
Longitude -83° -40' -57.63"  
Sonde SN 369323  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 32 ft

Pump placement from TOC 29.5 ft

Well Information:

Well ID ARGWC-16  
Well diameter 2.00 in  
Well Total Depth 34.52 ft  
Screen Length 10 ft  
Depth to Water 20.12 ft

Pumping Information:

Final Pumping Rate 220 mL/min  
Total System Volume 0.6228296 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.2 in  
Total Volume Pumped 7.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 20
Last 5	11:39:07	900.02	20.50	5.32	540.99	0.90	20.14	0.99	241.55
Last 5	11:44:08	1200.40	20.31	5.27	539.22	0.46	20.14	0.78	239.15
Last 5	11:49:08	1500.38	20.28	5.26	539.12	0.32	20.14	0.71	236.07
Last 5	11:54:08	1800.37	20.21	5.25	538.76	0.37	20.14	0.69	233.66
Last 5	11:59:08	2100.38	20.16	5.25	538.94	0.20	20.14	0.68	231.19
Variance 0			-0.03	-0.01	-0.10			-0.07	-3.08
Variance 1			-0.08	-0.01	-0.36			-0.02	-2.41
Variance 2			-0.04	-0.00	0.19			-0.01	-2.47

Notes

Start purging well @ 11:25, stop @ 11:59; Purge rate held steady @ 220 ml/min; Collect sample @ 12:05; pH @ sample collection time is 5.24; Weather is partly cloudy 27 degrees C

Grab Samples

ARGWC-16  
Groundwater sample

Product Name: Low-Flow System

Date: 2020-08-18 15:14:41

Project Information:

Operator Name Andreas Shorebits  
Company Name Wood  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWC-17  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 369323  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 31 ft

Pump placement from TOC 29.50 ft

Well Information:

Well ID ARGWC-17  
Well diameter 2.00 in  
Well Total Depth 34.50 ft  
Screen Length 10 ft  
Depth to Water 21.66 ft

Pumping Information:

Final Pumping Rate 210 mL/min  
Total System Volume 0.6183661 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2.6 in  
Total Volume Pumped 9.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 20
Last 5	14:20:41	1200.22	20.65	5.12	221.49	9.50	22.39	0.60	224.97
Last 5	14:25:41	1500.21	20.59	5.10	223.51	4.84	22.26	0.46	220.51
Last 5	14:30:41	1800.21	20.90	5.09	223.95	3.80	22.25	0.39	219.04
Last 5	14:35:41	2100.22	20.59	5.07	224.11	2.46	22.25	0.34	218.68
Last 5	14:40:41	2400.22	21.02	5.08	224.39	2.24	22.24	0.32	215.52
Variance 0			0.31	-0.00	0.44			-0.07	-1.47
Variance 1			-0.32	-0.03	0.15			-0.05	-0.36
Variance 2			0.43	0.01	0.28			-0.02	-3.17

Notes

Start purging well @ 14:00, stop @ 14:40; Purge rate lowered from initial rate of 325 ml/min to 210 ml/min @ 14:20; Collect sample @ 14:45, pH is 5.07; Weather is sunny 33 degrees C

Grab Samples

ARGWC-17  
Groundwater sample

Product Name: Low-Flow System

Date: 2020-08-20 17:05:38

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright AP3 CCR  
Site Name ARGWC-18  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 407447  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 50.65 ft

Pump placement from TOC 45.65 ft

Well Information:

Well ID ARGWC-18  
Well diameter 2 in  
Well Total Depth 50.65 ft  
Screen Length 10 ft  
Depth to Water 28.28 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.7060724 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 28 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	16:41:01	19208.09	23.98	6.44	592.62	26.00	28.62	0.39	268.24
Last 5	16:46:01	19508.09	23.83	6.44	592.08	26.70	28.62	0.38	256.28
Last 5	16:51:01	19808.09	23.70	6.44	593.07	26.10	28.62	0.38	242.51
Last 5	16:56:01	20108.09	23.76	6.44	592.47	27.10	28.62	0.38	228.05
Last 5	17:01:01	20408.09	23.79	6.43	591.96	26.30	2862.00	0.38	214.76
Variance 0			-0.13	-0.00	0.98			-0.00	-13.76
Variance 1			0.06	-0.00	-0.60			0.00	-14.46
Variance 2			0.03	-0.00	-0.51			-0.00	-13.29

Notes

Sample time =1705.

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-20 15:25:52

Project Information:

Operator Name Andreas Shorebits  
Company Name Wood  
Project Name Plant Arkwright AP3 CCR  
Site Name ARAMW-3  
Latitude 32° 55' 31.01"  
Longitude -83° -42' -30.63"  
Sonde SN 369323  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED Sample Pro  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 66 ft

Pump placement from TOC 62 ft

Well Information:

Well ID ARAMW-3  
Well diameter 2.00 in  
Well Total Depth 67.90 ft  
Screen Length 10 ft  
Depth to Water 25.57 ft

Pumping Information:

Final Pumping Rate 190 mL/min  
Total System Volume 0.6845859 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2.4 in  
Total Volume Pumped 7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 20
Last 5	14:22:02	1500.02	22.20	6.24	333.82	5.66	26.21	0.25	-22.47
Last 5	14:27:02	1800.02	22.33	6.23	334.76	5.49	26.20	0.20	-24.05
Last 5	14:32:02	2100.02	21.55	6.24	336.69	4.39	26.20	0.18	-24.30
Last 5	14:37:02	2400.02	21.39	6.24	338.16	3.97	26.19	0.15	-24.73
Last 5	14:42:02	2699.99	21.26	6.24	340.38	3.37	26.18	0.15	-26.22
Variance 0			-0.78	0.01	1.94			-0.02	-0.25
Variance 1			-0.16	-0.00	1.46			-0.02	-0.43
Variance 2			-0.13	0.00	2.22			-0.01	-1.49

Notes

Start purging well @ 13:59, stop @ 14:42; Initial purge rate of 160 ml/min increased to 190-195 ml/min @ 14:03; Water has strong sulfurous odor; Sample collected @ 14:45; pH during collection is 6.24; Weather is cloudy with thunderstorms 27 degrees C

Grab Samples

ARAMW-3  
Groundwater sample

Product Name: Low-Flow System

Date: 2020-08-20 12:02:04

Project Information:

Operator Name Andreas Shorebits  
Company Name Wood  
Project Name Plant Arkwright AP3 CCR  
Site Name ARAMW-4  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 369323  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED Sample Pro  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 56 ft

Pump placement from TOC 52 ft

Well Information:

Well ID ARAMW-4  
Well diameter 2.00 in  
Well Total Depth 57.72 ft  
Screen Length 10 ft  
Depth to Water 21.44 ft

Pumping Information:

Final Pumping Rate 195 mL/min  
Total System Volume 0.6399516 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.7 in  
Total Volume Pumped 7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 20
Last 5	11:21:52	1500.02	20.51	5.92	1712.92	1.01	21.53	0.22	6.09
Last 5	11:26:52	1800.02	20.58	5.85	1718.18	0.87	21.54	0.19	8.72
Last 5	11:31:52	2100.02	20.68	5.81	1711.91	0.80	21.54	0.17	11.08
Last 5	11:36:52	2400.02	20.64	5.79	1707.67	0.70	21.54	0.15	13.17
Last 5	11:41:52	2700.02	20.55	5.77	1687.25	0.60	21.54	0.13	17.76
Variance 0			0.11	-0.04	-6.26			-0.02	2.35
Variance 1			-0.05	-0.02	-4.25			-0.02	2.09
Variance 2			-0.09	-0.01	-20.42			-0.02	4.60

Notes

Start purging well @ 10:59, stop @ 11:41; Initial purge rate of 100 ml/min increased to 190-200 ml/min @ 11:07; Water has strong sulfurous odor; Collect sample @ 11:45; pH @ collection is 5.77; Weather is clear 28 degrees C

Grab Samples

ARAMW-4  
Groundwater sample

Product Name: Low-Flow System

Date: 2020-08-21 10:35:09

Project Information:

Operator Name Andreas Shorebits  
Company Name Wood  
Project Name Plant Arkwright AP3 CCR  
Site Name ARAMW-6  
Latitude 32° 54' 8.83"  
Longitude -83° -40' -57.39"  
Sonde SN 369323  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type Barnant Co Portable Sampler  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 32.0 ft

Pump placement from TOC 27.0 ft

Well Information:

Well ID ARAMW-6  
Well diameter 2.00 in  
Well Total Depth 32.34 ft  
Screen Length 10 ft  
Depth to Water 13.45 ft

Pumping Information:

Final Pumping Rate 215 mL/min  
Total System Volume 0.3528295 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 1.2 in  
Total Volume Pumped 7.3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 20
Last 5	09:19:25	900.02	20.98	6.36	387.85	4.20	14.33	0.74	-34.19
Last 5	09:24:25	1200.03	21.04	6.34	378.79	2.91	14.34	0.23	-20.73
Last 5	09:29:25	1500.02	21.04	6.34	372.42	0.99	14.34	0.19	-9.15
Last 5	09:34:25	1800.02	21.08	6.33	367.65	0.46	14.35	0.17	-2.37
Last 5	09:39:25	2100.02	21.08	6.32	364.09	0.15	14.34	0.15	1.91
Variance 0			-0.00	-0.01	-6.37			-0.04	11.58
Variance 1			0.04	-0.01	-4.76			-0.02	6.79
Variance 2			-0.00	-0.01	-3.56			-0.02	4.27

Notes

Start purging well @ 09:05, stop @ 09:39; Initial purge rate of 200 ml/min increased to 215 ml/min @ 09:15; Water has strong sulfurous odor; Collect sample @ 09:45; pH during collection is 6.32; Weather is cloudy with light rain 23 degrees C

Grab Samples

ARAMW-6  
Groundwater sample



### Georgia Power Site Sampling Data (GW)

Site Name: **Plant Arkwright AP3**

Date: **8/18-21/2020**

Well ID	Sample Date	Sample Time	Field Blank	Equipment Blank	Field Dup.	Additional Comments
ARGWA-5	8/18/20	1135				
ARGWA-3	8/18/20	1320				
ARGWC-7	8/18/20	1525				
FB#1	8/18/20	1100	FB#1			Field Blank for 8/18/20 beginning of sampling
ARGWC-17	8/18/20	1445				
ARGWA-12	8/18/20	1300				
ARGWA-13	8/18/20	1450				
ARGWA-14	8/19/20	1355				
ARGWC-15	8/19/20	1005				
ARGWC-16	8/19/20	1205				
ARGWC-9	8/19/20	1425				
ARGWC-10	8/19/20	1135				
DUP-1	8/19/20	—			ARGWC-10	Duplicate of ARGWC-10 (DUP-1)
ARGWC-8	8/20/20	1035				
ARGWC-18	8/20/20	1705				Collected Tot + Diss App IV metals Turb 26.3 after 5 hrs, 45 min
ARAMW-4	8/20/20	1145				
ARAMW-3	8/20/20	1445				
ARAMW-6	8/20/20	0945				
EB#1	8/20/20	0930		EB#1		Equip Blank of bladder pump

Additional comments: Field Blank FB#1 was taken at Ash Pond 3 using ASTM Type I/II reagent water. RICCA Brand Lot# 2002A53, Exp 8/2021. Equip Blank EB#1 was collected from QED Sample Pro Bladder Pump ID# 20153 using ASTM Type I/II reagent water RICCA Brand Lot# 2002A53, Exp 08/2021.

## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-111645-1

Client Project/Site: CCR - Plant Arkwright AP-3

**For:**

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
10/29/2020 7:27:42 AM

Shali Brown, Project Manager II  
(615)301-5031  
[Shali.Brown@Eurofinset.com](mailto:Shali.Brown@Eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



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[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

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**Job ID: 180-111645-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

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**Narrative**

**Job Narrative  
180-111645-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 9/30/2020 9:00 AM, 10/1/2020 9:00 AM and 10/2/2020 9:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 2.1° C, 2.7° C, 3.4° C, 3.8° C and 3.8° C.

**GC Semi VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Metals**

Methods 6020A, 6020B: The following samples were diluted due to the nature of the sample matrix: (180-111758-E-1-A ^5), (180-111758-E-1-B MS ^5), (180-111758-E-1-C MSD ^5), (180-111758-E-1-A PDS ^5) and (180-111758-E-1-A SD ^25). Elevated reporting limits (RLs) are provided.

Methods 245.1, 7470A: The laboratory control sample (LCS) for preparation batch 180-332971 and analytical batch 180-333510 recovered outside control limits for the following analytes: Mercury These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Field Service / Mobile Lab**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20 *
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-21
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-21
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-21

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111645-1	ARGWA-5	Water	09/29/20 10:50	09/30/20 09:00	
180-111645-2	ARGWA-3	Water	09/29/20 12:25	09/30/20 09:00	
180-111645-3	ARGWC-7	Water	09/29/20 14:15	09/30/20 09:00	
180-111645-4	ARGWC-16	Water	09/29/20 15:40	09/30/20 09:00	
180-111646-1	ARGWA-14	Water	09/29/20 10:35	09/30/20 09:00	
180-111646-2	ARGWC-15	Water	09/29/20 13:05	09/30/20 09:00	
180-111646-3	ARGWC-17	Water	09/29/20 14:55	09/30/20 09:00	
180-111646-4	DUP-01	Water	09/29/20 00:00	09/30/20 09:00	
180-111647-1	FB-01	Water	09/29/20 09:45	09/30/20 09:00	
180-111647-2	ARGWA-12	Ground Water	09/29/20 11:27	09/30/20 09:00	
180-111647-3	ARGWA-13	Water	09/29/20 13:30	09/30/20 09:00	
180-111689-1	EB-01	Water	09/30/20 09:05	10/01/20 09:00	
180-111689-2	ARAMW-4	Water	09/30/20 12:40	10/01/20 09:00	
180-111689-3	ARAMW-3	Water	09/30/20 16:45	10/01/20 09:00	
180-111689-4	ARGWC-18	Water	09/30/20 16:15	10/01/20 09:00	
180-111743-1	ARGWC-10	Water	10/01/20 11:00	10/02/20 09:00	
180-111743-2	ARGWC-9	Water	10/01/20 14:50	10/02/20 09:00	
180-111743-3	ARAMW-6	Water	10/01/20 14:55	10/02/20 09:00	
180-111743-4	ARGWC-8	Water	10/01/20 11:00	10/02/20 09:00	



# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
Filtration	Sample Filtration	None	TAL PIT

#### Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Client Sample ID: ARGWA-5

## Lab Sample ID: 180-111645-1

Date Collected: 09/29/20 10:50

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 09:27	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334462	10/22/20 14:15	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331934	10/01/20 06:37	AVS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333129	09/29/20 10:50	AGJ	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-3

## Lab Sample ID: 180-111645-2

Date Collected: 09/29/20 12:25

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 09:48	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334462	10/22/20 14:18	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331934	10/01/20 06:37	AVS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333129	09/29/20 12:25	AGJ	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-7

## Lab Sample ID: 180-111645-3

Date Collected: 09/29/20 14:15

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 10:08	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334462	10/22/20 14:21	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331934	10/01/20 06:37	AVS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333129	09/29/20 14:15	AGJ	TAL PIT
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-16**

**Lab Sample ID: 180-111645-4**

**Date Collected: 09/29/20 15:40**

**Matrix: Water**

**Date Received: 09/30/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: INTEGRION		1			332371	10/06/20 10:29	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			334462	10/22/20 14:38	RSK	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	331934	10/01/20 06:37	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			333129	09/29/20 15:40	AGJ	TAL PIT

**Client Sample ID: ARGWA-14**

**Lab Sample ID: 180-111646-1**

**Date Collected: 09/29/20 10:35**

**Matrix: Water**

**Date Received: 09/30/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: INTEGRION		1			332371	10/06/20 10:50	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			334462	10/22/20 14:41	RSK	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	331934	10/01/20 06:37	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			333129	09/29/20 10:35	AGJ	TAL PIT

**Client Sample ID: ARGWC-15**

**Lab Sample ID: 180-111646-2**

**Date Collected: 09/29/20 13:05**

**Matrix: Water**

**Date Received: 09/30/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: INTEGRION		1			332371	10/06/20 11:53	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			334462	10/22/20 14:44	RSK	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	331934	10/01/20 06:37	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			333129	09/29/20 13:05	AGJ	TAL PIT

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Client Sample ID: ARGWC-17

Lab Sample ID: 180-111646-3

Date Collected: 09/29/20 14:55

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 14:40	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334462	10/22/20 14:46	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331934	10/01/20 06:37	AVS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333129	09/29/20 14:55	AGJ	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: DUP-01

Lab Sample ID: 180-111646-4

Date Collected: 09/29/20 00:00

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 15:01	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334462	10/22/20 14:49	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331934	10/01/20 06:37	AVS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333129	09/29/20 00:00	AGJ	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: FB-01

Lab Sample ID: 180-111647-1

Date Collected: 09/29/20 09:45

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 08:24	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334462	10/22/20 14:52	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331996	10/01/20 12:36	GRB	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-12

Lab Sample ID: 180-111647-2

Date Collected: 09/29/20 11:27

Matrix: Ground Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 16:03	MJH	TAL PIT
Instrument ID: INTEGRION										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Client Sample ID: ARGWA-12

## Lab Sample ID: 180-111647-2

Date Collected: 09/29/20 11:27

Matrix: Ground Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334462	10/22/20 14:54	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331996	10/01/20 12:36	GRB	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333130	09/29/20 11:27	AGJ	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-13

## Lab Sample ID: 180-111647-3

Date Collected: 09/29/20 13:30

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 17:06	MJH	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 300.0 R2.1		5			332371	10/06/20 17:27	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334462	10/22/20 14:57	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331996	10/01/20 12:36	GRB	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333130	09/29/20 13:30	AGJ	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: EB-01

## Lab Sample ID: 180-111689-1

Date Collected: 09/30/20 09:05

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 09:06	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334271	10/21/20 20:28	RSK	TAL PIT
Instrument ID: A										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332159	10/02/20 14:35	GRB	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-4

## Lab Sample ID: 180-111689-2

Date Collected: 09/30/20 12:40

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 21:58	MJH	TAL PIT
Instrument ID: INTEGRION										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARAMW-4**

**Lab Sample ID: 180-111689-2**

Date Collected: 09/30/20 12:40

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		10			332371	10/06/20 22:19	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334271	10/21/20 20:31	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332159	10/02/20 14:35	GRB	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	Field Sampling		1			333128	09/30/20 12:40	AGJ	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ARAMW-3**

**Lab Sample ID: 180-111689-3**

Date Collected: 09/30/20 16:45

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/06/20 23:21	MJH	TAL PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334271	10/21/20 20:42	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332159	10/02/20 14:35	GRB	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	Field Sampling		1			333128	09/30/20 16:45	AGJ	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: ARGWC-18**

**Lab Sample ID: 180-111689-4**

Date Collected: 09/30/20 16:15

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332371	10/07/20 00:24	MJH	TAL PIT
		Instrument ID: INTEGRION								
Dissolved	Filtration	Filtration			250 mL	1.0 mL	332490	10/06/20 14:43	KHM	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Dissolved	Analysis	EPA 6020B		1			334271	10/21/20 20:49	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334271	10/21/20 20:45	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332159	10/02/20 14:35	GRB	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	Field Sampling		1			333128	09/30/20 16:15	AGJ	TAL PIT
		Instrument ID: NOEQUIP								

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Client Sample ID: ARGWC-10

## Lab Sample ID: 180-111743-1

Date Collected: 10/01/20 11:00

Matrix: Water

Date Received: 10/02/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332937	10/10/20 21:23	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334271	10/21/20 21:10	RSK	TAL PIT
Instrument ID: A										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333127	10/01/20 11:00	AGJ	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-9

## Lab Sample ID: 180-111743-2

Date Collected: 10/01/20 14:50

Matrix: Water

Date Received: 10/02/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332816	10/09/20 12:27	EPS	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334271	10/21/20 21:14	RSK	TAL PIT
Instrument ID: A										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333127	10/01/20 14:50	AGJ	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-6

## Lab Sample ID: 180-111743-3

Date Collected: 10/01/20 14:55

Matrix: Water

Date Received: 10/02/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332937	10/11/20 01:54	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334271	10/21/20 21:25	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334457	10/22/20 13:11	RSK	TAL PIT
Instrument ID: A										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333127	10/01/20 14:55	AGJ	TAL PIT
Instrument ID: NOEQUIP										



# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-8**

**Lab Sample ID: 180-111743-4**

**Date Collected: 10/01/20 11:00**

**Matrix: Water**

**Date Received: 10/02/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			332937	10/11/20 02:15	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334271	10/21/20 21:28	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			334457	10/22/20 13:15	RSK	TAL PIT
Instrument ID: A										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333127	10/01/20 11:00	AGJ	TAL PIT
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Filtration

KHM = Kyle Mucroski

Batch Type: Prep

KHM = Kyle Mucroski

TJO = Tyler Oliver

Batch Type: Analysis

AGJ = Andy Johnson

AVS = Abbey Smith

EPS = Evan Scheuer

GRB = Gabriel Berghe

MJH = Matthew Hartman

RSK = Robert Kurtz

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWA-5**

**Lab Sample ID: 180-111645-1**

Date Collected: 09/29/20 10:50

Matrix: Water

Date Received: 09/30/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.6		1.0	0.32	mg/L			10/06/20 09:27	1
Fluoride	0.051	J	0.10	0.026	mg/L			10/06/20 09:27	1
Sulfate	<0.38		1.0	0.38	mg/L			10/06/20 09:27	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:15	1
Barium	0.030		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:15	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:15	1
Boron	<0.039		0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:15	1
Calcium	6.6		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:15	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:15	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:15	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:15	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:15	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:15	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:15	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:15	1
Thallium	0.00019	J B	0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:15	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	61		10	10	mg/L			10/01/20 06:37	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.00				SU			09/29/20 10:50	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWA-3**

**Lab Sample ID: 180-111645-2**

Date Collected: 09/29/20 12:25

Matrix: Water

Date Received: 09/30/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.7		1.0	0.32	mg/L			10/06/20 09:48	1
Fluoride	0.065	J	0.10	0.026	mg/L			10/06/20 09:48	1
Sulfate	<0.38		1.0	0.38	mg/L			10/06/20 09:48	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:18	1
Barium	0.019		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:18	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:18	1
Boron	<0.039		0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:18	1
Calcium	5.9		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:18	1
Chromium	0.0030		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:18	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:18	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:18	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:18	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:18	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:18	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:18	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:18	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	62		10	10	mg/L			10/01/20 06:37	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.02				SU			09/29/20 12:25	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-7**

**Lab Sample ID: 180-111645-3**

Date Collected: 09/29/20 14:15

Matrix: Water

Date Received: 09/30/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.1		1.0	0.32	mg/L			10/06/20 10:08	1
Fluoride	0.027	J	0.10	0.026	mg/L			10/06/20 10:08	1
Sulfate	38		1.0	0.38	mg/L			10/06/20 10:08	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:21	1
Barium	0.042		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:21	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:21	1
Boron	0.078	J	0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:21	1
Calcium	11		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:21	1
Chromium	0.0031		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:21	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:21	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:21	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:21	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:21	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:21	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:21	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:21	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		10	10	mg/L			10/01/20 06:37	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.92				SU			09/29/20 14:15	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-16**

**Lab Sample ID: 180-111645-4**

Date Collected: 09/29/20 15:40

Matrix: Water

Date Received: 09/30/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.2		1.0	0.32	mg/L			10/06/20 10:29	1
Fluoride	0.026	J	0.10	0.026	mg/L			10/06/20 10:29	1
Sulfate	200		1.0	0.38	mg/L			10/06/20 10:29	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:38	1
Barium	0.042		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:38	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:38	1
Boron	0.081		0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:38	1
Calcium	39		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:38	1
Chromium	0.0020		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:38	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:38	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:38	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:38	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:38	1
Selenium	0.0025	J	0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:38	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:38	1
Thallium	0.00025	J	0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:38	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	340		10	10	mg/L			10/01/20 06:37	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.50				SU			09/29/20 15:40	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWA-14**

**Lab Sample ID: 180-111646-1**

Date Collected: 09/29/20 10:35

Matrix: Water

Date Received: 09/30/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.1		1.0	0.32	mg/L			10/06/20 10:50	1
Fluoride	0.13		0.10	0.026	mg/L			10/06/20 10:50	1
Sulfate	4.1		1.0	0.38	mg/L			10/06/20 10:50	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00038	J	0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:41	1
Barium	0.062		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:41	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:41	1
Boron	0.039	J	0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:41	1
Calcium	29		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:41	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:41	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:41	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:41	1
Lithium	0.0044	J	0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:41	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:41	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:41	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:41	1
Thallium	0.00019	J	0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:41	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	210		10	10	mg/L			10/01/20 06:37	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.80				SU			09/29/20 10:35	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-15**

**Lab Sample ID: 180-111646-2**

Date Collected: 09/29/20 13:05

Matrix: Water

Date Received: 09/30/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.5		1.0	0.32	mg/L			10/06/20 11:53	1
Fluoride	0.089	J	0.10	0.026	mg/L			10/06/20 11:53	1
Sulfate	7.7		1.0	0.38	mg/L			10/06/20 11:53	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:44	1
Barium	0.030		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:44	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:44	1
Boron	<0.039		0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:44	1
Calcium	25		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:44	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:44	1
Cobalt	0.00030	J	0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:44	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:44	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:44	1
Molybdenum	0.0019	J	0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:44	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:44	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:44	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:44	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	130		10	10	mg/L			10/01/20 06:37	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.11				SU			09/29/20 13:05	1



# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-17**

**Lab Sample ID: 180-111646-3**

Date Collected: 09/29/20 14:55

Matrix: Water

Date Received: 09/30/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.4		1.0	0.32	mg/L			10/06/20 14:40	1
Fluoride	0.029	J	0.10	0.026	mg/L			10/06/20 14:40	1
Sulfate	66		1.0	0.38	mg/L			10/06/20 14:40	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:46	1
Barium	0.056		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:46	1
Beryllium	0.00040	J	0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:46	1
Boron	0.045	J	0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:46	1
Calcium	12		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:46	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:46	1
Cobalt	0.027		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:46	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:46	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:46	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:46	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:46	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:46	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:46	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		10	10	mg/L			10/01/20 06:37	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.75				SU			09/29/20 14:55	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: DUP-01**

**Lab Sample ID: 180-111646-4**

Date Collected: 09/29/20 00:00

Matrix: Water

Date Received: 09/30/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.5		1.0	0.32	mg/L			10/06/20 15:01	1
Fluoride	0.029	J	0.10	0.026	mg/L			10/06/20 15:01	1
Sulfate	69		1.0	0.38	mg/L			10/06/20 15:01	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:49	1
Barium	0.058		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:49	1
Beryllium	0.00040	J	0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:49	1
Boron	0.045	J	0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:49	1
Calcium	13		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:49	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:49	1
Cobalt	0.027		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:49	1
Lead	0.00015	J	0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:49	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:49	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:49	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:49	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:49	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:49	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	140		10	10	mg/L			10/01/20 06:37	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.75				SU			09/29/20 00:00	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: FB-01**

**Lab Sample ID: 180-111647-1**

**Date Collected: 09/29/20 09:45**

**Matrix: Water**

**Date Received: 09/30/20 09:00**

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			10/06/20 08:24	1
Fluoride	<0.026		0.10	0.026	mg/L			10/06/20 08:24	1
Sulfate	<0.38		1.0	0.38	mg/L			10/06/20 08:24	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:52	1
Barium	<0.0016		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:52	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:52	1
Boron	<0.039		0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:52	1
Calcium	<0.13		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:52	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:52	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:52	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:52	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:52	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:52	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:52	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:52	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:52	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/01/20 12:36	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWA-12**

**Lab Sample ID: 180-111647-2**

Date Collected: 09/29/20 11:27

Matrix: Ground Water

Date Received: 09/30/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		1.0	0.32	mg/L			10/06/20 16:03	1
Fluoride	0.060	J	0.10	0.026	mg/L			10/06/20 16:03	1
Sulfate	8.3		1.0	0.38	mg/L			10/06/20 16:03	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:54	1
Barium	0.079		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:54	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:54	1
Boron	<0.039		0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:54	1
Calcium	14		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:54	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:54	1
Cobalt	0.00016	J	0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:54	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:54	1
Lithium	0.0048	J	0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:54	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:54	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:54	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:54	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:54	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	130		10	10	mg/L			10/01/20 12:36	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.88				SU			09/29/20 11:27	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWA-13**

**Lab Sample ID: 180-111647-3**

Date Collected: 09/29/20 13:30

Matrix: Water

Date Received: 09/30/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.7		1.0	0.32	mg/L			10/06/20 17:06	1
Fluoride	0.032	J	0.10	0.026	mg/L			10/06/20 17:06	1
Sulfate	540		5.0	1.9	mg/L			10/06/20 17:27	5

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:57	1
Barium	0.024		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:57	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:57	1
Boron	0.35		0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:57	1
Calcium	120		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:57	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:57	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:57	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:57	1
Lithium	0.0052		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:57	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:57	1
Selenium	0.021		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:57	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:57	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:57	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	880		10	10	mg/L			10/01/20 12:36	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.75				SU			09/29/20 13:30	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: EB-01**

**Lab Sample ID: 180-111689-1**

**Date Collected: 09/30/20 09:05**

**Matrix: Water**

**Date Received: 10/01/20 09:00**

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			10/06/20 09:06	1
Fluoride	<0.026		0.10	0.026	mg/L			10/06/20 09:06	1
Sulfate	<0.38		1.0	0.38	mg/L			10/06/20 09:06	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 20:28	1
Barium	<0.0016		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:28	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:28	1
<b>Boron</b>	<b>0.048</b>	<b>J</b>	0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:28	1
Calcium	<0.13		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:28	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:28	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:28	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:28	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:28	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:28	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:28	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:28	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 20:28	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/02/20 14:35	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARAMW-4**

**Lab Sample ID: 180-111689-2**

Date Collected: 09/30/20 12:40

Matrix: Water

Date Received: 10/01/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.0		1.0	0.32	mg/L			10/06/20 21:58	1
Fluoride	0.028	J	0.10	0.026	mg/L			10/06/20 21:58	1
Sulfate	790		10	3.8	mg/L			10/06/20 22:19	10

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00039	J	0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 20:31	1
Barium	0.053		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:31	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:31	1
Boron	0.36		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:31	1
Calcium	210		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:31	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:31	1
Cobalt	0.0046		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:31	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:31	1
Lithium	0.012		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:31	1
Molybdenum	0.00073	J	0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:31	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:31	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:31	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 20:31	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10	10	mg/L			10/02/20 14:35	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.94				SU			09/30/20 12:40	1



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARAMW-3**

**Lab Sample ID: 180-111689-3**

Date Collected: 09/30/20 16:45

Matrix: Water

Date Received: 10/01/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.5		1.0	0.32	mg/L			10/06/20 23:21	1
Fluoride	0.064	J	0.10	0.026	mg/L			10/06/20 23:21	1
Sulfate	49		1.0	0.38	mg/L			10/06/20 23:21	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 20:42	1
Barium	0.094		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:42	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:42	1
Boron	1.1		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:42	1
Calcium	37		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:42	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:42	1
Cobalt	0.0011	J	0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:42	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:42	1
Lithium	0.0055		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:42	1
Molybdenum	0.0061	J	0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:42	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:42	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:42	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 20:42	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	240		10	10	mg/L			10/02/20 14:35	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.41				SU			09/30/20 16:45	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-18**

**Lab Sample ID: 180-111689-4**

Date Collected: 09/30/20 16:15

Matrix: Water

Date Received: 10/01/20 09:00

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.9		1.0	0.32	mg/L			10/07/20 00:24	1
Fluoride	0.082	J	0.10	0.026	mg/L			10/07/20 00:24	1
Sulfate	170		1.0	0.38	mg/L			10/07/20 00:24	1

## Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 20:45	1
Barium	0.041		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:45	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:45	1
Boron	2.6		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:45	1
Calcium	52		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:45	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:45	1
Cobalt	0.0013	J	0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:45	1
Lead	0.00020	J	0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:45	1
Lithium	0.0048	J	0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:45	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:45	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:45	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:45	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 20:45	1

## Method: EPA 6020B - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 20:49	1
Barium	0.037		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:49	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:49	1
Boron	2.7		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:49	1
Calcium	53		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:49	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:49	1
Cobalt	0.0012	J	0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:49	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:49	1
Lithium	0.0046	J	0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:49	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:49	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:49	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:49	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 20:49	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		10	10	mg/L			10/02/20 14:35	1

## Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.98				SU			09/30/20 16:15	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-111743-1**

Date Collected: 10/01/20 11:00

Matrix: Water

Date Received: 10/02/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.9		1.0	0.32	mg/L			10/10/20 21:23	1
Fluoride	0.048	J	0.10	0.026	mg/L			10/10/20 21:23	1
Sulfate	<0.38		1.0	0.38	mg/L			10/10/20 21:23	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 21:10	1
Barium	0.032		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 21:10	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 21:10	1
Boron	0.082		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 21:10	1
Calcium	8.1		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 21:10	1
Chromium	0.0047		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 21:10	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 21:10	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 21:10	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 21:10	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 21:10	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 21:10	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 21:10	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 21:10	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	93		10	10	mg/L			10/05/20 15:06	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.83				SU			10/01/20 11:00	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-9**

**Lab Sample ID: 180-111743-2**

Date Collected: 10/01/20 14:50

Matrix: Water

Date Received: 10/02/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.5		1.0	0.32	mg/L			10/09/20 12:27	1
Fluoride	0.041	J	0.10	0.026	mg/L			10/09/20 12:27	1
Sulfate	0.82	J	1.0	0.38	mg/L			10/09/20 12:27	1

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 21:14	1
Barium	0.045		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 21:14	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 21:14	1
Boron	0.041	J	0.080	0.039	mg/L		10/13/20 09:41	10/21/20 21:14	1
Calcium	5.7		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 21:14	1
Chromium	0.0075		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 21:14	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 21:14	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 21:14	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 21:14	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 21:14	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 21:14	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 21:14	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 21:14	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	55		10	10	mg/L			10/05/20 15:06	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.78				SU			10/01/20 14:50	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARAMW-6**

**Lab Sample ID: 180-111743-3**

Date Collected: 10/01/20 14:55

Matrix: Water

Date Received: 10/02/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.0		1.0	0.32	mg/L			10/11/20 01:54	1
Fluoride	0.071	J	0.10	0.026	mg/L			10/11/20 01:54	1
Sulfate	58		1.0	0.38	mg/L			10/11/20 01:54	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 21:25	1
Barium	0.044		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 21:25	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 21:25	1
Boron	1.1		0.080	0.039	mg/L		10/13/20 09:41	10/22/20 13:11	1
Calcium	38		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 21:25	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 21:25	1
Cobalt	0.0018	J	0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 21:25	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 21:25	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 21:25	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 21:25	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 21:25	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 21:25	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 21:25	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	220		10	10	mg/L			10/05/20 15:06	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.37				SU			10/01/20 14:55	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

**Client Sample ID: ARGWC-8**

**Lab Sample ID: 180-111743-4**

Date Collected: 10/01/20 11:00

Matrix: Water

Date Received: 10/02/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.0		1.0	0.32	mg/L			10/11/20 02:15	1
Fluoride	0.14		0.10	0.026	mg/L			10/11/20 02:15	1
Sulfate	57		1.0	0.38	mg/L			10/11/20 02:15	1

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 21:28	1
Barium	0.052		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 21:28	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 21:28	1
Boron	1.2		0.080	0.039	mg/L		10/13/20 09:41	10/22/20 13:15	1
Calcium	52		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 21:28	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 21:28	1
Cobalt	0.00021	J	0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 21:28	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 21:28	1
Lithium	0.0035	J	0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 21:28	1
Molybdenum	0.043		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 21:28	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 21:28	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 21:28	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 21:28	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	270		10	10	mg/L			10/05/20 15:06	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.44				SU			10/01/20 11:00	1

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: MB 180-332371/38**  
**Matrix: Water**  
**Analysis Batch: 332371**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			10/06/20 19:11	1
Fluoride	<0.026		0.10	0.026	mg/L			10/06/20 19:11	1
Sulfate	<0.38		1.0	0.38	mg/L			10/06/20 19:11	1

**Lab Sample ID: MB 180-332371/6**  
**Matrix: Water**  
**Analysis Batch: 332371**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			10/06/20 05:29	1
Fluoride	<0.026		0.10	0.026	mg/L			10/06/20 05:29	1
Sulfate	<0.38		1.0	0.38	mg/L			10/06/20 05:29	1

**Lab Sample ID: LCS 180-332371/37**  
**Matrix: Water**  
**Analysis Batch: 332371**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.4		mg/L		97	90 - 110
Fluoride	2.50	2.38		mg/L		95	90 - 110
Sulfate	50.0	47.0		mg/L		94	90 - 110

**Lab Sample ID: LCS 180-332371/5**  
**Matrix: Water**  
**Analysis Batch: 332371**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.6		mg/L		99	90 - 110
Fluoride	2.50	2.40		mg/L		96	90 - 110
Sulfate	50.0	48.2		mg/L		96	90 - 110

**Lab Sample ID: 180-111646-2 MS**  
**Matrix: Water**  
**Analysis Batch: 332371**

**Client Sample ID: ARGWC-15**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.5		50.0	51.9		mg/L		99	90 - 110
Fluoride	0.089	J	2.50	2.55		mg/L		98	90 - 110
Sulfate	7.7		50.0	56.4		mg/L		97	90 - 110

**Lab Sample ID: 180-111646-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 332371**

**Client Sample ID: ARGWC-15**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2.5		50.0	52.3		mg/L		100	90 - 110	1	20
Fluoride	0.089	J	2.50	2.58		mg/L		100	90 - 110	1	20
Sulfate	7.7		50.0	56.8		mg/L		98	90 - 110	1	20

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: 180-111647-2 MS**  
**Matrix: Ground Water**  
**Analysis Batch: 332371**

**Client Sample ID: ARGWA-12**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	12		50.0	58.5		mg/L		94	90 - 110
Fluoride	0.060	J	2.50	2.43		mg/L		95	90 - 110
Sulfate	8.3		50.0	55.2		mg/L		94	90 - 110

**Lab Sample ID: 180-111647-2 MSD**  
**Matrix: Ground Water**  
**Analysis Batch: 332371**

**Client Sample ID: ARGWA-12**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	12		50.0	60.8		mg/L		98	90 - 110	4	20
Fluoride	0.060	J	2.50	2.55		mg/L		99	90 - 110	5	20
Sulfate	8.3		50.0	57.4		mg/L		98	90 - 110	4	20

**Lab Sample ID: MB 180-332816/6**  
**Matrix: Water**  
**Analysis Batch: 332816**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			10/09/20 10:01	1
Fluoride	<0.026		0.10	0.026	mg/L			10/09/20 10:01	1
Sulfate	<0.38		1.0	0.38	mg/L			10/09/20 10:01	1

**Lab Sample ID: LCS 180-332816/5**  
**Matrix: Water**  
**Analysis Batch: 332816**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.0		mg/L		98	90 - 110
Fluoride	2.50	2.42		mg/L		97	90 - 110
Sulfate	50.0	47.4		mg/L		95	90 - 110

**Lab Sample ID: MB 180-332937/43**  
**Matrix: Water**  
**Analysis Batch: 332937**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			10/10/20 21:02	1
Fluoride	<0.026		0.10	0.026	mg/L			10/10/20 21:02	1
Sulfate	<0.38		1.0	0.38	mg/L			10/10/20 21:02	1

**Lab Sample ID: LCS 180-332937/42**  
**Matrix: Water**  
**Analysis Batch: 332937**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.2		mg/L		98	90 - 110
Fluoride	2.50	2.39		mg/L		95	90 - 110
Sulfate	50.0	47.7		mg/L		95	90 - 110

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: 180-111743-1 MS**  
**Matrix: Water**  
**Analysis Batch: 332937**

**Client Sample ID: ARGWC-10**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.9		50.0	51.5		mg/L		95	90 - 110
Fluoride	0.048	J	2.50	2.46		mg/L		97	90 - 110
Sulfate	<0.38		50.0	47.6		mg/L		95	90 - 110

**Lab Sample ID: 180-111743-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 332937**

**Client Sample ID: ARGWC-10**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.9		50.0	51.4		mg/L		95	90 - 110	0	20
Fluoride	0.048	J	2.50	2.46		mg/L		96	90 - 110	0	20
Sulfate	<0.38		50.0	47.7		mg/L		95	90 - 110	0	20

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-333113/1-A**  
**Matrix: Water**  
**Analysis Batch: 334462**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333113**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/12/20 15:58	10/22/20 14:08	1
Barium	<0.0016		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:08	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:08	1
Boron	<0.039		0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:08	1
Calcium	<0.13		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:08	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:08	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:08	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:08	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:08	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:08	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:08	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:08	1
Thallium	0.000208	J	0.0010	0.00015	mg/L		10/12/20 15:58	10/22/20 14:08	1

**Lab Sample ID: LCS 180-333113/2-A**  
**Matrix: Water**  
**Analysis Batch: 334462**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333113**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.02		mg/L		102	80 - 120
Barium	1.00	0.998		mg/L		100	80 - 120
Beryllium	0.500	0.516		mg/L		103	80 - 120
Boron	1.25	1.11		mg/L		89	80 - 120
Calcium	25.0	27.6		mg/L		110	80 - 120
Chromium	0.500	0.502		mg/L		100	80 - 120
Cobalt	0.500	0.502		mg/L		100	80 - 120
Lead	0.500	0.505		mg/L		101	80 - 120
Lithium	0.500	0.489		mg/L		98	80 - 120
Molybdenum	0.500	0.525		mg/L		105	80 - 120

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 180-333113/2-A**  
**Matrix: Water**  
**Analysis Batch: 334462**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333113**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	1.00	1.05		mg/L		105	80 - 120
Silver	0.250	0.251		mg/L		101	80 - 120
Thallium	1.00	1.01		mg/L		101	80 - 120

**Lab Sample ID: 180-111645-3 MS**  
**Matrix: Water**  
**Analysis Batch: 334462**

**Client Sample ID: ARGWC-7**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333113**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.00031		1.00	1.01		mg/L		101	75 - 125
Barium	0.042		1.00	1.05		mg/L		101	75 - 125
Beryllium	<0.00018		0.500	0.507		mg/L		101	75 - 125
Boron	0.078	J	1.25	1.18		mg/L		88	75 - 125
Calcium	11		25.0	37.3		mg/L		106	75 - 125
Chromium	0.0031		0.500	0.499		mg/L		99	75 - 125
Cobalt	<0.00013		0.500	0.499		mg/L		100	75 - 125
Lead	<0.00013		0.500	0.484		mg/L		97	75 - 125
Lithium	<0.0034		0.500	0.484		mg/L		97	75 - 125
Molybdenum	<0.00061		0.500	0.527		mg/L		105	75 - 125
Selenium	<0.0015		1.00	1.02		mg/L		102	75 - 125
Silver	<0.00018		0.250	0.252		mg/L		101	75 - 125
Thallium	<0.00015		1.00	0.994		mg/L		99	75 - 125

**Lab Sample ID: 180-111645-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 334462**

**Client Sample ID: ARGWC-7**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333113**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	<0.00031		1.00	1.03		mg/L		103	75 - 125	1	20
Barium	0.042		1.00	1.07		mg/L		103	75 - 125	2	20
Beryllium	<0.00018		0.500	0.511		mg/L		102	75 - 125	1	20
Boron	0.078	J	1.25	1.20		mg/L		90	75 - 125	1	20
Calcium	11		25.0	37.5		mg/L		107	75 - 125	1	20
Chromium	0.0031		0.500	0.505		mg/L		100	75 - 125	1	20
Cobalt	<0.00013		0.500	0.506		mg/L		101	75 - 125	1	20
Lead	<0.00013		0.500	0.498		mg/L		100	75 - 125	3	20
Lithium	<0.0034		0.500	0.489		mg/L		98	75 - 125	1	20
Molybdenum	<0.00061		0.500	0.530		mg/L		106	75 - 125	1	20
Selenium	<0.0015		1.00	1.04		mg/L		104	75 - 125	2	20
Silver	<0.00018		0.250	0.254		mg/L		102	75 - 125	1	20
Thallium	<0.00015		1.00	1.02		mg/L		102	75 - 125	3	20

**Lab Sample ID: MB 180-333214/1-A**  
**Matrix: Water**  
**Analysis Batch: 334271**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333214**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 19:59	1
Barium	<0.0016		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 19:59	1

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# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 180-333214/1-A**  
**Matrix: Water**  
**Analysis Batch: 334271**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333214**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 19:59	1
Boron	<0.039		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 19:59	1
Calcium	<0.13		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 19:59	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 19:59	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 19:59	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 19:59	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 19:59	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 19:59	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 19:59	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 19:59	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 19:59	1

**Lab Sample ID: MB 180-333214/1-A**  
**Matrix: Water**  
**Analysis Batch: 334457**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333214**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		10/13/20 09:41	10/22/20 13:04	1

**Lab Sample ID: LCS 180-333214/2-A**  
**Matrix: Water**  
**Analysis Batch: 334271**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333214**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	1.00	1.06		mg/L		106	80 - 120
Barium	1.00	1.06		mg/L		106	80 - 120
Beryllium	0.500	0.531		mg/L		106	80 - 120
Boron	1.25	1.34		mg/L		107	80 - 120
Chromium	0.500	0.524		mg/L		105	80 - 120
Cobalt	0.500	0.524		mg/L		105	80 - 120
Lead	0.500	0.526		mg/L		105	80 - 120
Lithium	0.500	0.509		mg/L		102	80 - 120
Molybdenum	0.500	0.530		mg/L		106	80 - 120
Selenium	1.00	1.04		mg/L		104	80 - 120
Silver	0.250	0.257		mg/L		103	80 - 120
Thallium	1.00	1.13		mg/L		113	80 - 120

**Lab Sample ID: LCS 180-333214/2-A**  
**Matrix: Water**  
**Analysis Batch: 334457**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 333214**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	25.0	27.7		mg/L		111	80 - 120

**Lab Sample ID: PB 180-332490/1-G**  
**Matrix: Water**  
**Analysis Batch: 334271**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 333214**

Analyte	PB Result	PB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 20:03	1

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: PB 180-332490/1-G**  
**Matrix: Water**  
**Analysis Batch: 334271**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 333214**

Analyte	PB Result	PB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.0016		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:03	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:03	1
Boron	<0.039		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:03	1
Calcium	<0.13		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:03	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:03	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:03	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:03	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:03	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:03	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:03	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:03	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/13/20 09:41	10/21/20 20:03	1

**Lab Sample ID: LCS 180-332490/2-G**  
**Matrix: Water**  
**Analysis Batch: 334271**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 333214**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.01		mg/L		101	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Beryllium	0.500	0.500		mg/L		100	80 - 120
Boron	1.25	1.25		mg/L		100	80 - 120
Calcium	25.0	28.8		mg/L		115	80 - 120
Chromium	0.500	0.497		mg/L		99	80 - 120
Cobalt	0.500	0.499		mg/L		100	80 - 120
Lead	0.500	0.505		mg/L		101	80 - 120
Lithium	0.500	0.483		mg/L		97	80 - 120
Molybdenum	0.500	0.509		mg/L		102	80 - 120
Selenium	1.00	0.985		mg/L		98	80 - 120
Silver	0.250	0.248		mg/L		99	80 - 120
Thallium	1.00	1.09		mg/L		109	80 - 120

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: MB 180-331934/2**  
**Matrix: Water**  
**Analysis Batch: 331934**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/01/20 06:37	1

**Lab Sample ID: LCS 180-331934/1**  
**Matrix: Water**  
**Analysis Batch: 331934**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	632	626		mg/L		99	80 - 120

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

**Lab Sample ID: 180-111645-4 DU**  
**Matrix: Water**  
**Analysis Batch: 331934**

**Client Sample ID: ARGWC-16**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	340		344		mg/L		1	10

**Lab Sample ID: MB 180-331996/2**  
**Matrix: Water**  
**Analysis Batch: 331996**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/01/20 12:36	1

**Lab Sample ID: LCS 180-331996/1**  
**Matrix: Water**  
**Analysis Batch: 331996**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	714	606		mg/L		85	80 - 120

**Lab Sample ID: MB 180-332159/2**  
**Matrix: Water**  
**Analysis Batch: 332159**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/02/20 14:35	1

**Lab Sample ID: LCS 180-332159/1**  
**Matrix: Water**  
**Analysis Batch: 332159**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	714	742		mg/L		104	80 - 120

**Lab Sample ID: 180-111689-2 DU**  
**Matrix: Water**  
**Analysis Batch: 332159**

**Client Sample ID: ARAMW-4**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	1300		1330		mg/L		0.6	10

**Lab Sample ID: MB 180-332329/2**  
**Matrix: Water**  
**Analysis Batch: 332329**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/05/20 15:06	1

**Lab Sample ID: LCS 180-332329/1**  
**Matrix: Water**  
**Analysis Batch: 332329**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	357	336		mg/L		94	80 - 120

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## HPLC/IC

### Analysis Batch: 332371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111645-1	ARGWA-5	Total/NA	Water	EPA 300.0 R2.1	
180-111645-2	ARGWA-3	Total/NA	Water	EPA 300.0 R2.1	
180-111645-3	ARGWC-7	Total/NA	Water	EPA 300.0 R2.1	
180-111645-4	ARGWC-16	Total/NA	Water	EPA 300.0 R2.1	
180-111646-1	ARGWA-14	Total/NA	Water	EPA 300.0 R2.1	
180-111646-2	ARGWC-15	Total/NA	Water	EPA 300.0 R2.1	
180-111646-3	ARGWC-17	Total/NA	Water	EPA 300.0 R2.1	
180-111646-4	DUP-01	Total/NA	Water	EPA 300.0 R2.1	
180-111647-1	FB-01	Total/NA	Water	EPA 300.0 R2.1	
180-111647-2	ARGWA-12	Total/NA	Ground Water	EPA 300.0 R2.1	
180-111647-3	ARGWA-13	Total/NA	Water	EPA 300.0 R2.1	
180-111647-3	ARGWA-13	Total/NA	Water	EPA 300.0 R2.1	
180-111689-1	EB-01	Total/NA	Water	EPA 300.0 R2.1	
180-111689-2	ARAMW-4	Total/NA	Water	EPA 300.0 R2.1	
180-111689-2	ARAMW-4	Total/NA	Water	EPA 300.0 R2.1	
180-111689-3	ARAMW-3	Total/NA	Water	EPA 300.0 R2.1	
180-111689-4	ARGWC-18	Total/NA	Water	EPA 300.0 R2.1	
MB 180-332371/38	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
MB 180-332371/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-332371/37	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-332371/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-111646-2 MS	ARGWC-15	Total/NA	Water	EPA 300.0 R2.1	
180-111646-2 MSD	ARGWC-15	Total/NA	Water	EPA 300.0 R2.1	
180-111647-2 MS	ARGWA-12	Total/NA	Ground Water	EPA 300.0 R2.1	
180-111647-2 MSD	ARGWA-12	Total/NA	Ground Water	EPA 300.0 R2.1	

### Analysis Batch: 332816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111743-2	ARGWC-9	Total/NA	Water	EPA 300.0 R2.1	
MB 180-332816/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-332816/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 332937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111743-1	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	
180-111743-3	ARAMW-6	Total/NA	Water	EPA 300.0 R2.1	
180-111743-4	ARGWC-8	Total/NA	Water	EPA 300.0 R2.1	
MB 180-332937/43	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-332937/42	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-111743-1 MS	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	
180-111743-1 MSD	ARGWC-10	Total/NA	Water	EPA 300.0 R2.1	

## Metals

### Filtration Batch: 332490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111689-4	ARGWC-18	Dissolved	Water	Filtration	
PB 180-332490/1-G	Method Blank	Dissolved	Water	Filtration	
LCS 180-332490/2-G	Lab Control Sample	Dissolved	Water	Filtration	

Eurofins TestAmerica, Pittsburgh



# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Metals

### Prep Batch: 333113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111645-1	ARGWA-5	Total Recoverable	Water	3005A	
180-111645-2	ARGWA-3	Total Recoverable	Water	3005A	
180-111645-3	ARGWC-7	Total Recoverable	Water	3005A	
180-111645-4	ARGWC-16	Total Recoverable	Water	3005A	
180-111646-1	ARGWA-14	Total Recoverable	Water	3005A	
180-111646-2	ARGWC-15	Total Recoverable	Water	3005A	
180-111646-3	ARGWC-17	Total Recoverable	Water	3005A	
180-111646-4	DUP-01	Total Recoverable	Water	3005A	
180-111647-1	FB-01	Total Recoverable	Water	3005A	
180-111647-2	ARGWA-12	Total Recoverable	Ground Water	3005A	
180-111647-3	ARGWA-13	Total Recoverable	Water	3005A	
MB 180-333113/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-333113/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-111645-3 MS	ARGWC-7	Total Recoverable	Water	3005A	
180-111645-3 MSD	ARGWC-7	Total Recoverable	Water	3005A	

### Prep Batch: 333214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111689-1	EB-01	Total Recoverable	Water	3005A	
180-111689-2	ARAMW-4	Total Recoverable	Water	3005A	
180-111689-3	ARAMW-3	Total Recoverable	Water	3005A	
180-111689-4	ARGWC-18	Dissolved	Water	3005A	332490
180-111689-4	ARGWC-18	Total Recoverable	Water	3005A	
180-111743-1	ARGWC-10	Total Recoverable	Water	3005A	
180-111743-2	ARGWC-9	Total Recoverable	Water	3005A	
180-111743-3	ARAMW-6	Total Recoverable	Water	3005A	
180-111743-4	ARGWC-8	Total Recoverable	Water	3005A	
MB 180-333214/1-A	Method Blank	Total Recoverable	Water	3005A	
PB 180-332490/1-G	Method Blank	Dissolved	Water	3005A	332490
LCS 180-332490/2-G	Lab Control Sample	Dissolved	Water	3005A	332490
LCS 180-333214/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 334271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111689-1	EB-01	Total Recoverable	Water	EPA 6020B	333214
180-111689-2	ARAMW-4	Total Recoverable	Water	EPA 6020B	333214
180-111689-3	ARAMW-3	Total Recoverable	Water	EPA 6020B	333214
180-111689-4	ARGWC-18	Dissolved	Water	EPA 6020B	333214
180-111689-4	ARGWC-18	Total Recoverable	Water	EPA 6020B	333214
180-111743-1	ARGWC-10	Total Recoverable	Water	EPA 6020B	333214
180-111743-2	ARGWC-9	Total Recoverable	Water	EPA 6020B	333214
180-111743-3	ARAMW-6	Total Recoverable	Water	EPA 6020B	333214
180-111743-4	ARGWC-8	Total Recoverable	Water	EPA 6020B	333214
MB 180-333214/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	333214
PB 180-332490/1-G	Method Blank	Dissolved	Water	EPA 6020B	333214
LCS 180-332490/2-G	Lab Control Sample	Dissolved	Water	EPA 6020B	333214
LCS 180-333214/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	333214

### Analysis Batch: 334457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111743-3	ARAMW-6	Total Recoverable	Water	EPA 6020B	333214

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## Metals (Continued)

### Analysis Batch: 334457 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111743-4	ARGWC-8	Total Recoverable	Water	EPA 6020B	333214
MB 180-333214/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	333214
LCS 180-333214/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	333214

### Analysis Batch: 334462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111645-1	ARGWA-5	Total Recoverable	Water	EPA 6020B	333113
180-111645-2	ARGWA-3	Total Recoverable	Water	EPA 6020B	333113
180-111645-3	ARGWC-7	Total Recoverable	Water	EPA 6020B	333113
180-111645-4	ARGWC-16	Total Recoverable	Water	EPA 6020B	333113
180-111646-1	ARGWA-14	Total Recoverable	Water	EPA 6020B	333113
180-111646-2	ARGWC-15	Total Recoverable	Water	EPA 6020B	333113
180-111646-3	ARGWC-17	Total Recoverable	Water	EPA 6020B	333113
180-111646-4	DUP-01	Total Recoverable	Water	EPA 6020B	333113
180-111647-1	FB-01	Total Recoverable	Water	EPA 6020B	333113
180-111647-2	ARGWA-12	Total Recoverable	Ground Water	EPA 6020B	333113
180-111647-3	ARGWA-13	Total Recoverable	Water	EPA 6020B	333113
MB 180-333113/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	333113
LCS 180-333113/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	333113
180-111645-3 MS	ARGWC-7	Total Recoverable	Water	EPA 6020B	333113
180-111645-3 MSD	ARGWC-7	Total Recoverable	Water	EPA 6020B	333113

## General Chemistry

### Analysis Batch: 331934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111645-1	ARGWA-5	Total/NA	Water	SM 2540C	
180-111645-2	ARGWA-3	Total/NA	Water	SM 2540C	
180-111645-3	ARGWC-7	Total/NA	Water	SM 2540C	
180-111645-4	ARGWC-16	Total/NA	Water	SM 2540C	
180-111646-1	ARGWA-14	Total/NA	Water	SM 2540C	
180-111646-2	ARGWC-15	Total/NA	Water	SM 2540C	
180-111646-3	ARGWC-17	Total/NA	Water	SM 2540C	
180-111646-4	DUP-01	Total/NA	Water	SM 2540C	
MB 180-331934/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-331934/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-111645-4 DU	ARGWC-16	Total/NA	Water	SM 2540C	

### Analysis Batch: 331996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111647-1	FB-01	Total/NA	Water	SM 2540C	
180-111647-2	ARGWA-12	Total/NA	Ground Water	SM 2540C	
180-111647-3	ARGWA-13	Total/NA	Water	SM 2540C	
MB 180-331996/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-331996/1	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 332159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111689-1	EB-01	Total/NA	Water	SM 2540C	
180-111689-2	ARAMW-4	Total/NA	Water	SM 2540C	
180-111689-3	ARAMW-3	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-1

## General Chemistry (Continued)

### Analysis Batch: 332159 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111689-4	ARGWC-18	Total/NA	Water	SM 2540C	
MB 180-332159/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-332159/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-111689-2 DU	ARAMW-4	Total/NA	Water	SM 2540C	

### Analysis Batch: 332329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111743-1	ARGWC-10	Total/NA	Water	SM 2540C	
180-111743-2	ARGWC-9	Total/NA	Water	SM 2540C	
180-111743-3	ARAMW-6	Total/NA	Water	SM 2540C	
180-111743-4	ARGWC-8	Total/NA	Water	SM 2540C	
MB 180-332329/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-332329/1	Lab Control Sample	Total/NA	Water	SM 2540C	

## Field Service / Mobile Lab

### Analysis Batch: 333127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111743-1	ARGWC-10	Total/NA	Water	Field Sampling	
180-111743-2	ARGWC-9	Total/NA	Water	Field Sampling	
180-111743-3	ARAMW-6	Total/NA	Water	Field Sampling	
180-111743-4	ARGWC-8	Total/NA	Water	Field Sampling	

### Analysis Batch: 333128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111689-2	ARAMW-4	Total/NA	Water	Field Sampling	
180-111689-3	ARAMW-3	Total/NA	Water	Field Sampling	
180-111689-4	ARGWC-18	Total/NA	Water	Field Sampling	

### Analysis Batch: 333129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111645-1	ARGWA-5	Total/NA	Water	Field Sampling	
180-111645-2	ARGWA-3	Total/NA	Water	Field Sampling	
180-111645-3	ARGWC-7	Total/NA	Water	Field Sampling	
180-111645-4	ARGWC-16	Total/NA	Water	Field Sampling	
180-111646-1	ARGWA-14	Total/NA	Water	Field Sampling	
180-111646-2	ARGWC-15	Total/NA	Water	Field Sampling	
180-111646-3	ARGWC-17	Total/NA	Water	Field Sampling	
180-111646-4	DUP-01	Total/NA	Water	Field Sampling	

### Analysis Batch: 333130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111647-2	ARGWA-12	Total/NA	Ground Water	Field Sampling	
180-111647-3	ARGWA-13	Total/NA	Water	Field Sampling	













<b>Client Information</b>	Sampler: <b>E. Guillen, A. Shredits</b>	Lab PM: <b>Brown, Shali</b>	Carrier Tracking No(s):	DCC No: <b>180-64149-11995.2</b>
Client Contact: <b>Joju Abraham</b>	Phone:	E-Mail: <b>Shali.Brown@Eurofinset.com</b>		Page: <b>2 of 3</b>
Company: <b>Southern Company</b>	Analysis Requested			Job #:

Address: <b>241 Ralph McGill Blvd SE B10185</b>	Due Date Requested: <b>standard</b>	Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 9315_Ra226 - Radium 226 6020B - Custom 16 (App III/Apply + Silver) 300_ORGEM_28D - Chloride Fluoride Sulfate 2540C_Cated - Total Dissolved Solids 9320_Ra226 - Radium 228 7470A - Mercury	Total Number of containers	Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - As/NaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)
City: <b>Atlanta</b>	TAT Requested (days):			Other:
State, Zip: <b>GA, 30308</b>	PO #: <b>GPC11064570</b>			
Phone:	WC #:			
Email: <b>JAbraham@southernco.com</b>	Project #: <b>18020201</b>			
Project Name: <b>CCR - Plant Arkwright</b>	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=wastefl, BT=Tissue, A=As)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 16 (App III/Apply + Silver)	300_ORGEM_28D - Chloride Fluoride Sulfate	2540C_Cated - Total Dissolved Solids	9320_Ra226 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	D	D	N	N	X	X	X	
<b>ARGWC-10</b>	<b>10/1/20</b>	<b>1100</b>	<b>G</b>	<b>W</b>									<b>3</b>	<b>pH=5.83</b>
<b>ARGWC-9</b>		<b>1450</b>	<b>G</b>	<b>W</b>									<b>3</b>	<b>pH=5.78</b>
<b>ARAMW-6</b>		<b>1455</b>	<b>G</b>	<b>W</b>									<b>3</b>	<b>pH=6.37</b>
<b>ARGWC-8</b>		<b>1100</b>	<b>G</b>	<b>W</b>									<b>3</b>	<b>pH=6.44</b>



Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
---	--

Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Special Instructions/QC Requirements: \_\_\_\_\_

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <b>David Howard</b>	Date/Time: <b>10/1/20/1820</b>	Company: <b>Wood</b>	Received by: <b>[Signature]</b>
Relinquished by:	Date/Time:	Company:	Received by:
Relinquished by:	Date/Time:	Company:	Received by:
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	



# Do Not Lift Using This Tag

ORIGIN ID:MCNA (770) 421-3382  
DANIEL HOWARD  
AMEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

SHIP DATE: 29SEP20  
ACTWGT: 59.45 LB  
CAD: 6994493/SSFE2121  
DIMS: 24x13x14 IN  
BILL THIRD PARTY

Part # 152297466-1180218107 08/21

TO **SAMPLE RECEIVING**  
**EUROFINS TEST AMERICA**  
**301 ALPHA DR**  
**RIDC**  
**PITT**

(412) 863-  
INU  
P01



180-111645 Waybill



**FedEx**  
Express



1091700200007

TRK# 8121 9394 4889  
0215

WED - 30 SEP 10:30A  
PRIORITY OVERNIGHT

DSR  
15238

# NA AGCA

PA-US PIT

Uncorrected temp  
Thermometer ID

38 °C  
14

CF 0 Initials JJ

PT-WI-SR-001 effective 11/8/18



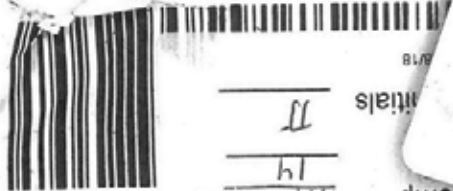
RT **97**

1  
10:30

**A**  
4889  
09:30

FZ 1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



Temp °C  
 2.7  
 14  
 Initials JJ

**NA AGCA**

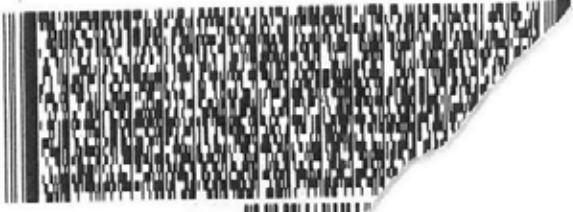
PA-US  
 PIT  
 15238

WED - 30 SEP 10:30A  
 PRIORITY OVERNIGHT  
 DSR

TRK# 8121 9394 4856  
 0215



180-117846 W/aj/ohh



REF 1  
 REF 1  
 A 15238

AFRICA

SHIP DATE: 29SEP20  
 ACTWGT: 57.25 LB  
 CAD: 6984493/SSFE2121  
 DIMS: 24x13x14 IN  
 BILL THIRD PARTY

FedEx Tube  
 Other

Apply to  
 less than 100 lbs





James Coyne

charges up to 150 lbs.  
weight over 99 lbs. under  
Express Freight US Adult

MCMA (770) 421-3382  
WARD  
E+IS)

SHIP DATE: 30SEP20  
WT: 57.65 LB  
92/SSFE2121

Part # 1562370400-2500000000-00021

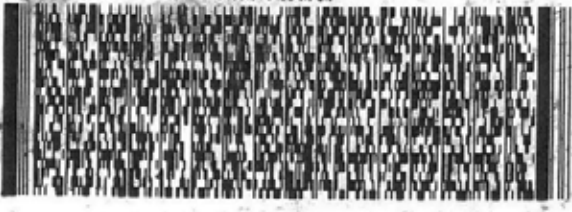
TY RD NW STE 100  
0144  
US

RT 97

1  
10:30 A  
4801  
10.01

TO: SAMPLE RECEIVING  
EUROFINS TEST AME  
301 ALPHA DR  
RIDC PARK  
PITTSBURGH PA 15238

(412) 963-7058



FedEx  
Express



TRK# 8121 9394 4801  
0215

THU - 01 OCT 10:30A  
PRIORITY OVERNIGHT

NA AGCA

DSR  
15238  
PIT  
PA-US

Uncorrected temp  
Thermometer ID

CF 0 Initials JS

PT-WI-SR-001 effective 11/8/18



180-111689 Waybill

- 1
- 2
- 3
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- 6
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- 8
- 9
- 10
- 11
- 12
- 13



23

0215

Recipient's Copy

Package up to 150 lbs  
For packages and weight 100 and over,  
FIM (Facing Identification Mark) is required.

4 Express Package Service \*To meet deadlines.

Next Business Day

FedEx First Overnight  
Express next business morning, guaranteed on  
business days. Delivery times vary by destination.  
Monday through Saturday delivery only.

FedEx Priority Overnight  
Next business morning. Most packages will be  
delivered the next business day.  
Monday through Saturday delivery only.

FedEx Standard Overnight

2 or 3 Business Days

FedEx 2Day A.M.  
Second business morning, guaranteed on  
business days. Delivery times vary by destination.  
Monday through Saturday delivery only.

FedEx 2Day  
Second business morning. Delivery times vary by destination.  
Monday through Saturday delivery only.

FedEx Express Saver

ORIGIN ID: MCNA (770) 421-3382  
DANIEL HOWARD  
AMEC (4000 EX-15)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

SHIP DATE: 01OCT20  
ACTWGT: 57.30 LB  
CRD: 6984493/55FE2121  
DIMS: 24x13x14 IN  
BILL THIRD PARTY

TO SAMPLE RECEIVING  
EUROFINS TEST AMERICA  
301 ALPHA DR  
RIDC PARK  
PITTSBURGH PA 15238

REF: (412) 988-7068  
201

REF: PEP11



FedEx Express



FRI - 02 OCT 10:30A  
PRIORITY OVERNIGHT

TRK# 8121 9394 4823  
0215

NA AGCA

15238  
PA-US PIT



180-111743 Waybill

Uncorrected temp  
Thermometer ID

9.8 °C  
14

CF Initials

B

PT-WA-SP-001 effective 11/8/13

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-1

**Login Number: 111645**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is < /= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-1

**Login Number: 111646**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-1

**Login Number: 111647**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-1

**Login Number: 111689**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-1

**Login Number: 111743**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Say, Thomas C**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-111645-2

Client Project/Site: CCR - Plant Arkwright AP-3

For:

Southern Company  
241 Ralph McGill Blvd SE  
B10185  
Atlanta, Georgia 30308

Attn: Joju Abraham



Authorized for release by:  
11/23/2020 6:44:07 PM

Shali Brown, Project Manager II  
(615)301-5031  
[Shali.Brown@Eurofinset.com](mailto:Shali.Brown@Eurofinset.com)

### LINKS

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Job ID: 180-111645-2**

**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

### Job Narrative 180-111645-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/30/2020 9:00 AM, 10/1/2020 9:00 AM and 10/2/2020 9:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 2.1° C, 2.7° C, 3.4° C, 3.8° C and 3.8° C.

#### RAD

Methods 903.0, 9315: Ra-226 prep batch 160-484743:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EB-01 (180-111689-1), ARAMW-4 (180-111689-2), ARAMW-3 (180-111689-3), ARGWC-18 (180-111689-4), (LCS 160-484743/1-A) and (MB 160-484743/24-A)

Methods 903.0, 9315: Radium-226 prep batch 160-485335:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

ARGWC-10 (180-111743-1), ARGWC-9 (180-111743-2), ARAMW-6 (180-111743-3), ARGWC-8 (180-111743-4), (LCS 160-485335/1-A) and (MB 160-485335/22-A)

Method 9315: Radium-226 Prep Batch 160-485173:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. ARGWA-5 (180-111645-1),

ARGWA-3 (180-111645-2), ARGWC-7 (180-111645-3), ARGWC-16 (180-111645-4), ARGWA-14 (180-111646-1), ARGWC-15 (180-111646-2), ARGWC-17 (180-111646-3), DUP-01 (180-111646-4), FB-01 (180-111647-1), ARGWA-12 (180-111647-2) and ARGWA-13 (180-111647-3)

Methods 904.0, 9320: Radium-228 prep batch 160-484744:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

EB-01 (180-111689-1), ARAMW-4 (180-111689-2), ARAMW-3 (180-111689-3), ARGWC-18 (180-111689-4), (LCS 160-484744/1-A) and (MB 160-484744/24-A)

Methods 904.0, 9320: Radium-228 prep batch 160-485338:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

ARGWC-10 (180-111743-1), ARGWC-9 (180-111743-2), ARAMW-6 (180-111743-3), ARGWC-8 (180-111743-4), (LCS 160-485338/1-A) and (MB 160-485338/22-A)

Method 9320: 9320 prep batch 160-485176

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

ARGWA-5 (180-111645-1), ARGWA-3 (180-111645-2), ARGWC-7 (180-111645-3), ARGWC-16 (180-111645-4), ARGWA-14 (180-111646-1), ARGWC-15 (180-111646-2), ARGWC-17 (180-111646-3), DUP-01 (180-111646-4), FB-01 (180-111647-1), ARGWA-12 (180-111647-2) and ARGWA-13 (180-111647-3)



# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

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## Job ID: 180-111645-2 (Continued)

---

### Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Method PrecSep\_0: Radium 228 Prep Batch 160-485176:

Insufficient sample volume was available to perform a sample duplicate for the following samples: ARGWA-5 (180-111645-1), ARGWA-3 (180-111645-2), ARGWC-7 (180-111645-3), ARGWC-16 (180-111645-4), ARGWA-14 (180-111646-1), ARGWC-15 (180-111646-2), ARGWC-17 (180-111646-3), DUP-01 (180-111646-4), FB-01 (180-111647-1), ARGWA-12 (180-111647-2) and ARGWA-13 (180-111647-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-485173:

Insufficient sample volume was available to perform a sample duplicate for the following samples: ARGWA-5 (180-111645-1), ARGWA-3 (180-111645-2), ARGWC-7 (180-111645-3), ARGWC-16 (180-111645-4), ARGWA-14 (180-111646-1), ARGWC-15 (180-111646-2), ARGWC-17 (180-111646-3), DUP-01 (180-111646-4), FB-01 (180-111647-1), ARGWA-12 (180-111647-2) and ARGWA-13 (180-111647-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-20
Iowa	State	373	12-01-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111645-1	ARGWA-5	Water	09/29/20 10:50	09/30/20 09:00	
180-111645-2	ARGWA-3	Water	09/29/20 12:25	09/30/20 09:00	
180-111645-3	ARGWC-7	Water	09/29/20 14:15	09/30/20 09:00	
180-111645-4	ARGWC-16	Water	09/29/20 15:40	09/30/20 09:00	
180-111646-1	ARGWA-14	Water	09/29/20 10:35	09/30/20 09:00	
180-111646-2	ARGWC-15	Water	09/29/20 13:05	09/30/20 09:00	
180-111646-3	ARGWC-17	Water	09/29/20 14:55	09/30/20 09:00	
180-111646-4	DUP-01	Water	09/29/20 00:00	09/30/20 09:00	
180-111647-1	FB-01	Water	09/29/20 09:45	09/30/20 09:00	
180-111647-2	ARGWA-12	Ground Water	09/29/20 11:27	09/30/20 09:00	
180-111647-3	ARGWA-13	Water	09/29/20 13:30	09/30/20 09:00	
180-111689-1	EB-01	Water	09/30/20 09:05	10/01/20 09:00	
180-111689-2	ARAMW-4	Water	09/30/20 12:40	10/01/20 09:00	
180-111689-3	ARAMW-3	Water	09/30/20 16:45	10/01/20 09:00	
180-111689-4	ARGWC-18	Water	09/30/20 16:15	10/01/20 09:00	
180-111743-1	ARGWC-10	Water	10/01/20 11:00	10/02/20 09:00	
180-111743-2	ARGWC-9	Water	10/01/20 14:50	10/02/20 09:00	
180-111743-3	ARAMW-6	Water	10/01/20 14:55	10/02/20 09:00	
180-111743-4	ARGWC-8	Water	10/01/20 11:00	10/02/20 09:00	

# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

#### Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

#### Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Client Sample ID: ARGWA-5

Lab Sample ID: 180-111645-1

Date Collected: 09/29/20 10:50

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.87 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489823	11/20/20 17:01	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.87 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489473	11/17/20 12:46	FLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-3

Lab Sample ID: 180-111645-2

Date Collected: 09/29/20 12:25

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.98 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489823	11/20/20 17:01	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.98 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489473	11/17/20 12:46	FLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-7

Lab Sample ID: 180-111645-3

Date Collected: 09/29/20 14:15

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.81 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489920	11/21/20 15:49	CMM	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.81 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489473	11/17/20 12:46	FLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-16

Lab Sample ID: 180-111645-4

Date Collected: 09/29/20 15:40

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.74 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489920	11/21/20 15:49	CMM	TAL SL
Instrument ID: GFPCRED										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Client Sample ID: ARGWC-16

## Lab Sample ID: 180-111645-4

Date Collected: 09/29/20 15:40

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			999.74 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489473	11/17/20 12:46	FLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-14

## Lab Sample ID: 180-111646-1

Date Collected: 09/29/20 10:35

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.80 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489920	11/21/20 15:49	CMM	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.80 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489473	11/17/20 12:47	FLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-15

## Lab Sample ID: 180-111646-2

Date Collected: 09/29/20 13:05

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.80 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489922	11/21/20 15:53	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.80 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489473	11/17/20 12:47	FLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-17

## Lab Sample ID: 180-111646-3

Date Collected: 09/29/20 14:55

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.12 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489922	11/21/20 15:53	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.12 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489416	11/17/20 12:49	CMM	TAL SL
Instrument ID: GFPCBLUE										

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Client Sample ID: ARGWC-17

Lab Sample ID: 180-111646-3

Date Collected: 09/29/20 14:55

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL

## Client Sample ID: DUP-01

Lab Sample ID: 180-111646-4

Date Collected: 09/29/20 00:00

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.85 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489922	11/21/20 15:54	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.85 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489416	11/17/20 12:49	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: FB-01

Lab Sample ID: 180-111647-1

Date Collected: 09/29/20 09:45

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.32 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489922	11/21/20 15:54	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.32 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489416	11/17/20 12:49	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWA-12

Lab Sample ID: 180-111647-2

Date Collected: 09/29/20 11:27

Matrix: Ground Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.10 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489922	11/21/20 15:54	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.10 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489416	11/17/20 12:49	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Client Sample ID: ARGWA-13

Lab Sample ID: 180-111647-3

Date Collected: 09/29/20 13:30

Matrix: Water

Date Received: 09/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.24 mL	1.0 g	485173	10/09/20 07:26	AVB	TAL SL
Total/NA	Analysis	9315		1			489922	11/21/20 15:54	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.24 mL	1.0 g	485176	10/09/20 08:02	AVB	TAL SL
Total/NA	Analysis	9320		1			489416	11/17/20 12:49	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			489999	11/23/20 15:36	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: EB-01

Lab Sample ID: 180-111689-1

Date Collected: 09/30/20 09:05

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.39 mL	1.0 g	484743	10/06/20 11:14	AVB	TAL SL
Total/NA	Analysis	9315		1			487030	10/28/20 12:53	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.39 mL	1.0 g	484744	10/06/20 11:57	AVB	TAL SL
Total/NA	Analysis	9320		1			485907	10/15/20 12:56	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			487752	11/02/20 19:09	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-4

Lab Sample ID: 180-111689-2

Date Collected: 09/30/20 12:40

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.95 mL	1.0 g	484743	10/06/20 11:14	AVB	TAL SL
Total/NA	Analysis	9315		1			487030	10/28/20 12:53	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.95 mL	1.0 g	484744	10/06/20 11:57	AVB	TAL SL
Total/NA	Analysis	9320		1			485907	10/15/20 12:57	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			487752	11/02/20 19:09	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARAMW-3

Lab Sample ID: 180-111689-3

Date Collected: 09/30/20 16:45

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.88 mL	1.0 g	484743	10/06/20 11:14	AVB	TAL SL
Total/NA	Analysis	9315		1			487030	10/28/20 12:53	SCB	TAL SL
Instrument ID: GFPCRED										

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Client Sample ID: ARAMW-3

## Lab Sample ID: 180-111689-3

Date Collected: 09/30/20 16:45

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			999.88 mL	1.0 g	484744	10/06/20 11:57	AVB	TAL SL
Total/NA	Analysis	9320		1			485907	10/15/20 12:57	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			487752	11/02/20 19:09	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-18

## Lab Sample ID: 180-111689-4

Date Collected: 09/30/20 16:15

Matrix: Water

Date Received: 10/01/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.81 mL	1.0 g	484743	10/06/20 11:14	AVB	TAL SL
Total/NA	Analysis	9315		1			487030	10/28/20 12:54	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.81 mL	1.0 g	484744	10/06/20 11:57	AVB	TAL SL
Total/NA	Analysis	9320		1			485907	10/15/20 12:57	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			487752	11/02/20 19:09	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-10

## Lab Sample ID: 180-111743-1

Date Collected: 10/01/20 11:00

Matrix: Water

Date Received: 10/02/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.03 mL	1.0 g	485335	10/13/20 08:06	AVB	TAL SL
Total/NA	Analysis	9315		1			488215	11/04/20 10:20	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.03 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis	9320		1			487365	10/30/20 11:48	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			490000	11/23/20 15:38	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-9

## Lab Sample ID: 180-111743-2

Date Collected: 10/01/20 14:50

Matrix: Water

Date Received: 10/02/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.83 mL	1.0 g	485335	10/13/20 08:06	AVB	TAL SL
Total/NA	Analysis	9315		1			488215	11/04/20 10:20	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.83 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis	9320		1			487365	10/30/20 11:48	FLC	TAL SL
Instrument ID: GFPCBLUE										

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Client Sample ID: ARGWC-9

Lab Sample ID: 180-111743-2

Date Collected: 10/01/20 14:50

Matrix: Water

Date Received: 10/02/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			490000	11/23/20 15:38	SCB	TAL SL

## Client Sample ID: ARAMW-6

Lab Sample ID: 180-111743-3

Date Collected: 10/01/20 14:55

Matrix: Water

Date Received: 10/02/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.26 mL	1.0 g	485335	10/13/20 08:06	AVB	TAL SL
Total/NA	Analysis	9315		1			488215	11/04/20 10:23	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.26 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis	9320		1			487365	10/30/20 11:48	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			490000	11/23/20 15:38	SCB	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: ARGWC-8

Lab Sample ID: 180-111743-4

Date Collected: 10/01/20 11:00

Matrix: Water

Date Received: 10/02/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.18 mL	1.0 g	485335	10/13/20 08:06	AVB	TAL SL
Total/NA	Analysis	9315		1			488215	11/04/20 10:23	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.18 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis	9320		1			487365	10/30/20 11:48	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			490000	11/23/20 15:38	SCB	TAL SL
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

**Analyst References:**

Lab: TAL SL

Batch Type: Prep

AVB = Amber Bleem

Batch Type: Analysis

CMM = Chelsea Mazariegos

FLC = Fernando Cruz

SCB = Sarah Bernsen

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWA-5**

**Lab Sample ID: 180-111645-1**

Date Collected: 09/29/20 10:50

Matrix: Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0786	U	0.0999	0.100	1.00	0.239	pCi/L	10/09/20 07:26	11/20/20 17:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.5		40 - 110					10/09/20 07:26	11/20/20 17:01	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0678	U	0.291	0.291	1.00	0.539	pCi/L	10/09/20 08:02	11/17/20 12:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.5		40 - 110					10/09/20 08:02	11/17/20 12:46	1
Y Carrier	80.0		40 - 110					10/09/20 08:02	11/17/20 12:46	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.146	U	0.308	0.308	5.00	0.539	pCi/L		11/23/20 15:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWA-3**

**Lab Sample ID: 180-111645-2**

Date Collected: 09/29/20 12:25

Matrix: Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0686	U	0.0753	0.0756	1.00	0.184	pCi/L	10/09/20 07:26	11/20/20 17:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.9		40 - 110					10/09/20 07:26	11/20/20 17:01	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0207	U	0.268	0.268	1.00	0.477	pCi/L	10/09/20 08:02	11/17/20 12:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.9		40 - 110					10/09/20 08:02	11/17/20 12:46	1
Y Carrier	76.3		40 - 110					10/09/20 08:02	11/17/20 12:46	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0479	U	0.278	0.278	5.00	0.477	pCi/L		11/23/20 15:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWC-7**

**Lab Sample ID: 180-111645-3**

Date Collected: 09/29/20 14:15

Matrix: Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0786	U	0.0859	0.0862	1.00	0.137	pCi/L	10/09/20 07:26	11/21/20 15:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					10/09/20 07:26	11/21/20 15:49	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.256	U	0.276	0.277	1.00	0.451	pCi/L	10/09/20 08:02	11/17/20 12:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					10/09/20 08:02	11/17/20 12:46	1
Y Carrier	76.6		40 - 110					10/09/20 08:02	11/17/20 12:46	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.334	U	0.289	0.290	5.00	0.451	pCi/L		11/23/20 15:36	1



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWC-16**

**Lab Sample ID: 180-111645-4**

Date Collected: 09/29/20 15:40

Matrix: Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.129	U	0.130	0.130	1.00	0.207	pCi/L	10/09/20 07:26	11/21/20 15:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					10/09/20 07:26	11/21/20 15:49	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.153	U	0.236	0.237	1.00	0.460	pCi/L	10/09/20 08:02	11/17/20 12:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					10/09/20 08:02	11/17/20 12:46	1
Y Carrier	75.1		40 - 110					10/09/20 08:02	11/17/20 12:46	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0246	U	0.269	0.270	5.00	0.460	pCi/L		11/23/20 15:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWA-14**

**Lab Sample ID: 180-111646-1**

Date Collected: 09/29/20 10:35

Matrix: Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.109	U	0.0989	0.0993	1.00	0.149	pCi/L	10/09/20 07:26	11/21/20 15:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.4		40 - 110					10/09/20 07:26	11/21/20 15:49	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0259	U	0.287	0.287	1.00	0.511	pCi/L	10/09/20 08:02	11/17/20 12:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.4		40 - 110					10/09/20 08:02	11/17/20 12:47	1
Y Carrier	78.5		40 - 110					10/09/20 08:02	11/17/20 12:47	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.134	U	0.304	0.304	5.00	0.511	pCi/L		11/23/20 15:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWC-15**

**Lab Sample ID: 180-111646-2**

Date Collected: 09/29/20 13:05

Matrix: Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0832	U	0.115	0.115	1.00	0.194	pCi/L	10/09/20 07:26	11/21/20 15:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					10/09/20 07:26	11/21/20 15:53	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.311	U	0.290	0.292	1.00	0.469	pCi/L	10/09/20 08:02	11/17/20 12:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					10/09/20 08:02	11/17/20 12:47	1
Y Carrier	84.1		40 - 110					10/09/20 08:02	11/17/20 12:47	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.394	U	0.312	0.314	5.00	0.469	pCi/L		11/23/20 15:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWC-17**

**Lab Sample ID: 180-111646-3**

Date Collected: 09/29/20 14:55

Matrix: Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.138	U	0.116	0.117	1.00	0.176	pCi/L	10/09/20 07:26	11/21/20 15:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					10/09/20 07:26	11/21/20 15:53	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0374	U	0.259	0.259	1.00	0.457	pCi/L	10/09/20 08:02	11/17/20 12:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					10/09/20 08:02	11/17/20 12:49	1
Y Carrier	82.6		40 - 110					10/09/20 08:02	11/17/20 12:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.175	U	0.284	0.284	5.00	0.457	pCi/L		11/23/20 15:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: DUP-01**  
**Date Collected: 09/29/20 00:00**  
**Date Received: 09/30/20 09:00**

**Lab Sample ID: 180-111646-4**  
**Matrix: Water**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.205		0.133	0.134	1.00	0.186	pCi/L	10/09/20 07:26	11/21/20 15:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		40 - 110					10/09/20 07:26	11/21/20 15:54	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0195	U	0.234	0.234	1.00	0.418	pCi/L	10/09/20 08:02	11/17/20 12:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		40 - 110					10/09/20 08:02	11/17/20 12:49	1
Y Carrier	84.5		40 - 110					10/09/20 08:02	11/17/20 12:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.225	U	0.269	0.270	5.00	0.418	pCi/L		11/23/20 15:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: FB-01**

**Lab Sample ID: 180-111647-1**

Date Collected: 09/29/20 09:45

Matrix: Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0230	U	0.0753	0.0754	1.00	0.160	pCi/L	10/09/20 07:26	11/21/20 15:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					10/09/20 07:26	11/21/20 15:54	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.341	U	0.275	0.277	1.00	0.437	pCi/L	10/09/20 08:02	11/17/20 12:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					10/09/20 08:02	11/17/20 12:49	1
Y Carrier	82.2		40 - 110					10/09/20 08:02	11/17/20 12:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.318	U	0.285	0.287	5.00	0.437	pCi/L		11/23/20 15:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWA-12**

**Lab Sample ID: 180-111647-2**

Date Collected: 09/29/20 11:27

Matrix: Ground Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.205</b>		0.121	0.122	1.00	0.156	pCi/L	10/09/20 07:26	11/21/20 15:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					10/09/20 07:26	11/21/20 15:54	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.559</b>		0.294	0.298	1.00	0.436	pCi/L	10/09/20 08:02	11/17/20 12:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					10/09/20 08:02	11/17/20 12:49	1
Y Carrier	81.5		40 - 110					10/09/20 08:02	11/17/20 12:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Combined Radium 226 + 228</b>	<b>0.765</b>		0.318	0.322	5.00	0.436	pCi/L		11/23/20 15:36	1



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWA-13**

**Lab Sample ID: 180-111647-3**

Date Collected: 09/29/20 13:30

Matrix: Water

Date Received: 09/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0914	U	0.122	0.122	1.00	0.204	pCi/L	10/09/20 07:26	11/21/20 15:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					10/09/20 07:26	11/21/20 15:54	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.312	U	0.267	0.269	1.00	0.425	pCi/L	10/09/20 08:02	11/17/20 12:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					10/09/20 08:02	11/17/20 12:49	1
Y Carrier	82.2		40 - 110					10/09/20 08:02	11/17/20 12:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.403	U	0.294	0.295	5.00	0.425	pCi/L		11/23/20 15:36	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: EB-01**

**Lab Sample ID: 180-111689-1**

Date Collected: 09/30/20 09:05

Matrix: Water

Date Received: 10/01/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0216	U	0.0469	0.0470	1.00	0.0862	pCi/L	10/06/20 11:14	10/28/20 12:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					10/06/20 11:14	10/28/20 12:53	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.210	U	0.254	0.255	1.00	0.420	pCi/L	10/06/20 11:57	10/15/20 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					10/06/20 11:57	10/15/20 12:56	1
Y Carrier	73.6		40 - 110					10/06/20 11:57	10/15/20 12:56	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.231	U	0.258	0.259	5.00	0.420	pCi/L		11/02/20 19:09	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARAMW-4**

**Lab Sample ID: 180-111689-2**

Date Collected: 09/30/20 12:40

Matrix: Water

Date Received: 10/01/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.146		0.0763	0.0775	1.00	0.0924	pCi/L	10/06/20 11:14	10/28/20 12:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		40 - 110					10/06/20 11:14	10/28/20 12:53	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.386	U	0.313	0.315	1.00	0.497	pCi/L	10/06/20 11:57	10/15/20 12:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		40 - 110					10/06/20 11:57	10/15/20 12:57	1
Y Carrier	73.3		40 - 110					10/06/20 11:57	10/15/20 12:57	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.532		0.322	0.324	5.00	0.497	pCi/L		11/02/20 19:09	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARAMW-3**

**Lab Sample ID: 180-111689-3**

Date Collected: 09/30/20 16:45

Matrix: Water

Date Received: 10/01/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0603	U	0.0669	0.0672	1.00	0.107	pCi/L	10/06/20 11:14	10/28/20 12:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.6		40 - 110					10/06/20 11:14	10/28/20 12:53	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.479	U	0.394	0.397	1.00	0.628	pCi/L	10/06/20 11:57	10/15/20 12:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.6		40 - 110					10/06/20 11:57	10/15/20 12:57	1
Y Carrier	75.1		40 - 110					10/06/20 11:57	10/15/20 12:57	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.539	U	0.400	0.403	5.00	0.628	pCi/L		11/02/20 19:09	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWC-18**

**Lab Sample ID: 180-111689-4**

Date Collected: 09/30/20 16:15

Matrix: Water

Date Received: 10/01/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0870	U	0.0661	0.0666	1.00	0.0925	pCi/L	10/06/20 11:14	10/28/20 12:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.7		40 - 110					10/06/20 11:14	10/28/20 12:54	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00594	U	0.287	0.287	1.00	0.518	pCi/L	10/06/20 11:57	10/15/20 12:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.7		40 - 110					10/06/20 11:57	10/15/20 12:57	1
Y Carrier	74.8		40 - 110					10/06/20 11:57	10/15/20 12:57	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0811	U	0.295	0.295	5.00	0.518	pCi/L		11/02/20 19:09	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWC-10**

**Lab Sample ID: 180-111743-1**

Date Collected: 10/01/20 11:00

Matrix: Water

Date Received: 10/02/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.114	U	0.119	0.120	1.00	0.191	pCi/L	10/13/20 08:06	11/04/20 10:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	69.5		40 - 110					10/13/20 08:06	11/04/20 10:20	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0586	U	0.341	0.342	1.00	0.606	pCi/L	10/13/20 08:31	10/30/20 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	69.5		40 - 110					10/13/20 08:31	10/30/20 11:48	1
Y Carrier	71.8		40 - 110					10/13/20 08:31	10/30/20 11:48	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.172	U	0.361	0.362	5.00	0.606	pCi/L		11/23/20 15:38	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWC-9**

**Lab Sample ID: 180-111743-2**

Date Collected: 10/01/20 14:50

Matrix: Water

Date Received: 10/02/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0570	U	0.0732	0.0734	1.00	0.122	pCi/L	10/13/20 08:06	11/04/20 10:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					10/13/20 08:06	11/04/20 10:20	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.444	U	0.298	0.301	1.00	0.456	pCi/L	10/13/20 08:31	10/30/20 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					10/13/20 08:31	10/30/20 11:48	1
Y Carrier	72.9		40 - 110					10/13/20 08:31	10/30/20 11:48	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Combined Radium 226 + 228</b>	<b>0.501</b>		0.307	0.310	5.00	0.456	pCi/L		11/23/20 15:38	1



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARAMW-6**

**Lab Sample ID: 180-111743-3**

Date Collected: 10/01/20 14:55

Matrix: Water

Date Received: 10/02/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0541	U	0.0684	0.0686	1.00	0.113	pCi/L	10/13/20 08:06	11/04/20 10:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					10/13/20 08:06	11/04/20 10:23	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0427	U	0.255	0.255	1.00	0.464	pCi/L	10/13/20 08:31	10/30/20 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					10/13/20 08:31	10/30/20 11:48	1
Y Carrier	77.0		40 - 110					10/13/20 08:31	10/30/20 11:48	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0114	U	0.264	0.264	5.00	0.464	pCi/L		11/23/20 15:38	1

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

**Client Sample ID: ARGWC-8**

**Lab Sample ID: 180-111743-4**

Date Collected: 10/01/20 11:00

Matrix: Water

Date Received: 10/02/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.229		0.107	0.109	1.00	0.114	pCi/L	10/13/20 08:06	11/04/20 10:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		40 - 110					10/13/20 08:06	11/04/20 10:23	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.283	U	0.333	0.334	1.00	0.549	pCi/L	10/13/20 08:31	10/30/20 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		40 - 110					10/13/20 08:31	10/30/20 11:48	1
Y Carrier	75.9		40 - 110					10/13/20 08:31	10/30/20 11:48	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.512	U	0.350	0.351	5.00	0.549	pCi/L		11/23/20 15:38	1

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-484743/24-A**  
**Matrix: Water**  
**Analysis Batch: 487030**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 484743**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.1797		0.0967	0.0981	1.00	0.112	pCi/L	10/06/20 11:14	10/28/20 14:42	1
Carrier	MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	MB Qualifier	40 - 110					10/06/20 11:14	10/28/20 14:42	1
	82.2									

**Lab Sample ID: LCS 160-484743/1-A**  
**Matrix: Water**  
**Analysis Batch: 487030**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 484743**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits		
				Uncert. (2σ+/-)							
Radium-226	15.1	14.45		1.49	1.00	0.118	pCi/L	96	75 - 125		
Carrier	LCS	LCS									
Ba Carrier	%Yield	Qualifier	Limits								
	85.2		40 - 110								

**Lab Sample ID: MB 160-485173/22-A**  
**Matrix: Water**  
**Analysis Batch: 489921**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 485173**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.03423	U	0.0848	0.0849	1.00	0.158	pCi/L	10/09/20 07:27	11/21/20 15:55	1
Carrier	MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	MB Qualifier	40 - 110					10/09/20 07:27	11/21/20 15:55	1
	94.7									

**Lab Sample ID: LCS 160-485173/1-A**  
**Matrix: Water**  
**Analysis Batch: 489824**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 485173**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits		
				Uncert. (2σ+/-)							
Radium-226	11.3	10.43		1.10	1.00	0.182	pCi/L	92	75 - 125		
Carrier	LCS	LCS									
Ba Carrier	%Yield	Qualifier	Limits								
	74.0		40 - 110								

**Lab Sample ID: LCSD 160-485173/2-A**  
**Matrix: Water**  
**Analysis Batch: 489824**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 485173**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium-226	11.3	10.04		1.05	1.00	0.182	pCi/L	88	75 - 125	0.18	1

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-485173/2-A  
Matrix: Water  
Analysis Batch: 489824

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 485173

	LCS	D	LCS	
Carrier	%Yield	Qualifier	Limits	
Ba Carrier	83.1		40 - 110	

Lab Sample ID: MB 160-485335/22-A  
Matrix: Water  
Analysis Batch: 488215

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 485335

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.01934	U	0.0606	0.0606	1.00	0.116	pCi/L	10/13/20 08:06	11/04/20 12:24	1
Carrier	MB	MB	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	89.6		40 - 110		10/13/20 08:06	11/04/20 12:24	1			

Lab Sample ID: LCS 160-485335/1-A  
Matrix: Water  
Analysis Batch: 488215

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 485335

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	9.598		1.05	1.00	0.120	pCi/L	85	75 - 125
Carrier	LCS	LCS	Limits						
Ba Carrier	84.6		40 - 110						

## Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-484744/24-A  
Matrix: Water  
Analysis Batch: 485729

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 484744

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.1025	U	0.357	0.357	1.00	0.624	pCi/L	10/06/20 11:57	10/15/20 12:51	1
Carrier	MB	MB	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	82.2		40 - 110		10/06/20 11:57	10/15/20 12:51	1			
Y Carrier	79.3		40 - 110		10/06/20 11:57	10/15/20 12:51	1			

Lab Sample ID: LCS 160-484744/1-A  
Matrix: Water  
Analysis Batch: 485907

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 484744

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-228	10.3	10.33		1.33	1.00	0.594	pCi/L	100	75 - 125

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-484744/1-A**  
**Matrix: Water**  
**Analysis Batch: 485907**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 484744**

Carrier	LCS		Limits
	%Yield	Qualifier	
Ba Carrier	85.2		40 - 110
Y Carrier	80.0		40 - 110

**Lab Sample ID: MB 160-485176/22-A**  
**Matrix: Water**  
**Analysis Batch: 489416**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 485176**

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-228	-0.2566	U	0.204	0.205	1.00	0.414	pCi/L	10/09/20 08:02	11/17/20 12:49	1

Carrier	MB		Limits	Prepared	Analyzed	Dil Fac
	%Yield	Qualifier				
Ba Carrier	94.7		40 - 110	10/09/20 08:02	11/17/20 12:49	1
Y Carrier	81.9		40 - 110	10/09/20 08:02	11/17/20 12:49	1

**Lab Sample ID: LCS 160-485176/1-A**  
**Matrix: Water**  
**Analysis Batch: 489473**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 485176**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits

Carrier	LCS		Limits
	%Yield	Qualifier	
Ba Carrier	74.0		40 - 110
Y Carrier	81.9		40 - 110

**Lab Sample ID: LCSD 160-485176/2-A**  
**Matrix: Water**  
**Analysis Batch: 489473**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 485176**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit

Carrier	LCSD		Limits
	%Yield	Qualifier	
Ba Carrier	83.1		40 - 110
Y Carrier	78.1		40 - 110

**Lab Sample ID: MB 160-485338/22-A**  
**Matrix: Water**  
**Analysis Batch: 487365**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 485338**

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-228	0.1071	U	0.271	0.272	1.00	0.469	pCi/L	10/13/20 08:31	10/30/20 11:50	1

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# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: MB 160-485338/22-A**  
**Matrix: Water**  
**Analysis Batch: 487365**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 485338**

Carrier	MB MB		Limits
	%Yield	Qualifier	
Ba Carrier	89.6		40 - 110
Y Carrier	78.5		40 - 110

Prepared	Analyzed	Dil Fac
10/13/20 08:31	10/30/20 11:50	1
10/13/20 08:31	10/30/20 11:50	1

**Lab Sample ID: LCS 160-485338/1-A**  
**Matrix: Water**  
**Analysis Batch: 487365**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 485338**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
									75 - 125
Radium-228	7.69	8.484		1.07	1.00	0.497	pCi/L	110	75 - 125

Carrier	LCS LCS		Limits
	%Yield	Qualifier	
Ba Carrier	84.6		40 - 110
Y Carrier	77.8		40 - 110

# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Rad

### Prep Batch: 484743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111689-1	EB-01	Total/NA	Water	PrecSep-21	
180-111689-2	ARAMW-4	Total/NA	Water	PrecSep-21	
180-111689-3	ARAMW-3	Total/NA	Water	PrecSep-21	
180-111689-4	ARGWC-18	Total/NA	Water	PrecSep-21	
MB 160-484743/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-484743/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 484744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111689-1	EB-01	Total/NA	Water	PrecSep_0	
180-111689-2	ARAMW-4	Total/NA	Water	PrecSep_0	
180-111689-3	ARAMW-3	Total/NA	Water	PrecSep_0	
180-111689-4	ARGWC-18	Total/NA	Water	PrecSep_0	
MB 160-484744/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-484744/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

### Prep Batch: 485173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111645-1	ARGWA-5	Total/NA	Water	PrecSep-21	
180-111645-2	ARGWA-3	Total/NA	Water	PrecSep-21	
180-111645-3	ARGWC-7	Total/NA	Water	PrecSep-21	
180-111645-4	ARGWC-16	Total/NA	Water	PrecSep-21	
180-111646-1	ARGWA-14	Total/NA	Water	PrecSep-21	
180-111646-2	ARGWC-15	Total/NA	Water	PrecSep-21	
180-111646-3	ARGWC-17	Total/NA	Water	PrecSep-21	
180-111646-4	DUP-01	Total/NA	Water	PrecSep-21	
180-111647-1	FB-01	Total/NA	Water	PrecSep-21	
180-111647-2	ARGWA-12	Total/NA	Ground Water	PrecSep-21	
180-111647-3	ARGWA-13	Total/NA	Water	PrecSep-21	
MB 160-485173/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-485173/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-485173/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 485176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111645-1	ARGWA-5	Total/NA	Water	PrecSep_0	
180-111645-2	ARGWA-3	Total/NA	Water	PrecSep_0	
180-111645-3	ARGWC-7	Total/NA	Water	PrecSep_0	
180-111645-4	ARGWC-16	Total/NA	Water	PrecSep_0	
180-111646-1	ARGWA-14	Total/NA	Water	PrecSep_0	
180-111646-2	ARGWC-15	Total/NA	Water	PrecSep_0	
180-111646-3	ARGWC-17	Total/NA	Water	PrecSep_0	
180-111646-4	DUP-01	Total/NA	Water	PrecSep_0	
180-111647-1	FB-01	Total/NA	Water	PrecSep_0	
180-111647-2	ARGWA-12	Total/NA	Ground Water	PrecSep_0	
180-111647-3	ARGWA-13	Total/NA	Water	PrecSep_0	
MB 160-485176/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-485176/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-485176/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	



# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant Arkwright AP-3

Job ID: 180-111645-2

## Rad

### Prep Batch: 485335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111743-1	ARGWC-10	Total/NA	Water	PrecSep-21	
180-111743-2	ARGWC-9	Total/NA	Water	PrecSep-21	
180-111743-3	ARAMW-6	Total/NA	Water	PrecSep-21	
180-111743-4	ARGWC-8	Total/NA	Water	PrecSep-21	
MB 160-485335/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-485335/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 485338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111743-1	ARGWC-10	Total/NA	Water	PrecSep_0	
180-111743-2	ARGWC-9	Total/NA	Water	PrecSep_0	
180-111743-3	ARAMW-6	Total/NA	Water	PrecSep_0	
180-111743-4	ARGWC-8	Total/NA	Water	PrecSep_0	
MB 160-485338/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-485338/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

<b>Client Information</b>		Sampler: <i>D Howard, Egilken, Ashers</i>		Lab PM: <i>Brown, Shall</i>		COC No: 180-84149-11995.1	
Client Contact: Joju Abraham		Phone: <i>7470A - Mercury</i>		E-Mail: <i>Shall.Brown@Eurofins.com</i>		Page: Page 1 of 3	
Company: Southern Company		Address: 241 Ralph McGill Blvd SE B10185		City: Atlanta		Job #: <i>Standard</i>	
State, Zip: GA, 30308		PO #: GPC11064570		WO #: <i>Standard</i>		Analysis Requested	
Email: <i>JAbraham@southernco.com</i>		Project #: 18020201		SSOWN#		Preservation Codes:	
CCR - Plant Arkwright		Site: Georgia		Sample Date		M - Hexane N - None O - AsH2O2 P - Na2CO3 Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify)	
Sample Identification		Sample Type (C=Comp, G=grab)		Sample Time		Special Instructions/Note:	
<i>ARGWA-5</i>		<i>G</i>		<i>9/29/20 1050</i>		<i>pH=6.00</i>	
<i>ARGWA-3</i>		<i>G</i>		<i>1225</i>		<i>pH=6.02</i>	
<i>ARGWC-7</i>		<i>G</i>		<i>1415</i>		<i>pH=5.92</i>	
<i>ARGWC-16</i>		<i>G</i>		<i>1540</i>		<i>pH=5.50</i>	
Possible Hazard Identification		Matrix (Invert, Invert, Organic, Inorganic)		Field Filtered Sample (Yes or No)		Total Number of Containers	
<input checked="" type="checkbox"/> Non-Hazard		<i>W</i>		<input checked="" type="checkbox"/>		<i>920_Ra228 - Radium 228</i>	
<input type="checkbox"/> Flammable		<i>W</i>		<input checked="" type="checkbox"/>		<i>2540C_Calcd - Total Dissolved Solids</i>	
<input type="checkbox"/> Skin Irritant		<i>W</i>		<input checked="" type="checkbox"/>		<i>300_ORGM_28D - Chloride Fluoride Sulfate</i>	
<input type="checkbox"/> Poison B		<i>W</i>		<input checked="" type="checkbox"/>		<i>6020B - Custom 15 (App III/APPV + Silver)</i>	
<input type="checkbox"/> Deliverable Requested: I, II, III, IV, Other (specify)		<i>W</i>		<input checked="" type="checkbox"/>		<i>9216_Ra226 - Radium 226</i>	
Empty Kit Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		Special Instructions/Note:	
<i>D Howard</i>		<i>9/29/20 1050</i>		<input checked="" type="checkbox"/>		<i>pH=6.00</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=6.02</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.92</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=5.50</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		Special Instructions/Note:	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.00</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.02</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.92</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.50</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1225</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	
<i>D Howard</i>		<i>1415</i>		<input checked="" type="checkbox"/>		<i>pH=6.02</i>	
Relinquished by:		Sample Time		Field Filtered Sample (Yes or No)		<i>pH=5.92</i>	
<i>D Howard</i>		<i>1540</i>		<input checked="" type="checkbox"/>		<i>pH=5.50</i>	
Relinquished by:		Sample Date		Perform MS/MSD (Yes or No)		<i>pH=6.00</i>	

<b>Client Information</b> Client Contact: Joju Abraham Company: Southern Company Address: 241 Ralph McGill Blvd SE B10185 City: Atlanta State, Zip: GA, 30308 Phone: _____ Email: JABraham@southernco.com Project Name: CCR - Plant Arkwright Site: Georgia		Sampler: <b>D Howard, E Gullen, A Shedd</b> Lab PM: Brown, Shall Phone: _____ Email: Shall.Brown@Eurofinset.com		Camer Tracking No(s): _____ COC No: 180-64149-11995.1 Page: _____ Page 1 of 3 Job #: _____	
Due Date Requested: <b>Standard</b> TAT Requested (days): _____ PO #: _____ GPC: 11064570 WO #: _____ Project #: 18020201 SSO#: _____		<b>Analysis Requested</b>			
Sample Identification <b>ARGWA-14</b> <b>ARGWC-15</b> <b>PHAGARGWC-17</b> <b>DUP-01</b>		Sample Date <b>9/29/20</b> ↓ ↓	Sample Time <b>1035</b> <b>1305</b> <b>1455</b> <b>-</b>	Sample Type (C=Comp, G=grab) <b>G</b> <b>G</b> <b>G</b> <b>G</b>	Matrix (W=water, S=solid, O=soil, G=grab, A=air) <b>W</b> <b>W</b> <b>W</b> <b>W</b>
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers	
9315_Ra226 - Radium 226		9315_Ra226 - Radium 226		9315_Ra226 - Radium 226	
6020B - Custom 15 (App III/APPV + Silver)		6020B - Custom 15 (App III/APPV + Silver)		6020B - Custom 15 (App III/APPV + Silver)	
300_ORGM_28D - Chloride Fluoride Sulfate		300_ORGM_28D - Chloride Fluoride Sulfate		300_ORGM_28D - Chloride Fluoride Sulfate	
2540C_Calcd - Total Dissolved Solids		2540C_Calcd - Total Dissolved Solids		2540C_Calcd - Total Dissolved Solids	
9320_Ra228 - Radium 228		9320_Ra228 - Radium 228		9320_Ra228 - Radium 228	
7470A - Mercury		7470A - Mercury		7470A - Mercury	
Special Instructions/Note: <b>pH=6.80</b> <b>pH=7.11</b> <b>pH=5.75</b> <b>pH=5.75</b>		Special Instructions/Note: 180-111646 Chain of Custody			
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify) _____					
<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
<b>Special Instructions/QC Requirements:</b>					
Relinquished by: <b>Daniel Howard</b> Relinquished by: _____ Relinquished by: _____		Date/Time: <b>9/29/20/1745</b> Date/Time: _____ Date/Time: _____		Method of Shipment: _____ Date/Time: _____ Date/Time: _____	
Custody Seals Intact: <b>Yes</b> Δ Yes Δ No		Custody Seal No.: _____		Cooler Temperature(s) °C and Other Remarks: _____	





**Chain of Custody Record**

**244-ATLANTA**

Client Information  
 Client Contact: Joju Abraham  
 Company: Southern Company  
 Address: 241 Ralph McGill Blvd SE B10185  
 City: Atlanta  
 State, Zip: GA, 30308  
 Phone:  
 Email: JAbraham@southernco.com  
 Project Name: CCR - Plant: Arkwright  
 Site: Georgia

Lab PM: Brown, Shali  
 E-Mail: Shali.Brown@Eurofinset.com  
 Due Date Requested: Standard  
 TAT Requested (days):  
 PO #: GPC11064570  
 WO#:  
 Project #: 18020201  
 SSO#:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Blood, Urine, Tissue, Hair)	Analysis Requested										Special Instructions/Note:	
					Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	915, Ra226 - Radium 226	6020B - Custom 15 (App III/IV/ V + Silver)	300_ORGM_280 - Chloride Fluoride Sulfate	2540C, Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of Containers			
FB-01	7/29/20	0945	G	W	X	X	X	X	X	X	X	X	X	X		
ARGWA-12	↓	1127	G	W	X	X	X	X	X	X	X	X	X	X		pH=5.88
ARGWA-13	↓	1330	G	W	X	X	X	X	X	X	X	X	X	X		pH=5.75

Possible Hazard Identification  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological  
 Deliverable Requested I, II, III, IV, Other (specify)  
 Empty Kit Relinquished by: Date:  
 Relinquished by: David Howard Date: 9/29/20 / 1745 Company: Wood  
 Relinquished by: Date: Company:  
 Relinquished by: Date: Company:  
 Custody Seals Intact: Δ Yes Δ No Custody Seal No.:  
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For Months  
 Special Instructions/QC Requirements:  
 Method of Shipment: Date/Time: Received by: Date/Time: Company: Received by: Date/Time: Company: Received by: Date/Time: Company: Cooler Temperature(s) °C and Other Remarks:



<b>Client Information</b> Client Contact: Jojo Abraham Company: Southern Company Address: 241 Ralph McGill Blvd SE B10185 City: Atlanta State, Zip: GA, 30308 Phone: Email: JAbraham@southernco.com Project Name: CCR - Plant Arkwright Site: Georgia		Lab PM: Brown, Shali E-Mail: Shali.Brown@Eurofinset.com Sample: Egulien, Ashereditz Phone: CCO No: 180-64149-11995.2 Page: Page 1 of 1 Job #:	
Due Date Requested: Standard TAT Requested (days): PO #: GPC11064570 WO #: Project #: 18020201 SSON#:		Analysis Requested 6020B - Custom 15 (App III/IV + Silver) 300 ORGM 28D - Chloride Fluoride Sulfate 2540C - Calcd - Total Dissolved Solids 9320 - Ra228 - Radium 228 7470A - Mercury 6020B - Custom 15 (App III/IV + Silver) 7470A - Hg (Diss)	
Sample Identification EB-01 ARAMW-4 ARAMW-3 ARGWC-18		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> NO Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> NO Total Number of Containers: 3 Special Instructions/Note: 3 pH = 5.94 3 pH = 6.41 4 pH = 5.98 * Lab will filter dissolved metals sample	
Sample Date: 9/30/20 Sample Time: 0905 Sample Type (C=Comp, G=Grab): G Matrix (W=Water, S=solid, O=soil, ST=Tissue, A=Air): W		Preservation Code: W 1240 1645 1615 W W W W	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:	
Empty Kit Relinquished by: Daniel Howard Relinquished by:		Date: 9/30/20/1815 Date/Time: 9:00 Date/Time:	
Custody Seal's Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No:		Received by: Shalle Watson Date/Time: 10-1-20 Company:	







# Do Not Lift Using This Tag

ORIGIN ID:MCNA (770) 421-3382  
DANIEL HOWARD  
AMEC (WOOD E+IS)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

SHIP DATE: 29SEP20  
ACTWTG: 59.45 LB  
CAD: 6994493/SSFE2121  
DIMS: 24x13x14 IN  
BILL THIRD PARTY

Part # 152297466-1180218107 08/21

TO **SAMPLE RECEIVING**  
**EUROFINS TEST AMERICA**  
**301 ALPHA DR**  
**RIDC**  
**PITT**

(412) 863-  
INU  
P01



180-111645 Waybill



**FedEx**  
Express



© 1991, 1992, 2002

TRK# 8121 9394 4889  
0215

WED - 30 SEP 10:30A  
PRIORITY OVERNIGHT

DSR  
15238  
PIT

PA-US

# NA AGCA

Uncorrected temp  
Thermometer ID

38 °C  
14

CF 0 Initials JJ

PT-WI-SR-001 effective 11/8/18



RT **97**

1  
10:30

**A**  
4889  
09:30

FZ 1



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



Temp 37 °C  
 Initials JJ

**NA AGCA**

PA-US  
 15238  
 PIT

TRK# 8121 9394 4856  
 WED - 30 SEP 10:30A  
 PRIORITY OVERNIGHT  
 DSR



180-117846 W/aj/ohh



A 15238

AFRICA

SHIP DATE: 29SEP20  
 WEIGHT: 57.25 LB  
 CAD: 6984493/SSFE2121  
 DIMS: 24x13x14 IN  
 BILL THIRD PARTY

FedEx Tube  
 Other

Special Handling



James Coyne

charges up to 150 lbs.  
weight over 99 lbs. under  
FedEx Priority US Adult

MCMA (770) 421-3382  
HARD  
E+IS)

SHIP DATE: 30SEP20  
WT: 57.65 LB  
92/SSFE2121

Part # 156237-2500-00021

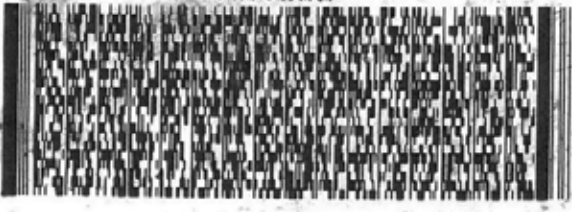
TY RD NW STE 100  
0144  
US

RT 97

1  
10:30 A  
4801  
10.01

TO: SAMPLE RECEIVING  
EUROFINS TEST AME  
301 ALPHA DR  
RIDC PARK  
PITTSBURGH PA 15238

(412) 963-7058



FedEx  
Express



TRK# 8121 9394 4801  
0215

THU - 01 OCT 10:30A  
PRIORITY OVERNIGHT

NA AGCA

DSR  
15238  
PIT  
PA-US

Uncorrected temp  
Thermometer ID

21  
14

CF Initials JS

PT-WI-SR-001 effective 11/8/18



180-111689 Waybill

- 1
- 2
- 3
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- 5
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- 10
- 11
- 12
- 13



23

0215

Recipient's Copy

Package up to 150 lbs  
For packages and weight 100 and over  
FedEx Express Weight 100 and over

4 Express Package Service \*To meet deadlines

2 or 3 Business Days

FedEx 2Day A.M.  
Security (Domestic) (N2) (N2)

FedEx 2Day  
Second business afternoon. Thursday packages  
will be delivered on Monday unless Saturday  
delivery is selected.

FedEx Express Saver  
Third business day

Next Business Day

FedEx First Overnight  
Express next business morning. To be used on  
Monday through Saturday (Domestic) selected.

FedEx Priority Overnight  
Next business morning. Thursday packages will be  
delivered on Monday unless Saturday delivery  
is selected.

FedEx Standard Overnight

ORIGIN ID: MCNA (770) 421-3382  
DANIEL HOWARD  
AMEC (4000 EX-15)  
1075 BIG SHANTY RD NW STE 100  
KENNESAW, GA 30144  
UNITED STATES US

TO SAMPLE RECEIVING  
EUROFINS TEST AMERICA  
301 ALPHA DR  
RIDC PARK  
PITTSBURGH PA 15238

REF: (412) 988-7068  
201

REF: BEP11



FedEx Express



FRI - 02 OCT 10:30A  
PRIORITY OVERNIGHT

TRK# 8121 9394 4823  
0215

15238  
PA-US PIT

NA AGCA

9.8 °C

Uncorrected temp  
Thermometer ID

14

CF Initials

B

PT-WA-SP-001 effective 11/8/13



180-111743 Waybill

- 1
- 2
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**Eurofins TestAmerica, Pittsburgh**

301 Alpha Drive RIDC Park  
Pittsburgh, PA 15238  
Phone: 412-963-7058 Fax: 412-963-2468

**Chain of Custody Record**



Environment Testing  
America

<b>Client Information (Sub Contract Lab)</b>		Lab PAL: Brown, Shali	Carrier (tracking No.):	EOC No: 180-413466.1
Company: TestAmerica Laboratories, Inc.		E-Mail: Shali.Brown@Eurofins.com	State of Origin: Georgia	Page: Page 1 of 1
Address: 13715 Rider Trail North,		Accreditations Required (See note): 180-111645-2		
City: Earth City	State, Zip: MO, 63045	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	Project #: 18020201	Analysis Requested		
Email:	SSOW#:	Total Number of containers		
Due Date Requested: 11/2/2020		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		
TAT Requested (days):		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>		
PO #:		9315_Ra228Precep_21 Radium-226 (GFC) - 21 day		
WO #:		9320_Ra228Precep_0 Radium 228		
Project Name: CCR - Plant Arkwright		9328Ra228_GFC/ Combined Radium-226 and Radium-228		
Site: Arkwright		Matrix (W=Water, S=solid, O=soil, BT=Trace, A=As)		
<b>Sample Identification - Client ID (Lab ID)</b>		Preservation Code:		
ARGWA-5 (180-111645-1)	Sample Date: 9/29/20	Sample Time: 10:50 Eastern	Sample Type (C=Comp, G=grab):	Water
ARGWA-3 (180-111645-2)	Sample Date: 9/29/20	Sample Time: 12:25 Eastern	Sample Type (C=Comp, G=grab):	Water
ARGWC-7 (180-111645-3)	Sample Date: 9/29/20	Sample Time: 14:15 Eastern	Sample Type (C=Comp, G=grab):	Water
ARGWC-16 (180-111645-4)	Sample Date: 9/29/20	Sample Time: 15:40 Eastern	Sample Type (C=Comp, G=grab):	Water
Special Instructions/Note:				
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/shipment being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.				
<b>Possible Hazard Identification</b>				
Unconfirmed				
Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2				
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____				
Relinquished by: <i>Mattew Juba</i> Date/Time: 10/1/20 1700 Company: ETHA P.H				
Relinquished by: <i>FedEx</i> Date/Time: 10/2/20 09:22 Company: ETHA STL				
Relinquished by: _____ Date/Time: _____ Company: _____				
Custody Seals Intact: _____ Custody Seal No.: _____				
Cooler Temperature(s) °C and Other Remarks: _____				



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111645**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111645**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 10/03/20 12:56 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111646**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111646**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 10/03/20 12:56 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111647**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111647**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 10/03/20 12:56 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111689**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111689**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 10/03/20 06:58 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111743**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Say, Thomas C**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111645-2

**Login Number: 111743**

**List Number: 2**

**Creator: Korrinhizer, Micha L**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 10/08/20 06:57 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Product Name: Low-Flow System

Date: 2020-09-29 12:24:12

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright CCR  
Site Name ARGWA-3  
ftLatitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613229  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 40.5

Pump placement from TOC 35.5 ft

Well Information:

Well ID ARGWA-3  
Well diameter 2 in  
Well Total Depth 40.50 ft  
Screen Length 10 ft  
Depth to Water 34.63 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6607687 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	12:01:46	1500.03	19.16	6.04	88.19	12.20	34.92	6.57	72.65
Last 5	12:06:46	1800.02	19.22	6.03	88.00	9.02	34.92	6.59	73.00
Last 5	12:11:46	2100.02	19.15	6.04	87.72	7.64	34.92	6.59	73.63
Last 5	12:16:46	2400.02	19.18	6.01	87.53	5.47	34.92	6.57	74.26
Last 5	12:21:46	2700.02	19.24	6.02	87.41	3.91	34.92	6.57	74.02
Variance 0			-0.08	0.00	-0.27			-0.00	0.63
Variance 1			0.03	-0.03	-0.19			-0.02	0.63
Variance 2			0.06	0.01	-0.12			0.00	-0.24

Notes

Sampled at  
Sampled at 1225

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-29 10:49:01

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright CCR  
Site Name ARGWA-5  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613229  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 30.0 ft

Pump placement from TOC 25.0 ft

Well Information:

Well ID ARGWA-5  
Well diameter 2 in  
Well Total Depth 30.0 ft  
Screen Length 10 ft  
Depth to Water 22.93 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6139027 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	10:25:53	1200.03	18.70	6.01	0.09	1.49	23.11	6.27	92.33
Last 5	10:30:53	1500.03	18.71	6.01	0.09	1.08	23.11	6.14	86.79
Last 5	10:35:53	1800.02	18.73	6.01	0.09	1.44	23.11	6.04	83.12
Last 5	10:40:53	2100.02	18.73	6.01	0.09	0.85	23.11	6.02	80.59
Last 5	10:45:53	2400.02	18.70	6.00	0.09	0.58	23.11	6.01	80.35
Variance 0			0.02	0.00	0.00			-0.09	-3.67
Variance 1			-0.00	-0.01	-0.00			-0.03	-2.53
Variance 2			-0.02	-0.01	-0.00			-0.00	-0.24

Notes

Sampled at  
1050

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-29 11:28:58

Project Information:

Operator Name Daniel Howard  
Company Name Wood E&IS  
Project Name Plant Arkwright CCR AP3  
Site Name ARGWA-12  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 541714  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Micropurge dedicated  
Tubing Type HDPE  
Tubing Diameter .25 in  
Tubing Length 35.2 ft

Pump placement from TOC 29.2 ft

Well Information:

Well ID ARGWA-12  
Well diameter 2 in  
Well Total Depth 35.2 ft  
Screen Length 12 ft  
Depth to Water 15.11 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.8197761 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.03 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	11:05:39	600.02	19.65	5.89	194.55	7.59	15.62	3.41	83.79
Last 5	11:10:39	900.01	19.66	5.89	194.15	5.71	15.63	3.23	84.96
Last 5	11:15:39	1200.01	19.65	5.89	194.12	4.64	15.63	3.11	86.53
Last 5	11:20:39	1500.01	19.66	5.88	193.63	4.43	15.65	3.03	88.49
Last 5	11:25:39	1800.01	19.61	5.88	193.81	3.38	15.65	3.00	90.34
Variance 0			-0.00	0.00	-0.03			-0.11	1.57
Variance 1			0.01	-0.01	-0.49			-0.08	1.96
Variance 2			-0.05	-0.00	0.18			-0.04	1.85

Notes

ARGWA-12 sample time 1127

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-29 13:33:43

Project Information:

Operator Name Daniel Howard  
Company Name Wood E&IS  
Project Name Plant Arkwright CCR AP3  
Site Name ARGWA-13  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 541714  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Micropurgededicated  
Tubing Type HDPE  
Tubing Diameter .25 in  
Tubing Length 43.3 ft

Pump placement from TOC 38.3 ft

Well Information:

Well ID ARGWA-13  
Well diameter 2 in  
Well Total Depth 43.31 ft  
Screen Length 10 ft  
Depth to Water 23.54 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.8979633 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.02 in  
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	13:07:20	900.02	18.14	5.76	1188.42	1.53	23.86	1.35	112.76
Last 5	13:12:20	1200.01	18.14	5.76	1195.32	0.74	23.86	1.19	114.72
Last 5	13:17:20	1500.01	18.12	5.76	1196.76	0.44	23.87	1.08	116.10
Last 5	13:22:20	1800.01	18.10	5.76	1193.95	0.30	23.87	1.05	117.86
Last 5	13:27:20	2100.01	18.10	5.75	1188.34	0.24	23.88	1.05	119.50
Variance 0			-0.02	0.00	1.44			-0.11	1.38
Variance 1			-0.03	-0.00	-2.81			-0.03	1.76
Variance 2			-0.00	-0.00	-5.61			-0.00	1.64

Notes

ARGWA-13 sample time 1300

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-29 10:47:19

Project Information:

Operator Name Andreas Shoredits  
Company Name Wood E&IS  
Project Name Plant Arkwright  
Site Name ARGWA-14  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 642533  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 68 ft

Pump placement from TOC 53.45 ft

Well Information:

Well ID ARGWA-14  
Well diameter 2.00 in  
Well Total Depth 58.45 ft  
Screen Length 10 ft  
Depth to Water 42.07 ft

Pumping Information:

Final Pumping Rate 80 mL/min  
Total System Volume 0.7835128 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 58.8 in  
Total Volume Pumped 4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	10:14:52	1800.00	19.76	6.88	255.40	0.95	46.21	6.54	46.20
Last 5	10:19:52	2100.00	19.78	6.84	242.42	0.74	46.72	6.30	46.38
Last 5	10:24:52	2399.99	19.77	6.82	232.46	0.88	47.32	6.06	46.30
Last 5	10:29:52	2699.98	19.76	6.81	224.74	0.82	47.75	5.89	46.17
Last 5	10:34:52	2999.98	19.73	6.80	218.85	0.85	48.31	5.76	46.00
Variance 0			-0.00	-0.02	-9.96			-0.24	-0.07
Variance 1			-0.01	-0.01	-7.72			-0.17	-0.13
Variance 2			-0.03	-0.01	-5.90			-0.13	-0.17

Notes

Start purging well @ 09:46, stop @ 10:34; Initial purge rate of 100 ml/min reduced to 80-85 ml/min @ 09:50; Significant drawdown could not be avoided and purge rate was lowered to only slightly below 100 ml/min; Collect sample @ 10:35; pH during sample collection is 6.80; Weather is cloudy with light rain 72 degrees F

Grab Samples  
ARGWA-14  
Groundwater sample



Product Name: Low-Flow System

Date: 2020-09-29 14:10:10

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright CCR  
Site Name ARGWC-7  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613229  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QEDdedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 50.20 ft

Pump placement from TOC 45.20 ft

Well Information:

Well ID ARGWC-7  
Well diameter 2 in  
Well Total Depth 50.20 ft  
Screen Length 10 ft  
Depth to Water 22.22 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.7040638 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	13:47:06	900.03	18.74	5.93	0.16	1.85	22.48	4.06	69.88
Last 5	13:52:06	1200.03	18.66	5.93	0.16	2.49	22.48	4.05	69.85
Last 5	13:57:06	1500.03	18.61	5.92	0.16	1.53	22.48	4.06	70.92
Last 5	14:02:06	1800.03	18.65	5.90	0.16	0.27	22.48	4.06	70.79
Last 5	14:07:06	2100.02	18.71	5.92	0.16	0.38	22.48	4.06	70.28
Variance 0			-0.05	-0.00	-0.00			0.01	1.07
Variance 1			0.04	-0.02	0.00			0.00	-0.14
Variance 2			0.06	0.01	0.00			-0.00	-0.50

Notes

Sampled at 1415

Grab Samples

Product Name: Low-Flow System

Date: 2020-10-01 11:15:02

Project Information:

Operator Name Andreas Shoredits  
Company Name Wood E&IS  
Project Name Plant Arkwright  
Site Name ARGWC-8  
Latitude 32° 55' 31.57"  
Longitude -83° -42' -29.55"  
Sonde SN 642533  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 48 ft

Pump placement from TOC 38.22 ft

Well Information:

Well ID ARGWC-8  
Well diameter 2.00 in  
Well Total Depth 43.22 ft  
Screen Length 10 ft  
Depth to Water 25.90 ft

Pumping Information:

Final Pumping Rate 170 mL/min  
Total System Volume 0.6942443 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 1 in  
Total Volume Pumped 11.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	10:36:34	2699.99	20.80	6.44	452.62	7.86	26.02	0.18	24.17
Last 5	10:41:34	2999.98	20.84	6.44	452.34	6.10	26.02	0.18	23.62
Last 5	10:46:34	3299.97	20.91	6.44	452.22	5.26	26.02	0.17	23.25
Last 5	10:51:34	3599.97	20.92	6.44	452.06	4.88	26.02	0.18	23.16
Last 5	10:56:34	3899.96	21.02	6.44	452.61	4.48	26.02	0.18	22.90
Variance 0			0.07	-0.00	-0.12			-0.01	-0.37
Variance 1			0.01	0.00	-0.16			0.01	-0.09
Variance 2			0.10	0.00	0.55			-0.00	-0.25

Notes

Start purging well @ 09:52, stop @ 10:56; Initial purge rate of 400 ml/min reduced to 185 ml/min @ 09:57, to 175 ml/min @ 10:07, to 170 ml/min @ 10:37; Collect sample @ 11:00; pH during sampling is 6.44; Weather is sunny 55 degrees F

Grab Samples

ARGWC-8  
Groundwater sample

Product Name: Low-Flow System

Date: 2020-10-01 14:47:14

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright CCR  
Site Name ARGWC-9  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613229  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 38.2 ft

Pump placement from TOC 33.2 ft

Well Information:

Well ID ARGWC-9  
Well diameter 2 in  
Well Total Depth 38.2 ft  
Screen Length 10 ft  
Depth to Water 20.62 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6505027 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 19 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	14:24:07	1500.02	20.39	5.79	79.17	9.56	20.88	6.59	88.28
Last 5	14:29:07	1800.02	20.48	5.80	79.07	7.62	20.88	6.62	87.52
Last 5	14:34:07	2100.02	20.48	5.79	79.13	6.01	20.88	6.59	88.96
Last 5	14:39:07	2400.02	20.48	5.77	79.13	4.86	20.88	6.59	88.47
Last 5	14:44:07	2700.01	20.53	5.78	79.16	3.43	20.88	6.57	87.94
Variance 0			0.00	-0.01	0.06			-0.03	1.45
Variance 1			0.00	-0.02	0.01			-0.00	-0.49
Variance 2			0.04	0.01	0.03			-0.02	-0.53

Notes

Sampled at 1450

Grab Samples

Product Name: Low-Flow System

Date: 2020-10-01 10:56:55

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright CCR  
Site Name ARGWC-10  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613229  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QEDdedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 38.35 ft

Pump placement from TOC 33.35 ft

Well Information:

Well ID ARGWC-10  
Well diameter 2 in  
Well Total Depth 38.35 ft  
Screen Length 10 ft  
Depth to Water 21.30 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6511722 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 16 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	10:35:15	3600.01	19.27	5.84	104.44	10.60	21.58	4.40	81.97
Last 5	10:40:15	3900.01	19.24	5.83	104.30	8.38	21.58	4.39	81.51
Last 5	10:45:15	4200.00	19.28	5.81	104.25	6.02	21.58	4.36	81.60
Last 5	10:50:15	4500.00	19.32	5.82	104.57	4.64	21.58	4.37	81.17
Last 5	10:55:15	4800.00	19.37	5.83	103.94	3.91	21.58	4.36	80.26
Variance 0			0.05	-0.02	-0.05			-0.02	0.09
Variance 1			0.04	0.00	0.32			0.01	-0.43
Variance 2			0.05	0.01	-0.63			-0.02	-0.90

Notes

Sampled at 1100

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-29 13:14:23

Project Information:

Operator Name Andreas Shoredits  
Company Name Wood E&IS  
Project Name Plant Arkwright  
Site Name ARGWC-15  
Latitude 32° 54' 55.62"  
Longitude -83° -42' -31.22"  
Sonde SN 642533  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 48 ft

Pump placement from TOC 38 ft

Well Information:

Well ID ARGWC-15  
Well diameter 2.00 in  
Well Total Depth 43.0 ft  
Screen Length 10 ft  
Depth to Water 28.43 ft

Pumping Information:

Final Pumping Rate 90 mL/min  
Total System Volume 0.6942443 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 27 in  
Total Volume Pumped 2.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 100
Last 5	12:34:06	600.02	19.56	7.23	252.30	2.55	29.45	4.13	43.62
Last 5	12:39:06	900.02	19.40	7.18	250.02	2.23	29.95	3.83	41.54
Last 5	12:44:06	1200.01	19.31	7.13	246.67	2.15	30.41	3.98	41.24
Last 5	12:49:06	1500.00	19.34	7.12	245.37	1.92	30.84	4.01	40.88
Last 5	12:54:06	1800.00	19.30	7.11	244.56	2.02	31.14	3.98	40.44
Variance 0			-0.09	-0.05	-3.36			0.15	-0.30
Variance 1			0.03	-0.01	-1.30			0.04	-0.36
Variance 2			-0.04	-0.00	-0.81			-0.03	-0.43

Notes

Start purging well @ 12:26, Stop @ 12:59; Initial purge rate of 100 ml/min reduced to 90 ml/min @ 12:30; Sample collected @ 13:05; pH during sampling is 7.11; Weather is cloudy with light rain 67 degrees F

Grab Samples

ARGWC-15  
Groundwater sample

Product Name: Low-Flow System

Date: 2020-09-29 15:37:58

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright CCR  
Site Name ARGWC-16  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613229  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 34.52 ft

Pump placement from TOC 29.52 ft

Well Information:

Well ID ARGWC-16  
Well diameter 2 in  
Well Total Depth 34.52 ft  
Screen Length 10 ft  
Depth to Water 20.21 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.6340774 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:15:04	1200.03	18.91	5.50	498.15	0.53	20.38	0.58	89.60
Last 5	15:20:04	1500.03	18.95	5.48	497.95	0.57	20.38	0.58	90.13
Last 5	15:25:04	1800.02	18.92	5.49	497.63	0.39	20.38	0.59	88.03
Last 5	15:30:04	2100.02	18.88	5.50	497.16	0.34	20.38	0.58	87.21
Last 5	15:35:04	2400.02	18.83	5.50	496.46	0.21	20.38	0.58	86.73
Variance 0			-0.02	0.01	-0.32			0.00	-2.10
Variance 1			-0.04	0.01	-0.46			-0.01	-0.82
Variance 2			-0.05	0.00	-0.71			-0.00	-0.48

Notes

Sampled at 1540

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-29 15:03:25

Project Information:

Operator Name Andreas Shoredits  
Company Name Wood E&IS  
Project Name Plant Arkwright  
Site Name ARGWC-17  
Latitude 32° 54' 55.62"  
Longitude -83° -42' -31.22"  
Sonde SN 642533  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED dedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 39 ft

Pump placement from TOC 29.5 ft

Well Information:

Well ID ARGWC-17  
Well diameter 2.00 in  
Well Total Depth 34.50 ft  
Screen Length 10 ft  
Depth to Water 21.72 ft

Pumping Information:

Final Pumping Rate 220 mL/min  
Total System Volume 0.6540735 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.84 in  
Total Volume Pumped 8.9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	14:29:00	1200.02	19.06	5.74	207.64	11.00	22.32	0.49	52.18
Last 5	14:34:00	1500.01	19.06	5.74	207.09	6.78	22.30	0.39	48.80
Last 5	14:39:00	1800.01	19.09	5.75	207.64	4.46	22.31	0.33	46.50
Last 5	14:44:00	2100.00	19.03	5.75	208.59	2.86	22.30	0.29	44.90
Last 5	14:49:00	2399.99	19.06	5.75	208.92	2.58	22.30	0.26	44.11
Variance 0			0.03	0.00	0.55			-0.07	-2.30
Variance 1			-0.06	0.01	0.95			-0.04	-1.60
Variance 2			0.03	-0.00	0.32			-0.03	-0.79

Notes

Start purging well @ 14:10, Stop @ 14:49; Purge rate maintained between 230 and 220 ml/min; Collect sample @ 14:55; pH during sample collection is 5.75; Weather is cloudy 64 degrees F

Grab Samples

ARGWC-17  
Groundwater sample



Product Name: Low-Flow System

Date: 2020-09-30 16:14:15

Project Information:

Operator Name Ever Guillen  
Company Name WOOD  
Project Name Plant Arkwright CCR  
Site Name ARGWC-18  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613229  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type QEDdedicated  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 50.65 ft

Pump placement from TOC 45.65 ft

Well Information:

Well ID ARGWC-18  
Well diameter 2 in  
Well Total Depth 50.65 ft  
Screen Length 10 ft  
Depth to Water 28.33 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.7060724 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 40 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:50:22	8099.98	22.31	5.97	575.66	11.70	28.61	0.23	73.06
Last 5	15:55:22	8399.97	22.24	5.97	576.53	11.60	28.61	0.22	73.08
Last 5	16:00:22	8699.97	22.25	5.98	576.39	11.40	28.61	0.22	72.92
Last 5	16:05:38	9015.97	22.31	5.97	577.47	11.10	28.61	0.24	72.88
Last 5	16:10:38	9315.97	22.27	5.98	576.61	11.00	28.61	0.23	72.84
Variance 0			0.01	0.00	-0.14			-0.00	-0.15
Variance 1			0.06	-0.00	1.08			0.02	-0.04
Variance 2			-0.04	0.00	-0.87			-0.01	-0.04

Notes

Restart  
Sampled at 1615

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-30 17:59:13

Project Information:

Operator Name Andreas Shoredits  
Company Name Wood E&IS  
Project Name Plant Arkwright  
Site Name ARAMW-3  
Latitude 32° 55' 32.16"  
Longitude -83° -42' -30.06"  
Sonde SN 642533  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Sample Pro  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 72 ft

Pump placement from TOC 62 ft

Well Information:

Well ID ARAMW-3  
Well diameter 2.00 in  
Well Total Depth 67.87 ft  
Screen Length 10 ft  
Depth to Water 25.33 ft

Pumping Information:

Final Pumping Rate 170 mL/min  
Total System Volume 0.5113665 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 5.2 in  
Total Volume Pumped 19.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	16:17:23	6005.92	20.37	6.40	354.67	5.98	25.69	6.75	-3.54
Last 5	16:22:23	6305.91	20.35	6.41	353.13	5.40	25.70	6.68	-3.88
Last 5	16:27:23	6605.91	20.40	6.41	353.77	5.34	25.70	6.61	-3.56
Last 5	16:32:23	6905.90	20.34	6.40	355.32	5.10	25.70	6.63	-2.35
Last 5	16:37:23	7205.90	20.41	6.41	355.87	4.81	25.70	6.52	-2.62
Variance 0			0.04	0.01	0.64			-0.06	0.32
Variance 1			-0.05	-0.02	1.56			0.01	1.22
Variance 2			0.07	0.02	0.54			-0.11	-0.27

Notes

Start purging well @ 14:38, stop @ 16:37; Initial purge rate of 170 ml/min increased to 180 ml/min @ 14:48, to 175 ml/min @ 15:08, to 170 ml/min @ 15:43; Turbidity remained > 10 NTU up to 13.4 L purge and was < 6 NTU after 15.9 L; Water has sulfurous odor, fine silt sized particles, and small bubbles; Collect sample @ 16:45; pH during sampling is 6.41; Weather is sunny 72 degrees F

Grab Samples  
ARAMW-3  
Groundwater sample

Product Name: Low-Flow System

Date: 2020-09-30 12:52:40

Project Information:

Operator Name Andreas Shoredits  
Company Name Wood E&IS  
Project Name Plant Arkwright  
Site Name ARAMW-4  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 642533  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Sample Pro  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 62 ft

Pump placement from TOC 52 ft

Well Information:

Well ID ARAMW-4  
Well diameter 2.00 in  
Well Total Depth 57.72 ft  
Screen Length 10 ft  
Depth to Water 21.48 ft

Pumping Information:

Final Pumping Rate 180 mL/min  
Total System Volume 0.4667322 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 19 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	12:15:54	5700.93	19.46	5.97	1568.76	5.24	21.44	7.48	2.40
Last 5	12:20:54	6000.92	19.50	5.96	1555.87	5.18	21.43	7.31	3.00
Last 5	12:25:54	6300.91	19.51	5.95	1565.35	4.70	21.44	7.21	3.82
Last 5	12:30:54	6600.91	19.53	5.94	1552.57	4.67	21.43	7.08	4.28
Last 5	12:35:54	6900.91	19.58	5.94	1541.98	4.84	21.43	6.98	4.87
Variance 0			0.00	-0.01	9.48			-0.10	0.82
Variance 1			0.02	-0.00	-12.78			-0.13	0.46
Variance 2			0.05	-0.00	-10.59			-0.10	0.59

Notes

Start purging well @ 10:41, stop @ 12:36; Initial purge rate of 170 ml/min increased to 190-210 ml/min @ 10:47, lowered to 180 ml/min @ 11:42; Water has strong sulfurous odor and silt sized grains visible in sample; Turbidity remained > 10 NTU until approximately 12 L purged; Collect sample @ 12:40; pH during sampling is 5.94; Weather is sunny 60 degrees F

Grab Samples  
ARAMW-4  
Groundwater sample



Product Name: Low-Flow System

Date: 2020-10-01 15:14:15

Project Information:

Operator Name Andreas Shoredits  
Company Name Wood E&IS  
Project Name Plant Arkwright  
Site Name ARAMW-6  
Latitude 32° 55' 31.57"  
Longitude -83° -42' -29.55"  
Sonde SN 642533  
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Sample Pro  
Tubing Type HDPE  
Tubing Diameter 0.17 in  
Tubing Length 37 ft

Pump placement from TOC 27 ft

Well Information:

Well ID ARAMW-6  
Well diameter 2.00 in  
Well Total Depth 32.33 ft  
Screen Length 10 ft  
Depth to Water 13.43 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.3551467 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2 in  
Total Volume Pumped 22.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	14:31:07	6901.91	21.39	6.37	361.45	5.58	13.87	0.21	9.08
Last 5	14:36:07	7201.90	21.38	6.37	360.62	5.22	13.87	0.22	9.86
Last 5	14:41:07	7501.90	21.32	6.37	361.00	4.87	13.87	0.22	10.02
Last 5	14:46:07	7801.89	21.38	6.37	360.27	4.70	13.87	0.22	10.36
Last 5	14:51:07	8101.88	21.37	6.37	359.69	4.74	13.87	0.21	10.61
Variance 0			-0.06	-0.00	0.37			-0.00	0.16
Variance 1			0.06	-0.00	-0.72			-0.00	0.34
Variance 2			-0.01	0.00	-0.58			-0.01	0.26

Notes

Start purging well @ 12:38, stop @ 14:51; Initial purge rate of 180 ml/min reduced to 175 ml/min @ 12:52, to 170 ml/min @ 13:12, to 160 ml/min @ 13:37, and to final purge rate of 150-155 ml/min @ 14:22; Turbidity remained near constant between 5 and 10 NTU after purging 8.5 L; Collect sample @ 14:55; pH during sample collection is 6.37; Weather is sunny 75 degrees F

Grab Samples





Georgia Power Site Sampling Data (GW)

Site Name: Plant Arkwright AP3

Date: 9/29/20 - 10/1/20

Well ID	Sample Date	Sample Time	Field Blank	Equipment Blank	Field Dup.	Additional Comments
FB-01	9/29/20	0945	FB-01			Field Blank For Ash Pond 3
ARGWA-12	9/29/20	1127				
ARGWA-13	9/29/20	1330				
ARGWA-5	9/29/20	1050				
ARGWA-3	9/29/20	1225				
ARGWC-7	9/29/20	1415				
ARGWC-16	9/29/20	1540				
ARGWA-14	9/29/20	1035				
ARGWC-15	9/29/20	1305				
ARGWC-17	9/29/20	1455				
DUP-01	9/29/20	-			DUP-01	Duplicate of ARGWC-17 (DUP-01)
EB-01	9/30/20	0905		EB-01		Equip Blank of QED Sample Pro Bladder Pump
ARAMW-4	9/30/20	1240				
ARAMW-3	9/30/20	1645				
ARGWC-18	9/30/20	1615				
ARGWC-10	10/1/20	1100				
ARGWC-9	10/1/20	1450				
ARAMW-6	10/1/20	1455				
ARGWC-8	10/1/20	1100				

Additional comments: Field Blank FB-01 was taken at Ash Pond 3 using ASTM Type I deionized water (7732-18-5). Equip blank EB-01 was collected from the QED Sample Pro Bladder Pump ID# 8655 using ASTM Type I deionized water (7732-18-5).