

Assessment of Corrective Measures Report

Georgia Power Company – Plant Arkwright

Ash Pond 2 Dry Ash Stockpile

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CERTIFICATION STATEMENT

Assessment of Corrective Measures Report

Plant Arkwright

Ash Pond 2 Dry Ash Stockpile



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LIST OF ACROYMNS

ACM	Assessment of Corrective Measures
AP	Ash Pond
DAS	Dry Ash Stockpile
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
cm/ft	centimeters per feet
ft	feet
ft bgs	feet below ground surface
ft/ft	feet per foot
GA EPD	Georgia Environmental Protection Division
GPC	Georgia Power Company
GWPS	Groundwater Protection Standard
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
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 2 Dry Ash Stockpile (AP-2 DAS) (**Figure 1: Site Location Map**) .

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 cobalt identified during in the *2020 Annual Groundwater Monitoring and Corrective Action Report (Wood 2020a)*.

The ACM was initiated within 90 days of identifying an SSL of lithium in well ARGWC-21 on April 10, 2020. New background data in April 2020 was used to update the lithium Groundwater Protection Standard (GWPS), and there is no longer a lithium SSL in well ARGWC-21. Two downgradient wells (ARGWC-22 and ARGWC-23) were installed in November 2019 and incorporated into the groundwater monitoring network. Statistical analysis of groundwater samples collected in April 2020 indicate an SSL of cobalt in ARGWC-22. A Notice of ACM was submitted to the GA EPD July 9, 2020 following the exceedance of 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. This ACM is the first step in identifying viable corrective measures to address SSLs in groundwater at the AP-2 DAS Site.

GPC installed delineation piezometers ARAMW-1 and ARAMW-2 to further characterize groundwater conditions in the vicinity of monitoring well ARGWC-21. Piezometers ARAMW-1 and ARAMW-2 may be sampled in the future to delineate future SSLs at ARGWC-21, as necessary.

GPC is in the process of installing groundwater monitoring wells to vertically delineate cobalt in ARGWC-22 and ARGWC-23. Due to the presence of Beaverdam Creek in the downgradient direction of ARGWC-22 and ARGWC-23 (**Figure 2: Monitoring Network Well Location Map**), installation of additional wells to horizontally characterize this area is infeasible. GPC proactively collected surface water samples from Beaverdam Creek in November 2020. The surface water samples indicate cobalt concentrations were not detected above the reporting limit of 0.0025 mg/L. Based on cobalt results for data collected to date, no cobalt impacts to surface water have been detected and horizontal characterization is complete.

A milestone schedule for completion of delineation and the next steps are discussed in this report. Based on results of the ACM, further evaluation will 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).

GPC conducted a human health and ecological risk evaluation to evaluate constituents that exhibit SSLs in groundwater, cobalt, at AP-2 DAS. The risk evaluation used a conservative, health-protective approach that is consistent with USEPA risk assessment guidance, GA 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-2 DAS 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 GPC from December 2019 to May 2020 in compliance with GA EPD CCR rules. Based upon this risk evaluation, which included multiple conservative assumptions, concentrations of cobalt detected in groundwater at AP-2 DAS 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: Risk Assessment**.

1.1 Purpose

The purpose of this ACM is to begin the process of selecting corrective measure(s) for groundwater at AP-2 DAS. 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 AP-2 DAS.

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 a 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)
- The 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 a 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: Site Location Map**). The physical address of the plant is Plant Arkwright Macon, GA 31211. When in operation, Plant Arkwright consisted of four 40-megawatt units. In years before retirement, the plant was used primarily to provide peaking power and operated approximately 40 to 60 days per year. The Plant Arkwright coal-fired power plant was retired in 2002 and decommissioned in 2003. The 11-acre AP-2 DAS is located between Arkwright Road to the north and Beaverdam Creek in the south.

1.3 Pond Closure

AP-2 DAS was in operation in the 1950s. Soil was placed over AP-2 DAS as a closure measure and was estimated to be closed in-place in the late 1970s to early 1980s. GPC officially closed the AP-2 DAS 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. AP-2 DAS is subject to the requirements of relevant portions of GA EPD 391-3-4-.10. The CCR unit referred to as AP-2 DAS is defined as an inactive CCR Landfill per GA EPD Rule 391-3-4-.10(2)(a)(3).

The closure of AP-2 DAS described above provides some source control that reduces the potential for migration of CCR constituents to groundwater. Corrective measures discussed in this ACM are being evaluated to address SSLs in detection monitoring network wells at the waste boundary.

2.0 CONCEPTUAL SITE MODEL

The following section summarizes the geologic and hydrogeologic conditions at the Plant Arkwright AP-2 DAS 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-2 DAS 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.

Figure 3: Cross-Sections A-A’ and B-B’ shows the estimated thickness of the overburden soils and depth to top of bedrock. 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 unconsolidated sands, silts, and PWR are also referred to as overburden. 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 AP-2 DAS (**Figure 2: Monitoring Network Well Location Map**) monitors the water table zone and the shallow 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 in the water table aquifer. Groundwater level monitoring data from the Site show stable water level trends and the potentiometric maps reflect groundwater generally flowing toward the south across AP-2 DAS as indicated on the 2020 potentiometric maps **Figure 4: Potentiometric Surface - April 2020** and **Figure 5: Potentiometric Surface - September 2020**.

3.0 NATURE AND EXTENT OF APPENDIX IV CONSTITUENTS

The following describes monitoring-related field and assessment activities performed at AP-2 DAS 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

3.1.1 Groundwater Monitoring Program

In accordance with GA EPD Rule 391-3-4-.10(6)(a), a groundwater monitoring system was installed at AP-2 DAS 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 well network was initially certified by a professional engineer (PE) on November 23, 2016. The current compliance monitoring well network for AP-2 DAS consists of a total of 5 monitoring wells: two upgradient wells and three downgradient wells and an additional two delineation piezometers. The locations of the wells for the certified monitoring well network are shown on **Figure 2: Monitoring Network Well Location Map** and well construction details are listed in **Table 1: Monitoring Network Well Construction Details**. Groundwater is currently monitored in AP-2 DAS wells under the assessment monitoring program pursuant to GA EPD Rule 391-3-4-.10(6)(a). Additional groundwater monitoring details are provided in the *2020 Annual Groundwater and Corrective Action Monitoring Report* (Wood, 2020a).

3.1.2 SSLs for Appendix IV Constituents

Groundwater monitoring data collected during the semiannual monitoring events in October 2019 and April 2020 were statistically analyzed pursuant to GA EPD Rule 391-3-4-.10(6)(a) 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 GA EPD CCR Rule requirements, separate groundwater protection standards (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 constituents detected during the semiannual monitoring event were compared to GWPS to assess if concentrations in monitoring network wells at the waste boundary 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

October 2019 and April 2020 analytical data identified SSLs of lithium and cobalt in the following wells:

AP-2 DAS (GA EPD CCR Rule):

- Lithium: ARGWC-21 (October 2019)
- Cobalt: ARGWC-22 (April 2020)

New background data in April 2020 was used to update the lithium GWPS, and there is no longer a lithium SSL in well ARGWC-21. Pursuant to GA EPD Rule 391-3-4-.10(6)(a), an ACM was initiated for cobalt at AP-2 DAS 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 Semi-Annual and 2020 Annual Groundwater Monitoring and Corrective Action Reports* (ACC 2019 and Wood 2020a), which included: soil and rock borings, rock coring, piezometer and monitoring well installation, slug testing, and groundwater sampling. Two delineation piezometers were installed in November 2019 to assess the extent of lithium in groundwater at monitoring well ARGWC-21. Detailed boring and well construction logs for these two new piezometers are provided in **Appendix B: Boring and Well Construction Logs**. The locations of the two delineation piezometers are shown on **Figure 2** and well construction details are also provided in **Table 1**.

Pursuant to GA EPD Rule 391-3-4.10(6)(a), groundwater in the vicinity of AP-2 DAS continues to be monitored during the ACM phase in accordance with the assessment monitoring program established for the CCR unit in 2019. Groundwater samples were collected from the three monitoring wells (ARGWA-19, ARGWA-20, and ARGWC-21) in August 2019 and analyzed for the full suite of the Appendix IV parameters per GA EPD Rule 391-3-4.10(6)(a). Two additional downgradient compliance wells (ARGWC-22 and ARGWC-23) were installed in November 2019. The new downgradient wells were initially sampled in December 2019 for the first background characterization of the new downgradient wells for the full suite of Appendix III and IV constituents. Subsequent background sampling events #2 through #8 were conducted in January, February, March, May, July, August, and September 2020. The upgradient and downgradient wells were sampled in June 2020 and analyzed for boron, fluoride, cobalt, lithium, molybdenum, and geochemical characterization constituents to obtain data to assist in evaluating an alternate source demonstration. The five AP-2 DAS monitoring wells and two delineation piezometers were sampled for the full Appendix IV constituent list in August 2020 for assessment monitoring constituent screening. The fall 2020 semiannual sampling event was

conducted from September 28 through October 2, 2020 and the five wells and two piezometers were sampled for Appendix III and detected Appendix IV constituents.

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

The April 2020 cobalt concentration in downgradient waste boundary well ARGWC-22 statistically exceeded the site-specific GWPS (0.0025 mg/L) for cobalt. An Isoconcentration map for cobalt is shown on **Figure 6: Isoconcentration Map for Cobalt Ash Pond 2 - April 2020**. The October 2020 cobalt concentrations in wells ARGWC-22 and ARGWC-23 were above the cobalt April 2020 GWPS of 0.0025 mg/L as shown on **Figure 7: Isoconcentration Map for Cobalt Ash Pond 2 – September/October 2020**. Statistical analyses of the September/October 2020 are currently pending, at the time of report preparation, will be reported in next semi-annual groundwater monitoring report in February 2021.

As a proactive measure and due to further horizontal delineation being infeasible at ARGWC-22 and ARGWC-23, GPC sampled surface water in Beaverdam Creek. The surface water samples were collected in November 2020 (**Figure 2**) and the data indicates cobalt was not detected above the reporting limit of 0.0025 mg/L. Based on cobalt results for data collected to date, no cobalt impacts to surface water have been detected and horizontal characterization is complete. As part of the routine groundwater monitoring program, surface water sampling will be conducted in accordance with US EPA procedure SESDPROC-201-R3: Surface Water Sampling (US EPA 2013) to monitor for cobalt impacts to the surface water.

Vertical delineation of cobalt in wells ARGWC-22 and ARGWC-23 is in progress. Two additional vertical delineation wells are being installed. The proposed locations for two vertical delineation wells are shown on **Figure 8: Proposed Locations for Vertical Extent Wells**. The construction details and the analytical results of the new vertical delineation wells will be reported in next semi-annual groundwater monitoring report in February 2021.

The September/October 2020 semiannual event results reported for the monitoring network wells will be statistically evaluated relative to the site-specific GWPS and reported in the corresponding semiannual groundwater monitoring report. Because background characterization for new downgradient wells ARGWC-22 and ARGWC-23 was completed in September 2020, additional SSLs may be identified from the September/October 2020 semiannual event that will be incorporated into this ACM in the Assessment of Corrective Measures Semi-Annual Progress Reports.

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(6)(a), including performance, reliability, ease of implementation, potential impacts, time required, and institutional and public health requirements, the following criteria listed in GA EPD Rule 391-3-4-.10(6)(a) must be met by the corrective measure when selected:

- Protect human health and the environment.
- Attain applicable groundwater protection standards as specified pursuant GA EPD Rule 391-3-4-.10(6)(a).
- Control the source(s) 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(6)(a).

Corrective measures selected for evaluation herein for potential use at AP-2 DAS are anticipated to satisfy the above criteria to varying degrees of effectiveness.

4.2 Summary of Potential Corrective Measures

The soil and vegetation covering on AP-2 DAS 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 detection monitoring wells at the waste boundary of the unit.

This section presents potential corrective measures capable of remediating the Appendix IV groundwater constituents (i.e., cobalt) at AP-2 DAS. Each corrective measure is evaluated relative to criteria specified in GA EPD Rule 391-3-4.10. **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. AP-2 DAS covers 11-acres and groundwater flow through bedrock fractures would make ISS not a viable corrective measure at AP-2 DAS. Therefore, ISS is not considered an applicable groundwater corrective measure for AP-2 DAS and no detailed evaluation is provided in **Table 4**.

4.2.1 Geochemical Approaches (In-Situ Injection)

Cobalt can be precipitated and/or immobilized under different combinations of pH and redox conditions. A variety of pH and/or redox-altering technologies are available which can incorporate biological processes, chemical oxidants, and reductants, and/or mechanical processes such as air sparging. These processes can be used to decrease the mobility of cobalt. For example, cobalt can be sorbed to iron and manganese oxides or precipitated as sparingly soluble cobalt sulfide minerals. To understand the biogeochemical processes that would effectively immobilize target constituents in groundwater, site-specific bench-scale and pilot-scale treatability studies are needed to prepare an effective amendment to create the appropriate conditions for the precipitation and/or sorption of cobalt without mobilizing other naturally occurring constituents. Once precipitated, cobalt is often stable even if geochemical conditions revert back 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 out (or make more “sorptive”) compounds that are generally more soluble and mobile under reducing conditions. This can also support the precipitation of iron and manganese hydroxides, which would provide additional sorption sites for cobalt. 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 toxicity of certain inorganic compounds. The main limiting process in these in-situ remedial approaches is the delivery of the compounds within the area of interest. Mixing and contact with the target constituents are necessary and can be difficult in heterogeneous materials and fine-grained materials. While it is currently not well understood whether cobalt can be efficiently attenuated using in-situ redox manipulations due to slow reaction kinetics, the attenuation of cobalt is expected to occur under both aerobic (via sorption to manganese or iron oxides) and anaerobic conditions (via formation of sulfide minerals). In-situ injections may be considered a potentially

viable corrective measure to address cobalt and other metals in groundwater at AP-2 DAS, especially in smaller, more localized areas. This technology will be retained for further evaluation.

4.2.2 Hydraulic Containment (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 feature 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, but can be effective as an interim measure, or combined with another measure, to provide hydraulic containment to limit constituent migration toward a potential receptor.

Groundwater extraction for hydraulic control can often effectively address the variety of inorganic constituents encountered at CCR sites, including cobalt. Extraction technologies may be more efficient for conservative species, such as lithium, which are not readily attenuated by other mechanisms (e.g., precipitation, adsorption). Extraction technologies also have the ability to overcome the limitations of in situ injection-based technologies (i.e., mixing and contact with affected materials, and to access impacted groundwater in lower permeability geologic formations such as fractured bedrock). Space constraints are mainly limited to the above-ground conveyance and treatment component of a P&T system since extraction wells can generally be fit 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 reused for irrigation (e.g., of a cover system or other vegetated areas at the Site) or dust suppression purposes. Therefore, P&T is a potentially viable corrective measure for cobalt in groundwater at AP-2 DAS and will be retained for further evaluation.

4.2.3 Monitored Natural Attenuation

The US EPA defines monitored natural attenuation (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, or biological processes

that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater. These in-situ processes include biodegradation; dispersion; dilution; sorption; volatilization; radioactive decay; and chemical or biological stabilization, transformation, or destruction of contaminants (US EPA, 2015b).

Attenuation mechanisms for inorganic constituents, such as cobalt, are either physical (e.g., dilution, dispersion, flushing, and related processes) or chemical (e.g., sorption or oxidation reduction reactions). Physical attenuation mechanisms such as dilution and dispersion may be appropriate as a polishing step (e.g., at the boundaries of impacted groundwater, when the source is controlled or in conjunction with other remedies when appropriate land use and groundwater controls are in place). Chemical attenuation mechanisms through sorption reactions, discussed in more detail below, may be viable as a corrective measure for cobalt.

The US EPA uses four phases to establish whether MNA can be successfully implemented 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 is 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.

Physical and chemical MNA mechanisms for cobalt, including dilution, dispersion, and sorption can be operational without the potential for additional mass of constituents migrating to downgradient groundwater. Therefore, MNA is a potentially viable corrective measure for cobalt in groundwater at AP-2 DAS and will be retained for further evaluation.

4.2.4 Permeable Reactive Barriers

Permeable reactive barriers (PRBs) can present a viable alternative for in-situ treatment of cobalt. The technology typically involves the installation of a subsurface wall constructed with reactive

media for the removal of constituents as groundwater passes through. Media such as zero-valent iron (ZVI), biologically active media (to induce oxidizing or reducing conditions), or clays, apatite, zeolites, and/or peat moss (to promote ionic exchange and/or sorption) are used in the PRB. PRBs have proven to be effective in passively treating several inorganic constituents found at CCR sites, including arsenic, selenium, and chromium (e.g. ITRC, 2011). The use of PRBs for cobalt has been tested (e.g., Ludwig et al., 2002; ITRC, 2011), but additional site-specific testing is needed to confirm the applicability of this technology to cobalt removal from groundwater.

PRBs can be installed in downgradient locations using conventional excavation methods or one-pass trenching method. Excavated trenches are back-filled 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. Similar to slurry walls (see Section 4.2.6), PRBs are typically keyed into an underlying low permeability unit such as a clay layer or bedrock.

The installation depths of a PRB unit are generally limited to about 90 ft below ground surface (ft bgs). The installation of a PRB generally requires more space than extraction wells, but the system does not require above-ground treatment components and therefore, the overall treatment footprint is likely to be smaller compared to a P&T system. While additional subsurface investigations, aquifer testing, reactive media testing, and compatibility testing of groundwater and a slurry wall component of a PRB will be needed to further evaluate the feasibility of installing a PRB at AP-2 DAS, the technology is currently considered to be a potentially viable corrective measure to address cobalt in groundwater at AP-2 DAS and will be retained for further evaluation.

4.2.5 Phytoremediation

Phytoremediation is the use of plants to degrade, immobilize, or contain constituents in soil, groundwater, surface water, and sediments. Phytotechnologies include a variety of applications ranging from constructed wetlands, alternative landfill covers, tree plantations for hydraulic control, use of plants for slope stabilization, planted (riparian) buffers for nutrient management and sediment control, and the classical applications of constituent uptake and degradation. 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, a containment mechanism, which is the ability of plants to sequester constituents in the rhizosphere (an area a few millimeters away from a root surface).
- Phytohydraulics, which 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 which 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 downgradient groundwater wells at the Site that exhibited SSLs for cobalt are screened to depths of up to 45 ft bgs, traditional plantings for phytoremediation are not expected to be successful. However, more recently, an engineered approach to phytoremediation, the *TreeWell*® system (which is a proprietary system developed by Applied Natural Sciences), has been shown to overcome these constraints 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 (e.g., Gatliff et al., 2016).

By installing a cased “well” for tree planting using large diameter auger (LDA) 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 site-specific conditions, the system would be applied for hydraulic control, but cobalt is expected to be either immobilized within the root zone or incidentally taken up into the tree biomass.

The advantage of the system includes no above-ground water management needs and limited long-term operations and maintenance (O&M) requirements following the establishment of the tree system. Such systems have been observed to meet design hydraulic control parameters typically by the end of the third growing season, when properly designed and spaced. The layout for a *TreeWell* remediation system is generally based on groundwater flow modeling assuming a design uptake rate of approximately 40 to 60 gallons per day per tree.

With the exception of the *TreeWell*® technology, phytoremediation technologies are not likely feasible at the AP-2 DAS unit due to the depth of SSLs. Although the *TreeWell*® technology can access SSLs at depth, the groundwater extraction rate needed to limit SSL migration needs to be further evaluated to determine if the capacity of the *TreeWell*® technology is applicable at AP-2 DAS. The limited physical space for installation of a phytoremediation system between AP-2 DAS and the adjacent surface water body (Beaverdam Creek) may cause the technology to be eliminated from consideration. Thus, while phytoremediation may be technically feasible as a remedial technology for cobalt; however, there is not enough site information currently available to decide to eliminate this technology from further evaluation and this technology will be retained until data indicates it is not a feasible technology.

4.2.6 Subsurface Vertical Barrier Walls

Subsurface vertical barrier walls (sometimes referred to as slurry 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 the bedrock or a lower confining unit. 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 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 of installation, which is approximately 90 ft below ground surface. Sheet pile walls are limited by the depth of installation which is approximately 60-65 feet. However, site-specific geologic and technology-specific considerations may limit this depth to shallower installations.

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

While additional subsurface investigations, aquifer testing, and wall compatibility testing with the groundwater chemistry will be needed to further evaluate the feasibility as well as the placement of a barrier wall at AP-2 DAS, the technology is currently considered to be a

potentially viable corrective measure to address cobalt in groundwater at AP-2 DAS and will be retained for further evaluation. This technology may be used in conjunction with other applications 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

AP-2 DAS was effectively closed in-place in the late 1970s to early 1980s and likely in the 1970s. EPD issued a closure certificate (011-031D(LI)) in August 2010. The soil cover provides source control that reduces the potential for migration of CCR constituents to groundwater. Further source control measures are being considered for AP-2 DAS.

The Site conceptual model may need to be refined and/or updated from the current understanding as more data are collected. GPC 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 semiannually; (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, and 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(6)(a).

5.3 Schedule, Reporting, and Next Steps

Additional data collection for vertical delineation is in progress and will continue through early 2021 and beyond. A summary of next steps is as follows:

- Installation of additional wells to vertically characterize the nature and extent of cobalt at ARGWC-22 is in progress. The well installation information and sampling data from the new vertical extent wells will be provided in the February 2021 Semiannual Groundwater Monitoring and Corrective Action Report.
- Sampling of these delineation wells for cobalt will be performed in late 2020 and early 2021.
- 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-2 DAS 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 semiannual reporting, an addendum to this report will be submitted along with the 2021 Semiannual Groundwater Monitoring and Corrective Action Report in February 2021.

At least 30 days prior to the selection of remedy or remedies, a public meeting to discuss the results of the corrective measures assessment will be held pursuant to GA EPD Rule 391-3-4-.10(6). The final remedy selection report will be developed as outlined in GA EPD Rule 391-3-4-.10(6). Once the remedy has been selected, the implementation of the remedy will be initiated in accordance with GA EPD Rule 391-3-4-.10(6).

6.0 REFERENCES

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TABLES

**TABLE 1
MONITORING NETWORK WELL CONSTRUCTION DETAILS**

Well	Northing ⁽¹⁾	Easting ⁽¹⁾	Top of Casing Elevation (ft above msl)⁽²⁾ (Prior to June 2020 Resurvey)	Top of Casing Elevation (ft above msl)⁽²⁾ (June 2020 Resurvey)	Ground Surface Elevation(ft above msl)⁽³⁾	Top of Screen Elevation (ft above msl)⁽³⁾	Screen Bottom Elevation(ft above msl)⁽³⁾	Screen Length (feet)	Total Well Depth (ft below TOC) ⁽⁴⁾	Water Bearing Zone Screened	Location
ARGWA-19	1063774.45	2439488.71	343.48	343.30	339.86	300.2	290.2	10.0	52.80	Bedrock	Upgradient
ARGWA-20	1063732.73	2439088.01	331.48	331.28	327.73	303.2	293.2	10.0	37.70	Overburden	Upgradient
ARGWC-21	1062941.24	2439112.52	309.40	309.15	305.97	291.7	281.7	10.0	27.28	Overburden	Downgradient
ARGWC-22	1063039.36	2438925.04	310.18	309.95	307.01	292.0	282.0	10.0	27.87 ⁽⁵⁾	Overburden	Downgradient
ARGWC-23	1062884.38	2439202.38	307.79	307.70	304.29	289.3	279.3	10.0	27.98 ⁽⁵⁾	Overburden	Downgradient
ARAMW-1	1062938.38	2439120.01	308.67	308.51	305.07	271.1	261.1	10.0	46.98 ⁽⁵⁾	Bedrock	Downgradient
ARAMW-2	1062925.96	2439114.97	308.52	308.27	305.12	293.1	283.1	10.0	25.05 ⁽⁵⁾	Overburden	Downgradient

Notes:

1. Horizontal locations referenced to Georgia State Plane West, North American Datum of 1983 surveyed in June 2020.
2. ft msl indicates feet mean sea level.
3. Elevations based on June 2020 survey.
4. TOC indicates top of casing.
5. Monitoring wells ARGWC-22 and ARGWC-23, Delineation Piezometers ARAMW-1, and ARAMW-2 were installed in November 2019 and total well depths are from well construction logs.
6. ARAMW-1 and ARAMW-2 are vertical and horizontal delineation piezometers for monitoring network well ARGWC-21.

TABLE 2
SUMMARY OF GROUNDWATER PROTECTION STANDARDS

Constituent	Units	MCL	Federal CCR Rules Specified Limit	Site-Specific Background April 2020	State Derived Site GWPS ⁽²⁾ April 2020
Antimony	mg/L	0.006		0.002	0.006
Arsenic	mg/L	0.01		0.0015	0.01
Barium	mg/L	2.0		0.1	2.0
Beryllium	mg/L	0.004		0.001	0.004
Cadmium	mg/L	0.005		0.001	0.005
Chromium	mg/L	0.1		0.0078	0.1
Cobalt ⁽¹⁾	mg/L		0.006	0.0025	0.0025
Fluoride	mg/L	4.0		0.2	4.0
Lead ⁽¹⁾	mg/L		0.015	0.001	0.001
Lithium ⁽¹⁾	mg/L		0.04	0.013	0.013
Mercury	mg/L	0.002		0.0002	0.002
Molybdenum ⁽¹⁾	mg/L		0.1	0.015	0.015
Combined Radium	piC/L	5.0		1.4	5.0
Selenium	mg/L	0.05		0.005	0.05
Silver	mg/L			0.001	0.001
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, 2018

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)(a).

(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
SUMMARY OF ANALYTICAL RESULTS**

Substance	Well ID				
	ARGWA-19	ARGWA-19	ARGWA-19	ARGWA-19	
	4/07/2020	6/25/2020	8/19/2020	9/29/2020	
APPENDIX III	Boron	0.072 J	0.091	NA	<0.039
	Calcium	14	14	NA	12
	Chloride	11	11	NA	10
	Fluoride	0.14	0.030 J	<0.026	0.051 J
	Sulfate	8.4	9.8	NA	8.4
	TDS	120	NA	NA	110
	pH	5.7	5.8	6.3	5.8
APPENDIX IV	Antimony	NA	NA	<0.00038	NA
	Arsenic	0.00060 J	NA	<0.00031	<0.00031
	Barium	0.047	NA	0.044	0.040
	Beryllium	NA	NA	<0.00018	<0.00018
	Cadmium	0.00034 J	NA	<0.00022	NA
	Chromium	<0.0015	NA	<0.0015	<0.0015
	Cobalt	0.00038 J	<0.00013	<0.00013	<0.00013
	Lead	0.00037 J	NA	<0.00013	<0.00013
	Lithium	0.0053	0.0053	0.0038 J	0.0041 J
	Mercury	NA	NA	<0.00013	NA
	Molybdenum	NA	<0.00061	<0.00061	<0.00061
	Radium	0.651	NA	0.294 U	0.372 U
	Selenium	<0.0015	NA	<0.0015	<0.0015
	Thallium	NA	NA	<0.00015	NA
*	Silver	0.00018 J	NA	NA	<0.00018
**	Total Alkalinity	NA	33	NA	NA
**	Bicarbonate Alkalinity	NA	33	NA	NA

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 number.
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. NA indicates constituent was not analyzed
7. * - Georgia Appendix I constituent that is not also included in Appendix IV.
8. ** - Geochemical parameter

**TABLE 3
SUMMARY OF ANALYTICAL RESULTS**

Substance	Well ID				
	ARGWA-20	ARGWA-20	ARGWA-20	ARGWA-20	
	4/06/2020	6/25/2020	8/19/2020	9/30/2020	
APPENDIX III	Boron	0.063 J	0.081	NA	0.083
	Calcium	9.5	9.6	NA	9.9
	Chloride	5.2	5.1	NA	5.6
	Fluoride	0.059 J	<0.026	<0.026	0.032 J
	Sulfate	15	16	NA	15
	TDS	90	NA	NA	82
	pH	5.5	5.6	6.2	5.7
APPENDIX IV	Antimony	NA	NA	<0.00038	NA
	Arsenic	0.00042 J	NA	<0.00031	<0.00031
	Barium	0.075	NA	0.085	0.080
	Beryllium	NA	NA	0.00022 J	0.00019 J
	Cadmium	<0.00022	NA	<0.00022	NA
	Chromium	0.0057	NA	0.0063	0.0057
	Cobalt	0.00039 J	0.00015 J	0.00064 J	0.00031 J
	Lead	0.00033 J	NA	0.00039 J	0.00022 J
	Lithium	<0.0034	<0.0034	<0.0034	<0.0034
	Mercury	NA	NA	<0.00013	NA
	Molybdenum	NA	<0.00061	<0.00061	<0.00061
	Radium	0.0720 U	NA	0.940	0.679
	Selenium	0.0017 J	NA	0.0015 J	0.0016 J
	Thallium	NA	NA	<0.00015	NA
*	Silver	<0.00018	NA	NA	<0.00018
**	Total Alkalinity	NA	39	NA	NA
**	Bicarbonate Alkalinity	NA	39	NA	NA

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 number.
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. NA indicates constituent was not analyzed
7. * - Georgia Appendix I constituent that is not also included in Appendix IV.
8. ** - Geochemical parameter

**TABLE 3
SUMMARY OF ANALYTICAL RESULTS**

Substance	Well ID				
	ARGWC-21	ARGWC-21	ARGWC-21	ARGWC-21	
	4/07/2020	6/25/2020	8/21/2020	10/1/2020	
APPENDIX III	Boron	0.74	0.82	NA	0.90
	Calcium	69	80	NA	79
	Chloride	4.2	3.7	NA	4.3
	Fluoride	0.12	0.041 J	0.084 J	0.098 J
	Sulfate	180	210	NA	210
	TDS	460	NA	NA	500
	pH	6.0	6.0	5.9	6.0
APPENDIX IV	Antimony	NA	NA	<0.00038	NA
	Arsenic	0.00054 J	NA	<0.00031	<0.00031
	Barium	0.050	NA	0.054	0.051
	Beryllium	NA	NA	<0.00018	<0.00018
	Cadmium	<0.00022	NA	<0.00022	NA
	Chromium	<0.0015	NA	<0.0015	<0.0015
	Cobalt	0.00087	0.00097 J	0.00066 J	0.00082 J
	Lead	0.00026 J	NA	<0.00013	<0.00013
	Lithium	0.011	0.013	0.013	0.012
	Mercury	NA	NA	<0.00013	NA
	Molybdenum	NA	<0.00061	<0.00061	<0.00061
	Radium	0.433 U	NA	0.472	0.496 U
	Selenium	<0.0015	NA	<0.0015	<0.0015
	Thallium	NA	NA	<0.00015	NA
*	Silver	<0.00018	NA	NA	<0.00018
**	Total Alkalinity	NA	140	NA	NA
**	Bicarbonate Alkalinity	NA	140	NA	NA

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 number.
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. NA indicates constituent was not analyzed
7. * - Georgia Appendix I constituent that is not also included in Appendix IV.
8. ** - Geochemical parameter

**TABLE 3
SUMMARY OF ANALYTICAL RESULTS**

Substance	Well ID										
	ARGWC-22	ARGWC-22	ARGWC-22	ARGWC-22	ARGWC-22	ARGWC-22	ARGWC-22	ARGWC-22	ARGWC-22	ARGWC-22	ARGWC-22
	1/14/2020	2/11/2020	3/9/2020	4/7/2020	5/27/2020	6/24/2020	7/15/2020	8/19/2020	9/22/2020	9/30/2020	
APPENDIX III	Boron	2.7	3.0	2.7	2.6	2.5	2.5	2.6	1.3	2.8	2.9
	Calcium	210	180	180	190	200	180	190	220	190	200
	Chloride	5.5	9.0	11	8.1	7.3	5.7	6.0	5.7	7.1	8.0
	Fluoride	<0.026	0.056 J	0.064 J	0.068 J	0.060 J	0.048 J	0.040 J	<0.026	0.049 J	0.045 J
	Sulfate	930	660	630	710	720	810	820	1000	720	650
	TDS	1400	1300	1200	1300	1300	NA	1400	1400	1300	1200
	pH	5.9	5.9	6.0	5.8	5.7	5.8	5.6	6.2	5.8	5.8
APPENDIX IV	Antimony	<0.00038	<0.00038	<0.00038	NA	<0.00038	NA	<0.00038	<0.00038	<0.00038	NA
	Arsenic	0.00038 J	0.00040 J	<0.0016	<0.00031	<0.00031	NA	<0.00031	<0.00031	<0.00031	<0.00031
	Barium	0.071	0.046	0.039	0.040	0.054	NA	0.043	0.046	0.038	0.033
	Beryllium	0.00036 J	0.00023 J	0.00019 J	NA	0.00018 J	NA	<0.00018	<0.00018	<0.00018	<0.00018
	Cadmium	<0.00022	<0.00022	<0.00022	<0.00022	<0.00022	NA	<0.00022	<0.00022	<0.00022	NA
	Chromium	<0.0015	0.0048	<0.0015	<0.0015	<0.0015	NA	<0.0015	<0.0015	<0.0015	<0.0015
	Cobalt	0.0072	0.013	0.015	0.0090	0.0059	0.0047	0.0027	0.0032	0.0085	0.0055
	Lead	0.00022 J	<0.00013	<0.00013	0.00014 J	<0.00013	NA	<0.00013	<0.00013	<0.00013	<0.00013
	Lithium	0.034	0.010	0.0071	0.012	0.017	0.023	0.021	0.026	0.014	0.014
	Mercury	<0.00010	<0.00010	<0.00010	NA	<0.00013	NA	<0.00013	<0.00013	<0.00013	NA
	Molybdenum	0.0012 J	0.00093 J	0.00067 J	NA	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
	Radium	0.783	0.229 U	0.365	0.567	0.143 U	NA	0.970	0.587 U	0.884	0.602
	Selenium	<0.0015	<0.0015	<0.0076	<0.0015	<0.0015	NA	<0.0015	<0.0015	<0.0015	<0.0015
	Thallium	0.00027 J	0.00034 J	0.00035 J	NA	<0.00015	NA	<0.00015	<0.00015	<0.00015	NA
*	Silver	NA	NA	NA	<0.00018	NA	NA	NA	NA	NA	<0.00018
**	Total Alkalinity	NA	NA	NA	NA	NA	96	NA	NA	NA	NA
**	Bicarbonate Alkalinity	NA	NA	NA	NA	NA	96	NA	NA	NA	NA

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- ** - Geochemical parameter

**TABLE 3
SUMMARY OF ANALYTICAL RESULTS**

Substance	Well ID										
	ARGWC-23	ARGWC-23	ARGWC-23	ARGWC-23	ARGWC-23	ARGWC-23	ARGWC-23	ARGWC-23	ARGWC-23	ARGWC-23	
	1/14/2020	2/11/2020	3/9/2020	4/7/2020	5/27/2020	6/25/2020	7/15/2020	8/20/2020	9/22/2020	10/1/2020	
APPENDIX III	Boron	0.43	0.079 J	0.25	0.44	0.45	0.42	0.49	0.44	0.50	0.49
	Calcium	65	10	46	65	69	72	68	69	66	73
	Chloride	4.0	4.7	3.7	3.8	4.0	3.4	3.9	3.9	3.6	3.8
	Fluoride	0.21	0.13	0.089 J	0.18	0.25	0.25	0.28	0.19	0.33	0.32
	Sulfate	68	18	49	58	65	77	78	69	68	64
	TDS	340	110	210	290	320	NA	310	310	310	290
	pH	6.6	6.7	6.3	6.4	6.3	6.4	6.4	6.3	6.3	6.4
APPENDIX IV	Antimony	<0.00038	<0.00038	<0.00038	NA	<0.00038	NA	<0.00038	<0.00038	<0.00038	NA
	Arsenic	0.00042 J	<0.00031	<0.00031	<0.00031	<0.00031	NA	<0.00031	<0.00031	<0.00031	<0.00031
	Barium	0.075	0.046	0.14	0.16	0.18	NA	0.16	0.16	0.16	0.17
	Beryllium	<0.00018	<0.00018	<0.00018	NA	<0.00018	NA	<0.00018	<0.00018	<0.00018	<0.00018
	Cadmium	<0.00022	<0.00022	<0.00022	<0.00022	<0.00022	NA	<0.00022	<0.00022	<0.00022	NA
	Chromium	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	NA	<0.0015	<0.0015	<0.0015	<0.0015
	Cobalt	0.0031	0.00056	0.00061 J	0.0016	0.0017 J	0.0014 J	0.0017 J	0.0023 J	0.0036	0.0052
	Lead	0.00018 J	0.00026 J	<0.00013	<0.00013	<0.00013	NA	<0.00013	<0.00013	<0.00013	<0.00013
	Lithium	0.022	0.0078	0.013	0.032	0.037	0.043	0.042	0.036	0.039	0.040
	Mercury	<0.00010	<0.00010	<0.00010	NA	<0.00013	NA	<0.00013	<0.00013	<0.00013	<0.00013
	Molybdenum	0.032	0.021	0.013 J	NA	0.048	0.055	0.055	0.061	0.053	0.064
	Radium	0.869	0.0291 U	0.626	0.296 U	0.192 U	NA	0.279 U	0.242 U	0.0177 U	0.749
	Selenium	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	NA	<0.0015	<0.0015	<0.0015	<0.0015
	Thallium	<0.00015	0.00028 J	0.00026 J	NA	0.00026 J	NA	<0.00015	<0.00015	<0.00015	NA
*	Silver	NA	NA	NA	<0.00018	NA	NA	NA	NA	NA	<0.00018
**	Total Alkalinity	NA	NA	NA	NA	NA	160	NA	NA	NA	NA
**	Bicarbonate Alkalinity	NA	NA	NA	NA	NA	160	NA	NA	NA	NA

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- ** - Geochemical parameter

**TABLE 3
SUMMARY OF ANALYTICAL RESULTS**

Substance	Well ID					
	ARAMW-1	ARAMW-1	ARAMW-1	ARAMW-1	ARAMW-1	
	1/14/2020	2/26/2020	6/24/2020	8/20/2020	9/30/2020	
APPENDIX III	Boron	1.1	NA	0.84	NA	0.98
	Calcium	NA	NA	81	NA	100
	Chloride	NA	NA	5.3	NA	5.2
	Fluoride	NA	NA	0.21	0.23	0.20
	Sulfate	NA	NA	250	NA	230
	TDS	NA	NA	NA	NA	520
	pH	6.1	6.2	6.3	6.1	6.2
APPENDIX IV	Antimony	NA	NA	NA	<0.00038	NA
	Arsenic	NA	NA	NA	<0.00031	<0.00031
	Barium	NA	NA	NA	0.055	0.052
	Beryllium	NA	NA	NA	<0.00018	<0.00018
	Cadmium	NA	NA	NA	<0.00022	NA
	Chromium	NA	NA	NA	<0.0015	<0.0015
	Cobalt	NA	NA	0.00097 J	0.0010 J	0.0010 J
	Lead	NA	NA	NA	<0.00013	<0.00013
	Lithium	0.0090	0.0046 J	0.0084	0.0066	0.0091
	Mercury	NA	NA	NA	<0.00013	NA
	Molybdenum	NA	NA	0.0051 J	0.0076 J	0.0054 J
	Radium	NA	NA	NA	0.527	0.249 U
	Selenium	NA	NA	NA	<0.0015	<0.0015
	Thallium	NA	NA	NA	<0.00015	NA
*	Silver	NA	NA	NA	NA	<0.00018
**	Total Alkalinity	NA	NA	170	NA	NA
**	Bicarbonate Alkalinity	NA	NA	170	NA	NA

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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 number.
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. NA indicates constituent was not analyzed
7. * - Georgia Appendix I constituent that is not also included in Appendix IV.
8. ** - Geochemical parameter

**TABLE 3
SUMMARY OF ANALYTICAL RESULTS**

Substance	Well ID					
	ARAMW-2	ARAMW-2	ARAMW-2	ARAMW-2	ARAMW-2	
	1/14/2020	2/24/2020	6/24/2020	8/20/2020	10/1/2020	
APPENDIX III	Boron	1.8	NA	0.89	NA	0.95
	Calcium	NA	NA	89	NA	91
	Chloride	NA	NA	4.3	NA	4.2
	Fluoride	NA	NA	0.11	<0.026	0.098 J
	Sulfate	NA	NA	290	NA	270
	TDS	NA	NA	NA	NA	530
	pH	6.1	5.1	6.2	6.0	6.0
APPENDIX IV	Antimony	NA	NA	NA	<0.00038	NA
	Arsenic	NA	NA	NA	0.084	0.0085
	Barium	NA	NA	NA	0.14	0.075
	Beryllium	NA	NA	NA	<0.00018	<0.00018
	Cadmium	NA	NA	NA	<0.00022	NA
	Chromium	NA	NA	NA	<0.0015	<0.0015
	Cobalt	NA	NA	0.0027	0.0022 J	0.0036
	Lead	NA	NA	NA	<0.00013	<0.00013
	Lithium	0.086	0.19	0.018	0.036	0.019
	Mercury	NA	NA	NA	<0.00013	NA
	Molybdenum	NA	NA	<0.00061	0.0013 J	<0.00061
	Radium	NA	NA	NA	4.13	2.86
	Selenium	NA	NA	NA	<0.0015	<0.0015
	Thallium	NA	NA	NA	<0.00015	NA
*	Silver	NA	NA	NA	NA	<0.00018
**	Total Alkalinity	NA	NA	130	NA	NA
**	Bicarbonate Alkalinity	NA	NA	130	NA	NA

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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 number.
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.
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8. ** - Geochemical parameter

**TABLE 3
SUMMARY OF ANALYTICAL RESULTS**

Substance	Surface Water ID			
	BC-0.8	BC-0.5.5	BC-BR	
	11/3/2020	11/3/2020	11/3/2020	
APPENDIX III	Boron	NA	NA	NA
	Calcium	NA	NA	NA
	Chloride	9.5	9.2	9.3
	Fluoride	0.066 J	0.050 J	<0.044
	Sulfate	3.8	6.1	6.2
	TDS	84	88	85
	pH	7.6	7.4	7.4
APPENDIX IV	Antimony	NA	NA	NA
	Arsenic	NA	NA	NA
	Barium	NA	NA	NA
	Beryllium	NA	NA	NA
	Cadmium	NA	NA	NA
	Chromium	NA	NA	NA
	Cobalt	0.00042 J	0.00047 J	0.00048 J
	Lead	NA	NA	NA
	Lithium	NA	NA	NA
	Mercury	NA	NA	NA
	Molybdenum	NA	NA	NA
	Radium	NA	NA	NA
	Selenium	NA	NA	NA
Thallium	NA	NA	NA	
*	Silver	NA	NA	NA
**	Total Alkalinity	55	55	55
**	Bicarbonate Alkalinity	55	55	55

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4. TDS indicates total dissolved solids.

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7. * - Georgia Appendix I constituent that is not also included in Appendix IV.

8. ** - Geochemical parameter

**TABLE 4
EVALUATION OF REMEDIAL TECHNOLOGIES**

Corrective Measure	Regulatory Citation for Criteria:	Georgia Rule 391-3-4-.10(6)(a)	
	Description	Performance	Reliability
Geochemical Approaches (In-Situ Injection)	Use of an injection well network, or other means of introducing reagents or air into the subsurface, to provide suitable reagents for either anaerobic or aerobic attenuation of Cobalt (Co). Under anaerobic conditions, Co would be attenuated within sparingly soluble sulfide minerals. Under aerobic conditions, soluble iron or manganese and oxygen (either via air sparging or through a chemical oxidant) would be injected to promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of Co onto these mineral phases. If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption. In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility of certain inorganic compounds, including Co. However, the main attenuation mechanism for Co is sorption, which is more dependent on pH than redox.	The effective immobilization of Co has been shown under aerobic and anaerobic conditions; however, the anaerobic approach (involving the injection of an electron donor together with iron or manganese and sulfur) requires careful study and testing. While aerobic approaches are somewhat less complex, additional aquifer characterization is needed to further evaluate these options.	Reliability dependent on permeability of the subsurface and the amount and distribution of secondary iron or manganese (oxy-) hydroxides (for aerobic approach), or electron donors and soluble iron or manganese and sulfur that can be consistently distributed (for anaerobic approach). Reliable technology if injected materials can be distributed throughout the impacted aquifer. Bench-and/or pilot-scale treatability testing programs are needed to understand the biogeochemical processes that would effectively reduce migration of Co in groundwater.
Pump and Treat (Hydraulic Containment)	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.	P&T is effective at providing hydraulic control, but it is unclear whether full groundwater remediation can be achieved without further understanding attenuation mechanisms at the Site. At the AP-2 Dry Ash Stockpile, implementation of the corrective measure is contingent on completing additional assessment activities (i.e. high-resolution site characterization, additional pump tests, flow modeling, and capture zone analysis). This is needed to refine the constituent distribution in the subsurface to target specific zones for pumping for improved mass recovery efficiency/ effectiveness and to further evaluate the potential remedy performance.	Generally reliable for hydraulic containment, but uncertainty exists whether groundwater remediation goals can be achieved within a reasonable time frame without further understanding attenuation mechanisms.
Monitored Natural Attenuation (MNA)	MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame relative to more active methods. Under certain conditions (e.g., through sorption, mineral precipitation or oxidation- reduction reactions), MNA effectively reduces the dissolved concentrations of inorganic constituents in groundwater. Attenuation mechanisms for inorganic constituents at CCR sites, including cobalt (Co) at AP-2 Dry Ash Stockpile, are either physical (e.g. dilution, dispersion, flushing, and related processes) or chemical (e.g., sorption or oxidation reduction reactions). The chemical attenuation processes include precipitation and sorption reactions such as adsorption on the surfaces of soil minerals, absorption into the matrix of soil minerals, or partitioning into organic matter. Further, oxidation-reduction (redox) reactions, via abiotic or biotic processes, can transform the valence states of some inorganic constituents to less soluble and thus less mobile forms. For Co, the main attenuation processes include sorption to iron and manganese oxides and formation of sparingly soluble sulfide minerals.	Physical and chemical MNA mechanisms for Co, including dilution, dispersion, sorption, and oxidation reduction reactions can be effective at achieving groundwater protection standards (GWPS) within a reasonable time frame. Attenuation processes for Co may already be occurring at the site as evidenced by data from some wells. Source control will improve the mass balance such that the buffer capacity of the aquifer is unlikely to be exhausted, and the attenuation processes already at work for Co at AP-2 Dry Ash Stockpile will further enhance ongoing MNA.	Reliable as long as the aquifer conditions that result in Co 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.
Permeable Reactive Barrier	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. 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 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 Cobalt as impacted groundwater passes through the reactive barrier. Furthermore, additional testing is required to select the appropriate sorptive media mix.	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.
Phytoremediation / TreeWell®	Phytoremediation uses trees and other plants to degrade or immobilize constituents or achieve hydraulic control without the need for an above-ground water treatment system and infrastructure. Within the context of the AP-2 Dry Ash Stockpile, this corrective measure would likely use an engineered (proprietary) TreeWell® phytoremediation system along the point of compliance or downgradient edge of the impacted groundwater for hydraulic control. The system promotes root development to the targeted groundwater zone (depth), allowing for hydraulic control of impacted groundwater. In addition, immobilization of Co within the root zone as well as incidental uptake of dissolved Co with groundwater is expected to occur concurrent with hydraulic control.	Once established (typically at the end of the third growing season), a TreeWell® system is effective for providing hydraulic containment of groundwater, and potential reduction of Co concentrations through immobilization and/or uptake and sequestration in the tree biomass; however, the main purpose is to provide hydraulic control. Given the site-specific hydrogeology and reported Co groundwater concentrations surrounding the AP-2 Dry Ash Stockpile, the approach is currently considered to be applicable in this setting. However, additional aquifer testing and/or groundwater flow modeling may be needed to confirm suitability for the area downgradient of the AP-2 Dry Ash Stockpile.	Engineered phytoremediation is a proven technology where hydrogeologic factors are taken into account (e.g., hydraulic conductivity, flow velocity, depth to impacted groundwater zone, etc.). This is considered an active remedial approach through the use of trees as the "pumps" driving the system. Careful design will be needed to select the proper species, which will include consideration of groundwater chemistry, plant uptake of constituents, and groundwater flow modeling to evaluate the required number and placement of TreeWell® units.

**TABLE 4
EVALUATION OF REMEDIAL TECHNOLOGIES**

Corrective Measure	Regulatory Citation for Criteria:	Georgia Rule 391-3-4-.10(6)(a)	
	Description	Performance	Reliability
Subsurface Vertical Barrier Walls	<p>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.</p>	<p>Barrier walls are a proven technology for seepage control and/or groundwater cutoff at impoundments. Slurry walls are limited by the depth of installation, which is approximately 90 ft bgs. However, site-specific geologic and technology-specific considerations may limit this depth to shallower installations. Within the context of AP-2 Dry Ash Stockpile, a barrier wall might be used in conjunction with a "funnel and gate" system for a PRB rather than a stand-alone technology. As such, groundwater with Co 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.</p>	<p>Generally reliable as a barrier to groundwater flow; however, treatment of downgradient groundwater is incidental and not the primary objective.</p>

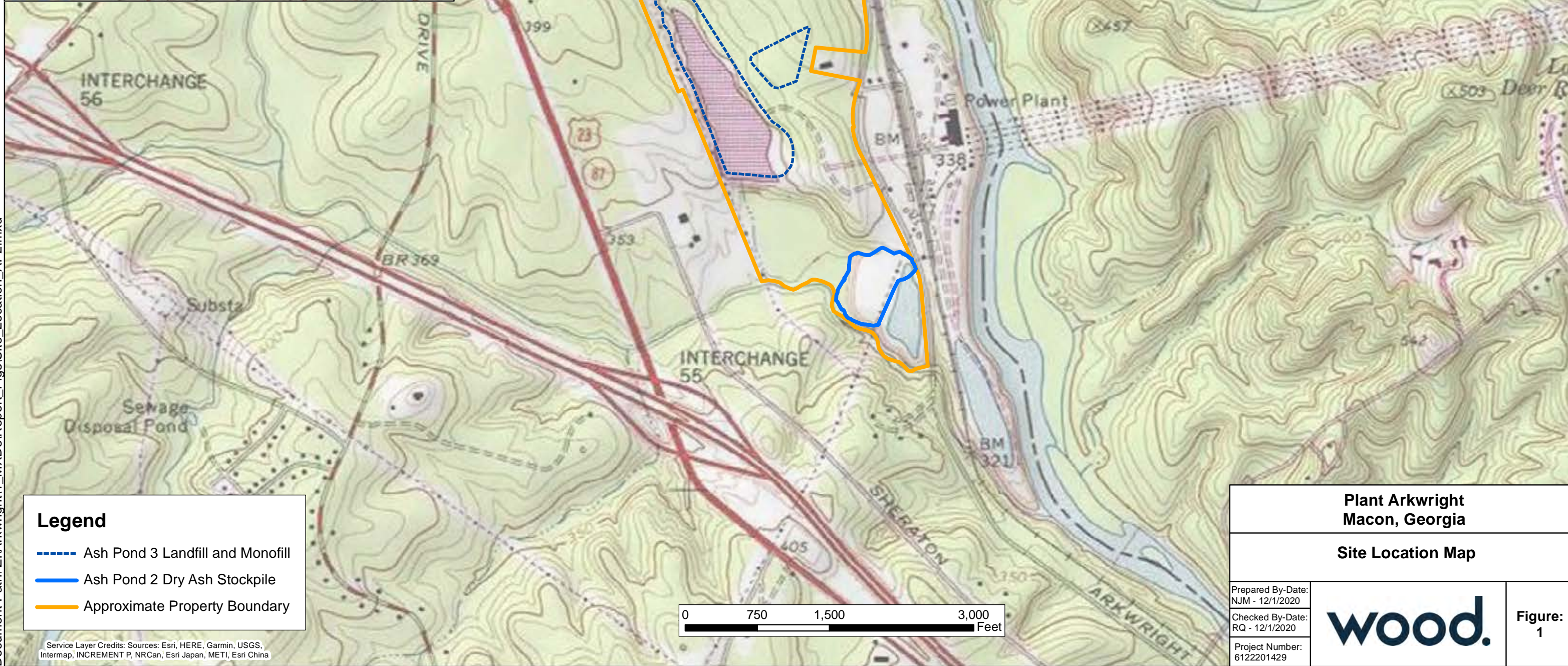
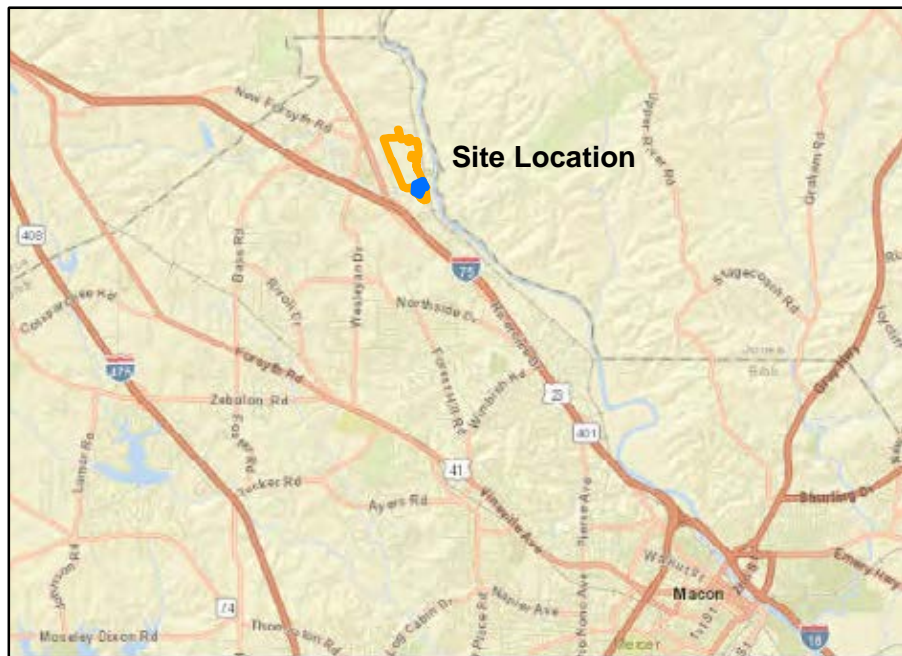
**TABLE 4
EVALUATION OF REMEDIAL TECHNOLOGIES**

Corrective Measure	Georgia Rule 391-3-4-.10(6)(a) Ease of Implementation	Georgia Rule 391-3-4-.10(6)(a) Potential Impacts	Georgia Rule 391-3-4-.10(6)(a) Time Requirement to Begin/Complete
Geochemical Approaches (In-Situ Injection)	Moderate. Installation of injection well network or other injection infrastructure would be required. Alternative installation approaches may be considered, such as along the downgradient edge of impacted groundwater, which would function similar to a PRB application. Potential for clogging of aquifer matrix and/or injection well infrastructure. Chemical distribution during injections (i.e., radius of influence) needs to be evaluated.	Minimal impacts are expected if remedy works as designed, based on a thorough pre-design investigation, geochemical modeling, and bench/pilot study results. Redox-altering processes have the potential to mobilize naturally-occurring constituents as an unintended consequence if not properly studied and implemented.	Installation of the injection network can be accomplished relatively quickly (1 to 2 months). However, a thorough pre-design investigation, geochemical modeling, and/or bench- and/or pilot-testing will be required to obtain design parameters prior to design and construction of the corrective measure, which may take up to 24 months. Once installed, the time required to achieve GWPS within the treatment area may be relatively quick but depends on the attenuation process kinetics of each targeted constituent. The time for complete distribution of the injected materials throughout the treatment area is also variable.
Pump and Treat (Hydraulic Containment)	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. Operation and maintenance (O&M) requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals.	Moderate. The main potential impacts are related to the presence and operation of an on-site above-ground water treatment facility and related infrastructure to convey and treat extracted groundwater. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone. Also, nearby surface water will need to be taken into account for hydraulic and geochemical impacts to pumping groundwater.	Installation of extraction wells and/or trenches can be accomplished relatively quickly (1 to 2 months). However, additional aquifer testing, system design and installation, and permit approval may be required, which may take up to 24 months. The initiation of the approach would be contingent on the start-up of the wastewater treatment infrastructure. Hydraulic containment can be achieved relatively quickly after startup of the extraction system, but uncertainty exists with respect to the time to achieve GWPS without additional data collection to better understand attenuation mechanisms for Co.
Monitored Natural Attenuation (MNA)	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.
Permeable Reactive Barrier	Moderate to difficult. Trenching would be required to install a mix of reactive materials in the subsurface. Continuous trenching may be the most feasible construction method. Site-specific geology (i.e., partially weathered bedrock layer) poses a possible constructability challenge when attempting to key PRB material into competent bedrock. Installation methods and materials are readily available. Once installed, treatment will be passive and O&M requirements are minimal if replacement of the PRB is not necessary.	Minimal impacts are expected following the construction of the remedy. 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.
Phytoremediation / TreeWell®	Reasonably implementable to moderate. Engineered approach has been proven effective, and specific depth zones can be targeted. Trees are installed as "tree wells" in a large diameter boring to get the roots deep enough to intercept impacted groundwater flow paths. Area must be clear of above- and below- ground structures (i.e., power lines). The system, once established (approximately three growing seasons), is a self-maintaining, sustainable remedial system that has no external energy requirements and little maintenance (i.e., efforts normally associated with landscaping).	Minimal impacts are expected. In fact, there are several positive impacts expected, including enhanced aesthetics, wildlife habitat, and limited energy consumption.	The design phase will require some groundwater modeling for optimal placement of the TreeWell® units, which may take up to 6 months. Depending on the number of required units, the installation effort is expected to last several weeks. Hydraulic capture/control is expected approximately three years after planting and system performance is expected to further improve over time.
Subsurface Vertical Barrier Walls	Moderate to difficult. Trenching will be required to fill in the various slurry mixes; alternatively, sheet pile installations can be accomplished without excavation of trenches. The application of barrier walls is limited by the depth of installation, which similar to PRBs, should be keyed into a low permeability layer such as a thick clay layer or bedrock. Installation methods and materials are readily available. Once installed, above-ground infrastructure to pump and treat groundwater will be required. O&M requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals.	Minimal impacts are expected following the construction of the remedy. Short- term impacts during the construction of the remedy can be mitigated through appropriate planning and health and safety measures. Changes to groundwater flow patterns due to installation of the barrier wall are expected, which can affect other aspects of groundwater corrective action. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone that may result in the mobilization of other constituents that may require treatment.	Installation of a barrier wall can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, some design phase and additional aquifer and compatibility testing will be required, which may take up to 24 months. Once installed, preventing migration of constituents dissolved in groundwater is anticipated to be relatively quick. Since this approach does not treat the downgradient area of impacted groundwater but prevents migration from a source area, it will likely have to be maintained long- term and coupled with other approaches.

**TABLE 4
EVALUATION OF REMEDIAL TECHNOLOGIES**

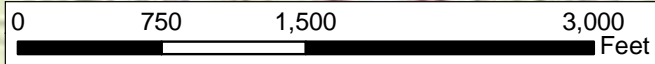
Corrective Measure	Georgia Rule 391-3-4-.10(6)(a)		Relative Costs
	Institutional Requirements	Other Environmental or Public Health Requirements	
Geochemical Approaches (In-Situ Injection)	Deed restrictions may be necessary until in-situ treatment has achieved GWPS. An underground injection control (UIC) 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)
Pump and Treat (Hydraulic Containment)	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)
Monitored Natural Attenuation (MNA)	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
Permeable Reactive Barrier	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
Phytoremediation / TreeWell®	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
Subsurface Vertical Barrier Walls	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)

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

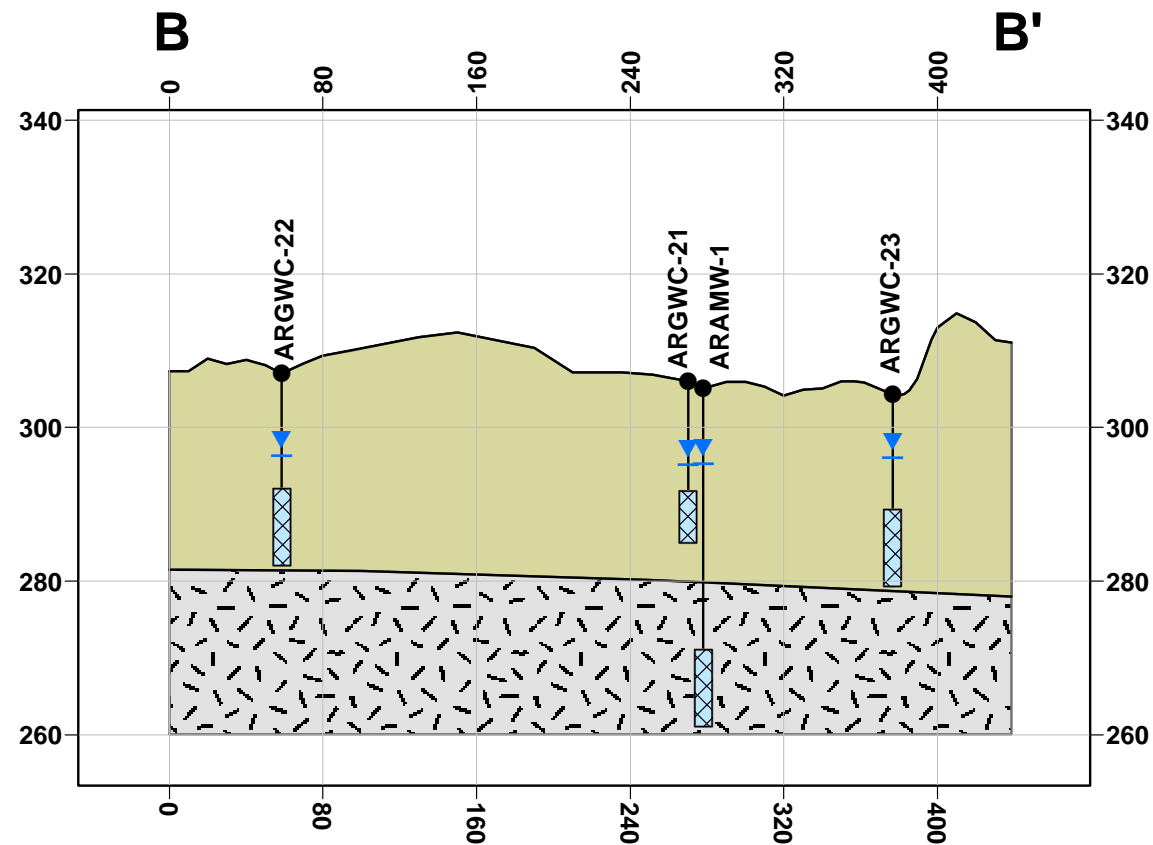
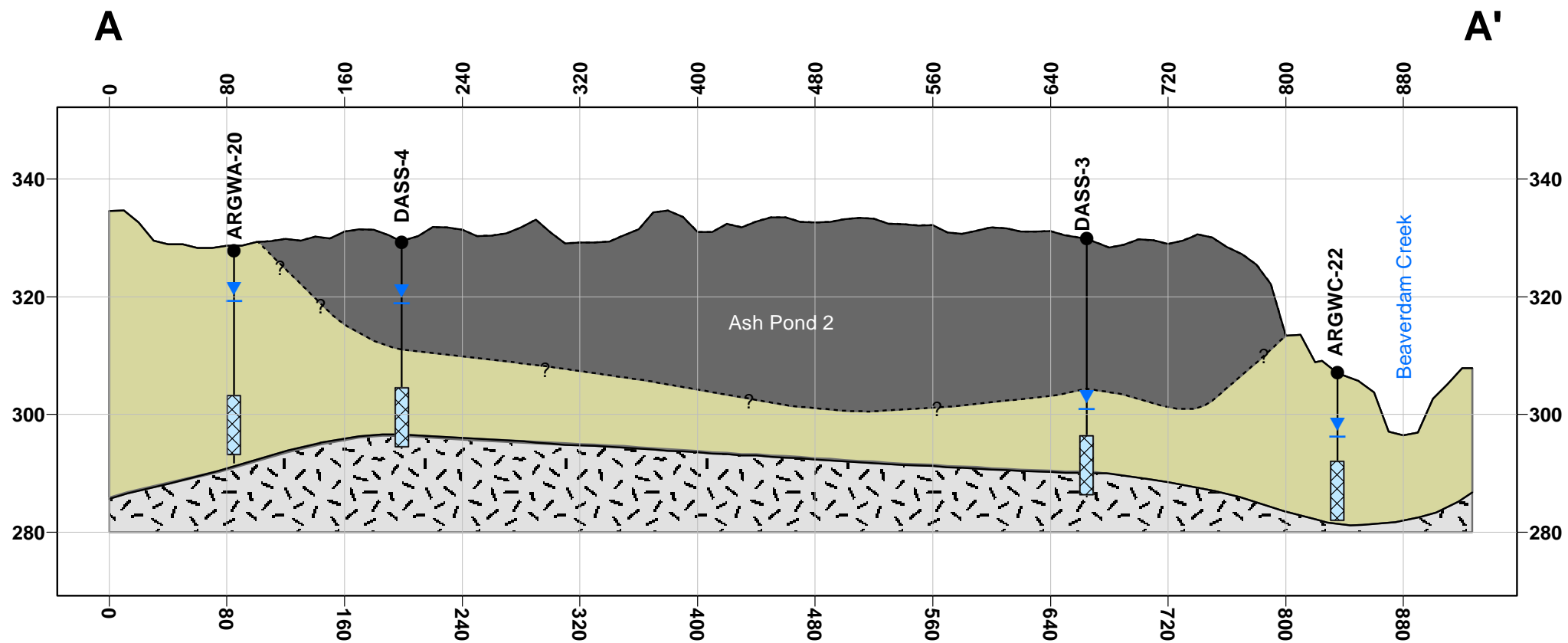
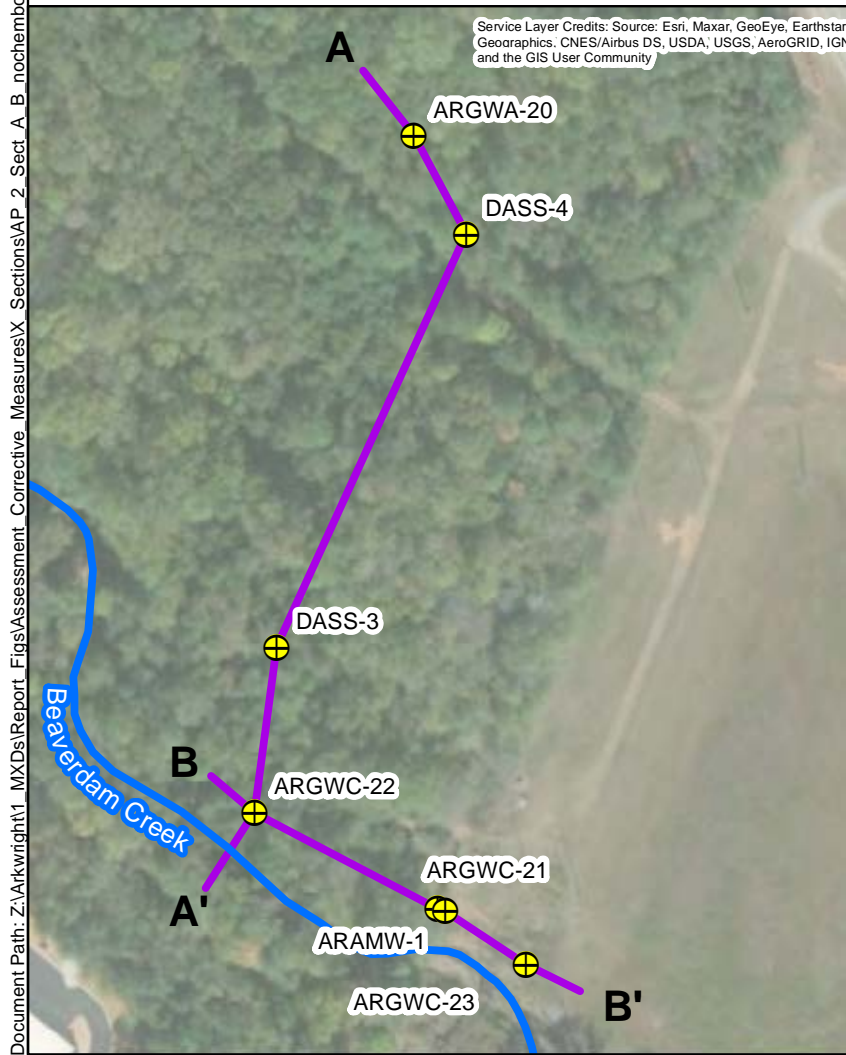
Checked By-Date:
RQ - 12/1/2020

Project Number:
6122201429



**Figure:
1**





Vertical Exaggeration X4

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

Legend

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

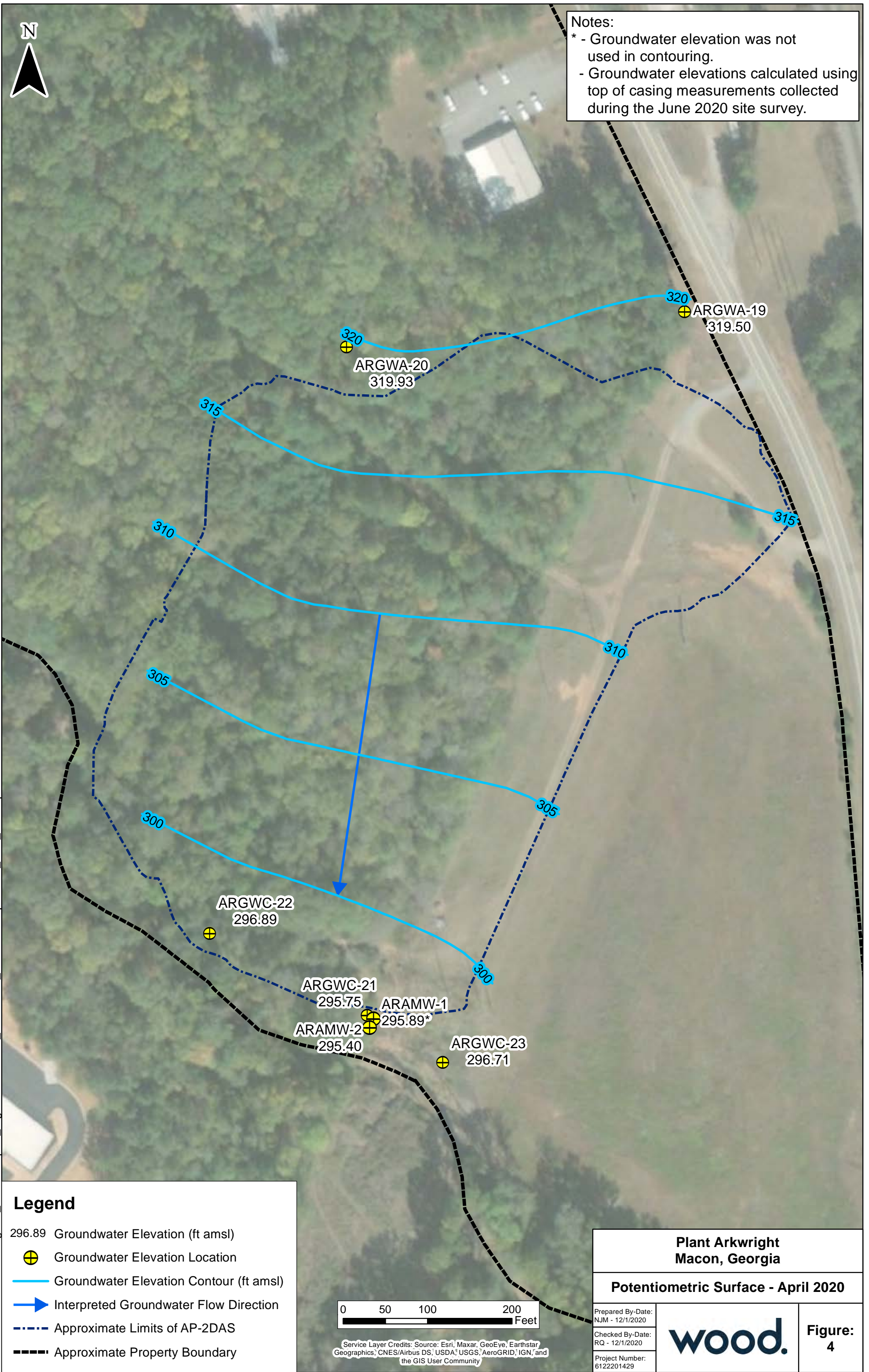
**Plant Arkwright
Macon, Georgia**

Cross Sections A-A' and B-B'

Prepared By-Date: NJM - 11/9/2020		Figure: 3
Checked By-Date: RQ - 11/9/2020		
Project Number: 6122201429		

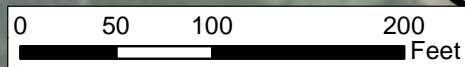


Notes:
 * - Groundwater elevation was not used in contouring.
 - Groundwater elevations calculated using top of casing measurements collected during the June 2020 site survey.



Legend

- 296.89 Groundwater Elevation (ft amsl)
- Groundwater Elevation Location
- Groundwater Elevation Contour (ft amsl)
- Interpreted Groundwater Flow Direction
- Approximate Limits of AP-2DAS
- Approximate Property Boundary









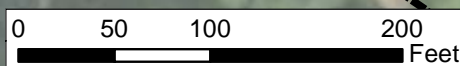
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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



Legend

- 296.28 Groundwater Elevation (ft amsl)
-  Groundwater Elevation Location
-  Indicates groundwater elevation was not used in contouring
-  Groundwater Elevation Contour (ft amsl)
-  Interpreted Groundwater Flow Direction
-  Approximate Limits of AP-2DAS
-  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**

Potentiometric Surface - September 2020

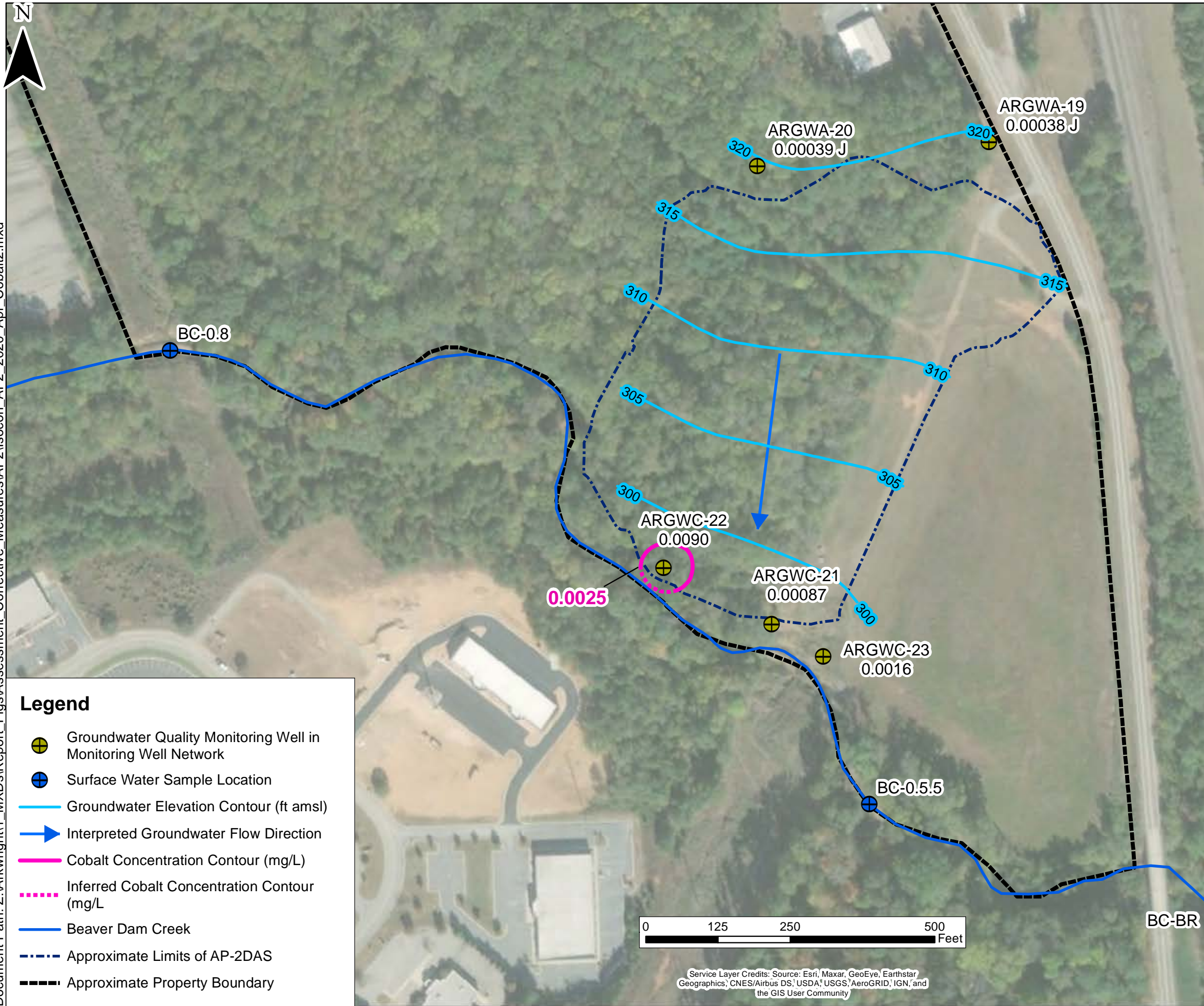
Prepared By-Date:
NJM - 12/1/2020

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

Project Number:
6122201429



**Figure:
5**



Notes:
 Cobalt concentrations data from groundwater samples collected during the April 2020 semiannual monitoring event.

In April 2020, the confidence interval for cobalt in ARGWC-22 did statistically exceed the GWPS; and is a SSL.

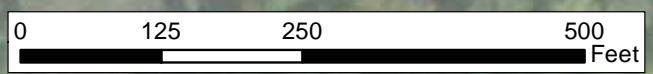
J indicates the constituent was detected between the analytical method detection limit and the laboratory reporting limit. The value followed by J is qualified by the laboratory as estimated.

Cobalt concentrations are reported in mg/L.

Analyte	Units	GWPS
Cobalt	mg/L	0.0025

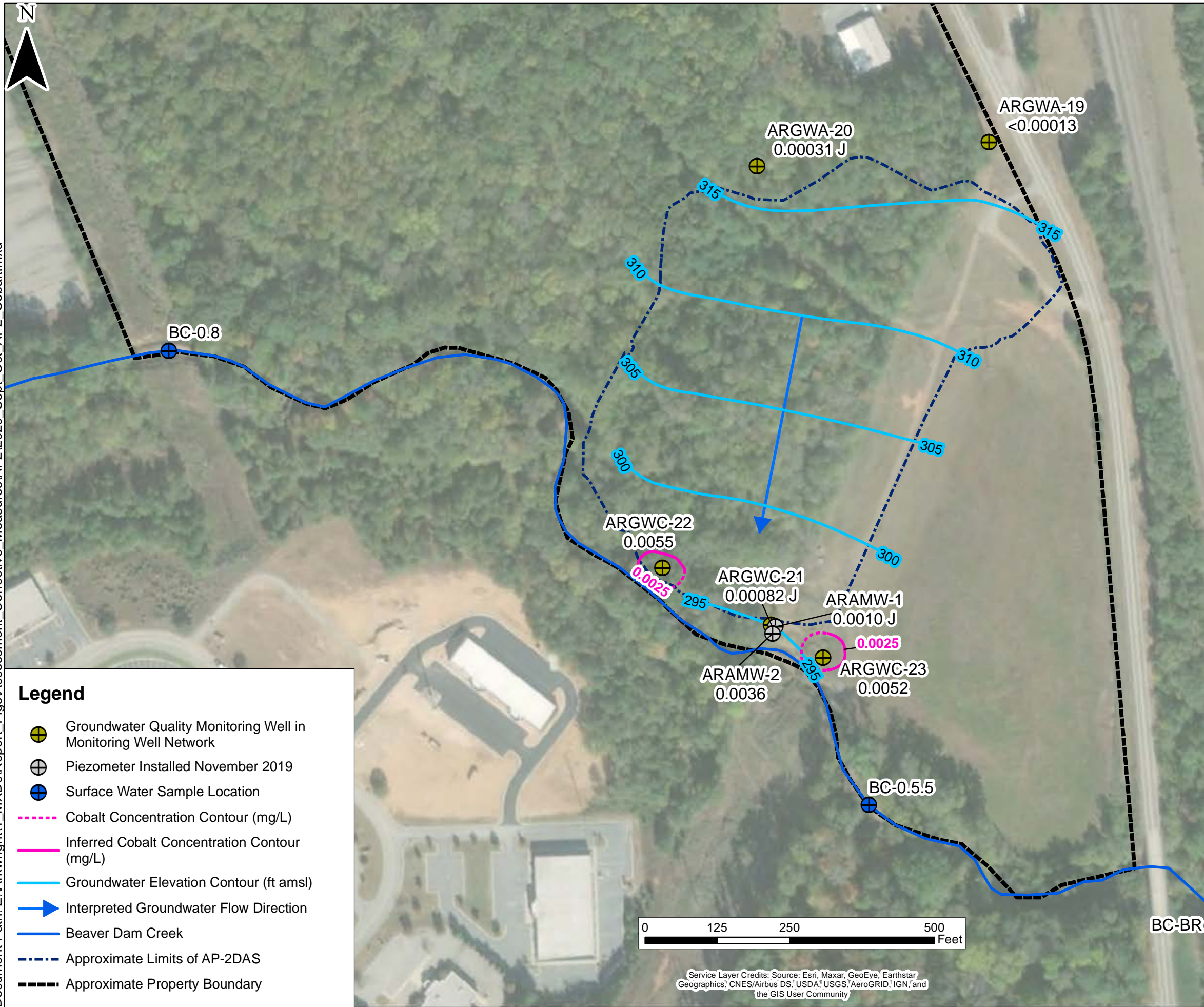
Legend

- Groundwater Quality Monitoring Well in Monitoring Well Network
- Surface Water Sample Location
- Groundwater Elevation Contour (ft amsl)
- Interpreted Groundwater Flow Direction
- Cobalt Concentration Contour (mg/L)
- Inferred Cobalt Concentration Contour (mg/L)
- Beaver Dam Creek
- Approximate Limits of AP-2DAS
- 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 Cobalt Ash Pond 2 - April 2020		
<small>Prepared By-Date: NJM - 12/1/2020</small>		Figure: 6
<small>Checked By-Date: RQ - 12/1/2020</small>		
<small>Project Number: 6122201429</small>		



Notes:
 Cobalt concentrations data from groundwater samples collected during the September/October 2020 semiannual 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-1 and ARAMW-2 are delineation piezometers and their concentrations were not used in contouring due to their very limited datasets.

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
- Piezometer Installed November 2019
- Surface Water Sample Location
- Cobalt Concentration Contour (mg/L)
- Inferred Cobalt Concentration Contour (mg/L)
- Groundwater Elevation Contour (ft amsl)
- Interpreted Groundwater Flow Direction
- Beaver Dam Creek
- Approximate Limits of AP-2DAS
- Approximate Property Boundary

Statistical Analyses Pending, Contouring Currently Shown Based on Individual Concentrations Compared to GWPS.

**Plant Arkwright
Macon, Georgia**







**Isoconcentration Map for Cobalt
Ash Pond 2 - September/October 2020**

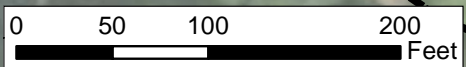
Prepared By-Date: NJM - 12/1/2020		Figure: 7
Checked By-Date: RQ - 12/1/2020		
Project Number: 6122201429		

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




Legend

-  Proposed Location for Vertical Extent Monitoring Well
- 296.28 Groundwater Elevation (ft amsl)
-  Groundwater Elevation Location
- * Indicates groundwater elevation was not used in contouring
-  Groundwater Elevation Contour (ft amsl)
-  Interpreted Groundwater Flow Direction
-  Approximate Limits of AP-
-  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	
Proposed Locations for Vertical Extent Wells	
Prepared By-Date: NJM - 12/1/2020	
Checked By-Date: RQ - 12/1/2020	
Project Number: 6122201429	
Figure: 8	

APPENDIX A



RISK EVALUATION REPORT

FORMER PLANT ARKWRIGHT

ASH POND 2 DRY ASH STOCKPILE LANDFILL

BIBB COUNTY, GEORGIA

Prepared for

Georgia Power
241 Ralph McGill Boulevard
Atlanta, Georgia 30308

Prepared by

Wood Environment & Infrastructure Solutions, Inc.
1075 Big Shanty Road NW, #100
Kennesaw, Georgia 30144

Project Number 6123-20-1475

December 2020

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LIST OF ACRONYMS AND ABBREVIATIONS

ACC	Atlantic Coast Consulting
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
DAS	Dry Ash Storage
EPD	[Georgia] Environmental Protection Division
GWPS	Groundwater Protection Standard
HSRA	Hazardous Site Response Act
ISWQC	In-Stream Water Quality Criteria
MCL	Maximum Contaminant Level
mg/L	Milligrams per liter
ProUCL	ProUCL software version 5.1
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 Macon, Georgia in Bibb County, Georgia. In compliance with applicable regulations, coal combustion residual (CCR) material resulting from power generation were historically transferred and stored at Ash Pond 2 Dry Ash Stockpile Landfill (AP-2). This report focuses on this unit and is hereafter referred to as AP-2.

Georgia Power is currently in the permitting process for AP-2. The planned update for the closure of AP-2 consists of excavating and disposing of the CCR material in a permitted facility that has been approved to accept CCR or sold to an ash marketer for beneficial reuse. AP-2 will be regraded and vegetated after CCR removal. AP-2 is exempt from the requirements in the Federal CCR Rule¹ 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. AP-2 is, however, subject to the requirements of Georgia Environmental Protection Division (EPD) Coal Combustion Residuals Rule 391-3-4-.10 (State CCR Rule) as it is defined as an Inactive CCR Landfill. A closure certificate was issued for AP-2 by the Georgia EPD on July 30, 2010 (hereinafter "Closure Certificate"). The Closure Certificate initiated the post-closure care period for the CCR unit which currently includes semi-annual groundwater monitoring and reporting.

This report presents the results of a human health risk evaluation for the only CCR constituent that exhibits statistically significant levels (SSLs) in groundwater at the site (cobalt) and the supporting human health and ecological risk evaluation for the adjacent downgradient surface water surface water bodies (i.e., Beaverdam Creek and Ocmulgee River). 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. Cobalt is not an SSL-related constituent based on the federal groundwater protection standards (GWPS) established pursuant to 40 C.F.R. § 257.95(h)(2), which were revised on July 30, 2018 (USEPA, 2018). While the updated federal health-based GWPS are expected to govern cobalt, this constituent was identified as a SSL-related constituent using the background-based GWPS established for AP-2 pursuant to the

¹ 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).

Georgia EPD Rule 391-3-4-.10(6)(a). The risk evaluation relies on recent (December 2019 to May 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-2.
2. Initial groundwater risk screening: Comparison of groundwater concentrations for the state SSL-related constituent (cobalt) 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 the Constituent of Potential Interest (COPI) that was retained in the initial risk screening in order to evaluate the potential risks to human health due to groundwater exposure.
4. Surface water screening: Comparison of surface water concentrations for cobalt as it was identified as a groundwater constituent of interest (COI) to conservative, health-protective criteria to assess whether cobalt poses a risk to human health and/or the environment as an additional line of evidence.
5. Development of risk conclusions and identification of associated uncertainties.

Using this approach that includes multiple conservative assumptions, cobalt is not expected to pose a risk to human health or the environment. Therefore, no further risk evaluation of groundwater and surface water is warranted. Compliance monitoring for AP-2 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-2 located at the former Georgia Power Plant Arkwright (site) in Bibb County, Georgia (**Figure 1**). Georgia Power is currently in the permitting process for AP-2 in accordance with the State CCR Rule (EPD, 2018a). AP-2 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). The CCR material will be excavated from AP-2 and disposed of in a permitted facility that has been approved to accept CCR or sold to an ash marketer for beneficial reuse. AP-2 will be regraded and vegetated after CCR removal.

This risk evaluation provides additional technical review of the human health and environmental protectiveness associated with the planned closure of AP-2 with respect to cobalt concentrations in groundwater. Cobalt was previously identified as the only SSL-related constituent using the groundwater GWPS established for AP-2 pursuant to the State CCR Rule, but was not identified as a SSL-related constituent under the Federal CCR Rule² (Wood, 2020). The evaluation relies on a conservative, health-protective approach that is consistent with the risk evaluation approaches outlined in Voluntary Remediation Program (VRP) (Georgia Voluntary Remediation Act, OCGA §12-8-100; EPD, 2009) 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 cobalt at AP-2. Cobalt was identified as a state SSL-related constituent in monitoring well ARGWC-22. Based on the results of the risk evaluation for cobalt, a site-specific recommended path forward is provided.

The remainder of the report is organized as follows:

² 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.

- ***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 state SSL-related constituents.
- ***Section 3, Risk Evaluation Screening*** – Describes the process for the initial risk-based screening of the state SSL-related constituent in groundwater to identify COPIs.
- ***Section 4, Refined Risk Evaluation*** – Describes the risk screening process for the groundwater COPI, including calculation of exposure point concentrations (EPCs) and analysis of concentration trends over time, as well as the surface water risk screening process in the nearest downgradient surface water bodies for the groundwater COI.
- ***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 state SSL-related constituents has been developed based on a review and compilation of information previously presented in former Plant Arkwright AP-2 documents, including the *CCR Unit Permit Application Part A, Former Plant Arkwright – AP2-DAS* (Jacobs, 2018a), *CCR Unit Permit Application Part B, Former Plant Arkwright – AP2-DAS Landfill* (Jacobs, 2018b), *2019 First Semiannual Groundwater Monitoring Report* (ACC, 2020), and the *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. The site 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. Beaverdam Creek borders AP-2 to the south (**Figure 2**).

AP-2 was established around 1970 as a disposal area for the plant's CCR material. The footprint of the CCR material encompasses 9.11 acres. The CCR material is covered with a non-uniform layer of soil. Mature trees and thick undergrowth vegetation has been established in and around this area. A closure certificate was issued for AP-2 by the Georgia EPD on July 30, 2010. The Closure Certificate initiated the post-closure care period for the CCR unit.

Semi-annual groundwater monitoring and reporting for AP-2 is performed in accordance with the monitoring program requirements of the State CCR Rule (EPD, 2018a). A groundwater monitoring network was installed to monitor groundwater quality both upgradient and downgradient of AP-2. The AP-2 certified monitoring well network consists of 2 upgradient monitoring wells and 3 downgradient monitoring wells. Two piezometers (ARAMW-1 and ARAMW-2) were also installed at AP-2 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 (Wood, 2020a). AP-2 is bordered by Beaverdam Creek and is approximately 1,000 feet from the western bank of the Ocmulgee River. Beaverdam Creek flows in a southeasterly direction, eventually discharging into the Ocmulgee River at a location approximately 2,600 feet southeast of AP-2. The Ocmulgee River is part of the Lower Ocmulgee River Basin, flowing from north to south in the vicinity of former Plant Arkwright.

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-2 2020 Annual Groundwater Monitoring & Corrective Action Report* (Wood, 2020):

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 comprises the uppermost aquifer. The monitoring well network for AP2-DAS 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 across AP2-DAS.

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

2.2 Potential Transport Pathways

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. A summary of the potential transport pathways is shown on the CEM in **Figure 4**.

A conservative assumption for this assessment was made that all the groundwater from the site flows to the downgradient surface water bodies. In addition, for the purpose of this risk evaluation, it was assumed that the Ocmulgee River represents a regional hydraulic discharge boundary for groundwater flow in the upper aquifer from the area and Beaverdam Creek represents a localized hydraulic discharge boundary for groundwater flow from the area. Beaverdam Creek borders AP-2 to the south and flows in a southeasterly direction, eventually discharging into the Ocmulgee River at a location approximately 2,600 feet southeast of AP-2 (**Figure 2**).

2.3 Potential Exposure Pathways and Receptors

The exposure pathways for groundwater, assumed to be complete as a conservative measure for the purposes of this risk evaluation, were used to identify potential receptors and estimate potential risk. 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 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-2 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 portion 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-2 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 4.5 miles downstream of AP-2. 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 the state SSL-related constituent was evaluated using on-site groundwater wells around the perimeter and downgradient of AP-2. 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 the state SSL-related constituent (cobalt) 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 assumed potentially complete. Routes of exposure include ingestion of aquatic organisms (mainly fish) and potential incidental ingestion and dermal contact with surface water by adult and child recreational receptors.
- Off-site ecological surface water receptors: The surface water exposure pathway for potential off-site ecological receptors was assumed potentially complete. Potential routes of exposure include direct contact to surface water by aquatic receptors as well as ingestion.

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 the state SSL-related constituent (cobalt) concentrations from groundwater samples collected between December 2019 to May 2020 to health-protective levels. 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 (VRP) (EPD, 2009).

The initial risk evaluation screening was performed for the potential groundwater exposure pathway by comparing the concentrations of cobalt in groundwater samples from monitoring well ARGWC-22 to 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 the state SSL-related constituent (cobalt) 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 December 2019 to May 2020 from on-site monitoring well ARGWC-22 (**Figure 2**) were used in the risk screening evaluation for hypothetical off-site residential exposure. Cobalt data from this well were screened against relevant health-protective screening criteria.

Groundwater data used in the risk screening level evaluation were collected from the uppermost aquifer and are considered to be representative of groundwater conditions at the site. 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-2; background values are routinely updated under the program. Two monitoring wells in the certified monitoring well network are designated as upgradient or background locations, including ARGA-19 and ARGWA-20. 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.

Parametric tolerance limits were used to calculate background limits, when pooled upgradient well data followed a normal or transformed-normal distribution, with a target of 95% confidence and 95% coverage. Nonparametric tolerance limits are used when the percentage of nondetects is greater than 50% or when data do not follow a normal or transformed normal distribution. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. The background limits were then used when determining the groundwater protection standard (GWPS) established under 40 CFR § 257.95(h) and GA EPD Rule 391-3-4-.10(6)(a).l.

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 health-protective screening values, as further described in Section 3.2.

3.2 Groundwater Screening Evaluation

The process of screening the state SSL-related constituent 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 standard practice and methodologies approved by the Georgia EPD, the screening level hierarchy for the state SSL-related constituent 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 1×10^{-5} and a target hazard quotient of 1, consistent with the Georgia EPD guidance (EPD, 2018b) (**Appendix C**).

- 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 well identified to have a state SSL-related constituent were compared to residential screening criteria in order to protect hypothetical off-site receptors. Concentrations of cobalt in ARGWC-22 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 state SSL-related constituent (0.018 mg/L for cobalt), which was used to represent potential off-site groundwater quality for comparison to the selected screening level for hypothetical off-site residential receptors (health-based) of 0.006 for cobalt. 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.

4 REFINED RISK EVALUATION

A refined risk evaluation was conducted for the groundwater COPI, cobalt, that was detected in ARGWC-22 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. If the EPC is greater than the respective screening level, then the constituent is identified as having the potential for risk that warrants additional evaluation (e.g., performing a surface water evaluation). Cobalt was evaluated in the nearest downgradient surface water bodies (i.e., Beaverdam Creek and Ocmulgee River) because it was identified as a groundwater COI in the refined groundwater risk evaluation.

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 samples collected from well ARGWC-22 that was identified to have a state SSL was used to represent hypothetical off-site residential exposure. There are no wells hydraulically downgradient of ARGWC-22 (**Figure 2**), and therefore, well ARGWC-22 was the only well used in the refined risk evaluation.

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 approach for UCL calculations for COPIs in groundwater consists of the following specific datasets:

- UCL for the individual well with an SSL-related constituent;
- UCL based on combined data from the well(s) 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 hydrologically downgradient direction. This step was not included for AP-2 because no downgradient wells are present; and

- UCL based on the combined data from the farthest downgradient wells/piezometers that are hydraulically downgradient of the well(s) with an SSL-related constituent. This step was not included for AP-2 because no downgradient wells are present.

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, 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 method described above, and **Appendix D-2** presents a figure showing the well used in the calculation of the EPC 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 was conducted on the data from ARGWC-22 for cobalt to evaluate the trends in concentrations over time. The test was conducted using the USEPA ProUCL 5.1 software (USEPA, 2016).

The Mann-Kendall test result is presented on a time series graph in **Appendix D-4** and indicated no statistically significant trend in cobalt concentrations over time at ARGWC-22.

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 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 based on ARGWC-22 concentrations is greater than the respective screening level, then the constituent is identified as having the potential for risk that warrants additional evaluation (e.g., performing a surface water evaluation).

Cobalt was detected in 5 out of 6 groundwater samples in well ARGWC-22 at concentrations that exceeded the off-site groundwater screening level for residential receptors. For the refined risk evaluation, data from ARGWC-22 were combined to represent groundwater exposure for the well exhibiting a state SSL (EPC Step 1 in **Appendix D-1; Appendix D-2**). Because there are no downgradient wells to ARGWC-22, EPC calculations ended at Step 1.

The UCL for ARGWC-22 of 0.015 milligrams per liter (mg/L) exceeded the screening level of 0.006 mg/L. **Table 3** presents the results of the refined screening comparing the EPC to the screening criterion. Based on the many conservative assumptions discussed above, cobalt was identified as a groundwater COI for hypothetical off-site residential receptors. Therefore, cobalt is further evaluated in the surface water risk evaluation (**Section 4.2**).

4.2 Surface Water Risk Evaluation

A surface water screening evaluation was conducted for Beaverdam Creek and Ocmulgee River for the groundwater COI (cobalt) identified in the refined groundwater risk evaluation.

Both human and ecological receptors have the potential to come into contact with surface water. Routes of exposure include ingestion of aquatic organisms (mainly fish) and potential incidental ingestion and dermal contact with surface water by adult and child recreational receptors. Potential routes of exposure for ecological receptors include direct contact to surface water and ingestion by aquatic receptors.

Surface water screening was performed using surface water data for the constituent identified as a groundwater COI, cobalt. The surface water screening process for cobalt is discussed below and presented in **Figure 8**.

4.2.1 Surface Water Data

Surface water data for cobalt include two sampling events conducted (one in 2018 and one in 2020) at two locations in the Ocmulgee River (OR+0.25 and OR+1.0) and two locations in Beaverdam Creek (BC-0.3 and BC-0.1) that are downgradient from AP-2. Two background locations were sampled for surface water, sample location BT-1.6 for Beaverdam Creek and sample location OR-0.8 for the Ocmulgee River. The surface water sampling locations are shown on **Figure 9**. The surface water dataset used in the risk evaluation is presented in **Appendix B-2**.

4.2.2 Human Health Screening

Surface water human health screening values for the groundwater COI was selected from the following order of hierarchy:

- Georgia In-Stream Water Quality Criteria (ISWQC) for human health (EPD, 2015), when available.
- National ambient water quality criteria (USEPA, 2015b) for human health, ingestion of water and organisms. When there is no numerical value for a constituent in surface water, USEPA (2015a) states that USEPA has issued a maximum contaminant level (MCL) which may be more stringent than the National Ambient Water Quality Criteria for these constituents suggesting the use of the MCL for surface water screening. This is a conservative approach.
- In accordance with standard practice using methodologies approved by the Georgia EPD, the higher of the residential groundwater screening levels described in Section 3.2.2 for the remaining constituents due to lack of human health surface water screening levels for these constituents, which is a conservative approach.

For cobalt, the higher of the residential groundwater screening levels described in Section 3.2 (the Type 2 RRS) was used because of the lack of human health surface water screening levels within the Georgia ISWQC (EPD, 2015) or national ambient water quality criteria (USEPA, 2015b). The use of drinking water screening levels for surface water exposure is a conservative approach as Beaverdam Creek is not used as a source of potable drinking water, and therefore, is an incomplete exposure pathway. Furthermore, Ocmulgee River is not used as a source of potable drinking water within three miles downgradient of the site.

The surface water human health screening level (0.006 mg/L) was compared to the maximum detected concentration for cobalt in surface water (0.00071 J³ mg/L), as shown in **Table 4**. Cobalt was detected in surface water samples at concentrations below the screening criterion in both Beaverdam Creek and Ocmulgee River. Therefore, cobalt was not retained as human health COPI in surface water for further evaluation and is not expected to pose a risk to human health.

4.2.3 Ecological Screening

Surface water screening values for aquatic ecological receptors were selected from the following order of hierarchy for the COPIs:

- Chronic freshwater Georgia ISWQC (EPD, 2015), when available.
- USEPA Region 4 chronic freshwater screening levels (USEPA, 2018).

Because cobalt does not have a chronic freshwater Georgia ISWQC for ecological receptors (EPD, 2015), the USEPA Region 4 chronic freshwater screening level for total concentrations (USEPA, 2018) was used in the surface water ecological screening for aquatic ecological receptors.

The ecological surface water screening level (0.019 mg/L) was compared to the maximum detected concentration of cobalt in surface water (0.00071 J mg/L), as shown in **Table 5**. Cobalt was detected in surface water at concentrations below the ecological screening criterion in both Beaverdam Creek and Ocmulgee River. Therefore, cobalt was not retained as a COPI in surface water for further evaluation and is not expected to pose a risk to ecological receptors.

4.2.4 Refined Groundwater and Surface Water Risk Evaluation Summary and Conclusions

Detections of cobalt in well ARGWC-22 were reported at concentrations above the groundwater screening value. The results of the refined groundwater and surface water risk evaluations indicate the following:

- Cobalt was identified as a groundwater COI for hypothetical off-site residential receptors and was evaluated further in the nearest downgradient surface water

³ J flag indicates an estimated value less than the reporting limit but greater than the method detection limit.

bodies (i.e., Beaverdam Creek and Ocmulgee River) for potential exposure to human and ecological receptors.

- Beaverdam Creek and Ocmulgee River surface water concentrations of cobalt were below health-protective surface water screening criteria for human and ecological receptors. Therefore, cobalt was not retained as a COPI in surface water for further evaluation and is not expected to pose a risk to human health or ecological receptors.

Based on the multiple lines of evidence and various conservative assumptions, further risk evaluation for groundwater and surface water is not warranted. Compliance 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 was 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-2. 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 risks for hypothetical off-site receptors.
- The screening criterion for cobalt is based on the RRS, which represents 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 concentration of the state SSL-related constituent was compared to conservative screening criteria to identify 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 constituent included in the risk evaluation may 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, state SSL-related exposures were likely overestimated.

- Hypothetical off-site residential exposure was evaluated using on-site groundwater data from a well around the perimeter and downgradient of AP-2. 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.
- 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. 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 the closest private wells to AP-2 are south of the site and Beaverdam Creek, which represents a localized hydraulic discharge boundary for groundwater flow in the upper aquifer from the area.

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 cobalt in groundwater at AP-2 and downgradient surface water bodies was conducted using methods consistent with Georgia EPD and USEPA guidance and included multiple conservative assumptions. Cobalt was the only CCR constituent identified as an SSL-related constituent during compliance groundwater monitoring. Based on this risk evaluation, cobalt is not expected to pose a risk to human health or the environment.

Accordingly, no further risk evaluation for groundwater and surface water is warranted. Compliance monitoring for AP-2 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-2
Former Plant Arkwright, Bibb County, Georgia

CCR Rule Designation	Constituent	CAS No.	Detection Frequency ^[1]	Exceedance Frequency ^[2]	Maximum Concentration (mg/L)	Screening Level (mg/L)	Source	Site-Specific Background (mg/L)	COPI? (Y/N)	Rationale ^[3]
Appendix IV	Cobalt	7440-48-4	6 / 6	5 / 6	0.018	0.006	Type 2 RRS ^[4]	0.0025	Y	ASL

Notes:

[1] Evaluation includes December 2019 to May 2020 groundwater analytical data from downgradient well ARGWC-22 (cobalt).

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

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

ASL = Above respective screening level

BSL = Equal to or below respective screening level

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

[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

mg/L = milligrams per Liter

Prepared by/Date: IMR 10/06/20

Checked by/Date: LMS 10/26/20

Table 2
Groundwater Exposure Point Concentration Summary
Arkwright AP-2
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 ^[1] (mg/L)
AP-2	Appendix IV	Cobalt	7440-48-4	6 / 6	0.018	0.015	95% Student's-t UCL	0.015

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 10/06/20

Checked by/Date: LMS 10/26/20

Table 3
Downgradient Groundwater Refined Evaluation
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

Exposure Unit	CCR Rule Designation	Constituent	CAS No.	Detection Frequency	Exceedance Frequency ^[1]	Selected EPC ^[2] (mg/L)	Screening Level (mg/L)	Source	Site-Specific Background (mg/L)	COI? (Y/N)	Rationale ^[3]
AP-2	Appendix IV	Cobalt	7440-48-4	6 / 6	5 / 6	0.015	0.006	Type 2 RRS ^[4]	0.0025	Y	ASL

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 = Equal to or 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 10/06/20

Checked by/Date: LMS 10/26/20

Table 4
Human Health Surface Water Screening - Beaverdam Creek and Ocmulgee River^[1]
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

CCR Rule Designation	Constituents	CAS No.	Detection Frequency	Exceedance Frequency ^[2]	Maximum Concentration (mg/L)	Screening Level (mg/L)	Source ^[3]	Site-Specific Background ^[4] (mg/L)	COPI? (Y/N)	Rationale ^[5]
Appendix IV	Cobalt	7440-48-4	4 / 8	0 / 8	0.00071 J	0.006	Type 2 RRS ^[6]	0.00071 J	N	BSL

Notes:

- [1] Surface water evaluation includes Beaverdam Creek samples collected at BC-0.3 and BC-0.1 (June 2018 and March 2020), and Ocmulgee River samples collected at OR+0.25 and OR+1.0 (June 2018 and March 2020).
- [2] Selected exceedance frequency is for the specific constituent that exceeds the first screening value in the hierarchy of screening values.
- The hierarchy of screening values is GA ISWQC > NRWQC > The maximum between the Type 1 and Type 2 RRS
 - For sites with site-specific background concentrations greater than all applicable screening values, the site-specific background value was used as the screening value.
- [3] The residential groundwater screening levels were used because no human health surface water screening levels were available. The use of drinking water screening levels for surface water exposure is a conservative approach as domestic use of Beaverdam Creek and Ocmulgee River surface water for human receptors is an incomplete exposure pathway.
- [4] Background samples include BT-1.6 and OR-0.8 for Beaverdam Creek and Ocmulgee River, respectively, represent site-specific background.
- [5] Rationale for classification of constituent as a COPI or exclusion as a COPI:
- ASL = Above respective screening level;
 - BSL = Equal to or below respective screening level;
 - ND = Not detected (maximum practical quantitation limit [PQL])
- [6] The Type 2 RRS were calculated by the EPA RSL calculator using residential exposure factor inputs from HSRA Appendix III, Table 3.

Definitions:

J = Estimated value less than the reporting limit but greater than the method detection limit
CAS = Chemical Abstract Service
CCR = Coal Combustion Residuals
GA ISWQC = Georgia Instream Water Quality Criteria
NRWQC = National Recommended Water Quality Criteria
RRS = Risk Reduction Standard

Prepared by/Date: DL 5/29/20Checked by/Date: PC 6/1/20

Table 5
Ecological Fresh Surface Water Screening - Beaverdam Creek and Ocmulgee River^[1]
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

CCR Rule Designation	Constituents	CAS No.	Detection Frequency	Exceedance Frequency ^[2]	Maximum Concentration (mg/L)	Screening Value (mg/L) (Total)	Hardness Dependent? (Y/N)	Source	Site-Specific Background ^[3] (mg/L)	COPI (Y/N)	Rationale ^[4]
Appendix IV	Cobalt	7440-48-4	4 / 8	0 / 8	0.00071 J	0.019	N	EPA Reg. 4	0.00071 J	N	BSL

Notes:

[1] Surface water evaluation includes Beaverdam Creek samples collected at BC-0.3 and BC-0.1 (June 2018 and March 2020), and Ocmulgee River samples collected at OR+0.25 and OR+1.0 (June 2018 and March 2020).

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

- The hierarchy of screening value sources is GA ISWQC > EPA Region 4

- For sites with site-specific background concentrations greater than all applicable screening values, the site-specific background value will be used as the screening value

[3] Background samples include BT-1.6 and OR-0.8 for Beaverdam Creek and Ocmulgee River, respectively

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

ASL = Above respective screening level;

BSL = Equal to or below respective screening level.

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

Definitions:

J = Estimated value less than the reporting limit but greater than the method detection limit

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

COPI = Constituent of Potential Concern

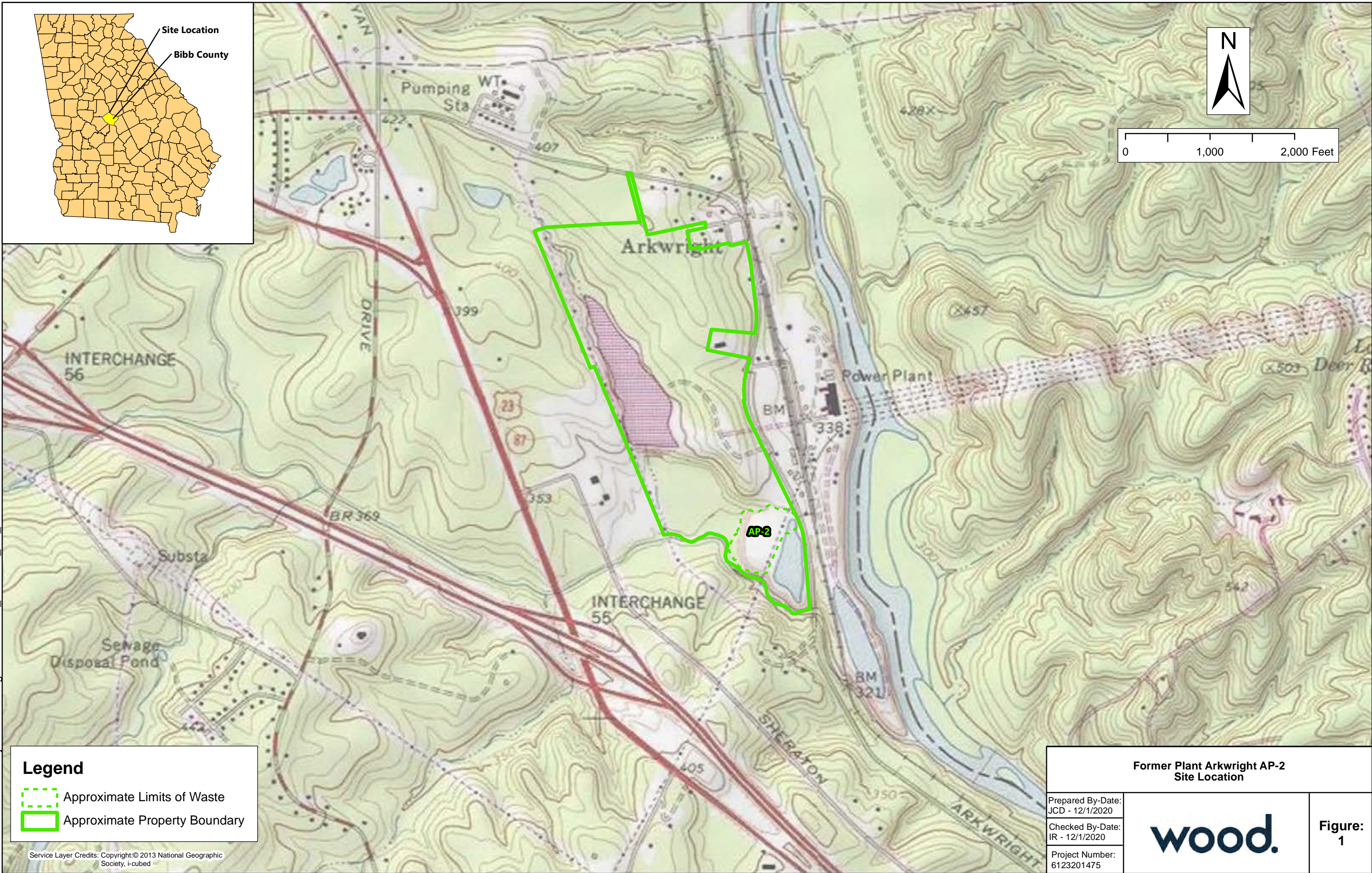
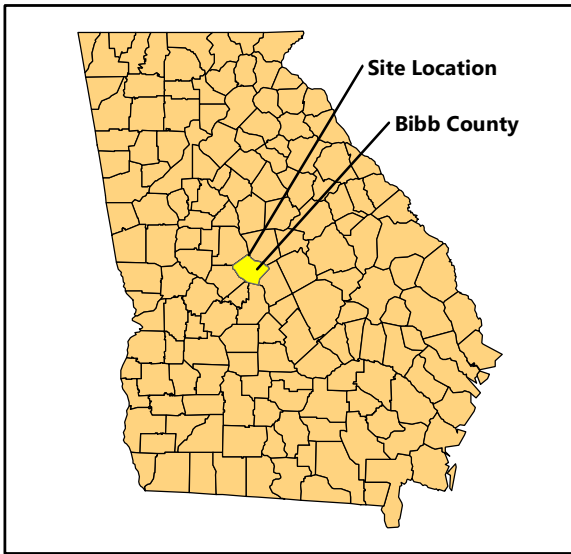
EPA = United States Environmental Protection Agency

GA ISWQC = Georgia Instream Water Quality Criteria

Prepared by/Date: DL 5/29/20

Checked by/Date: PC 6/1/20








FIGURES

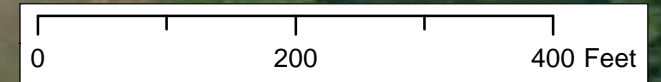


Legend

- Approximate Limits of Waste
- Approximate Property Boundary

Former Plant Arkwright AP-2 Site Location			Figure: 1
Prepared By-Date:	JCD - 12/1/2020		
Checked By-Date:	IR - 12/1/2020		
Project Number:	6123201475		



-  Monitoring Well
-  Piezometer
-  Approximate Limits of Waste
-  Approximate Property Boundary
-  Beaverdam Creek
-  ARGWC-22 Downgradient Well Used in Risk Evaluation
-  ARGWC-22 Well with SSL

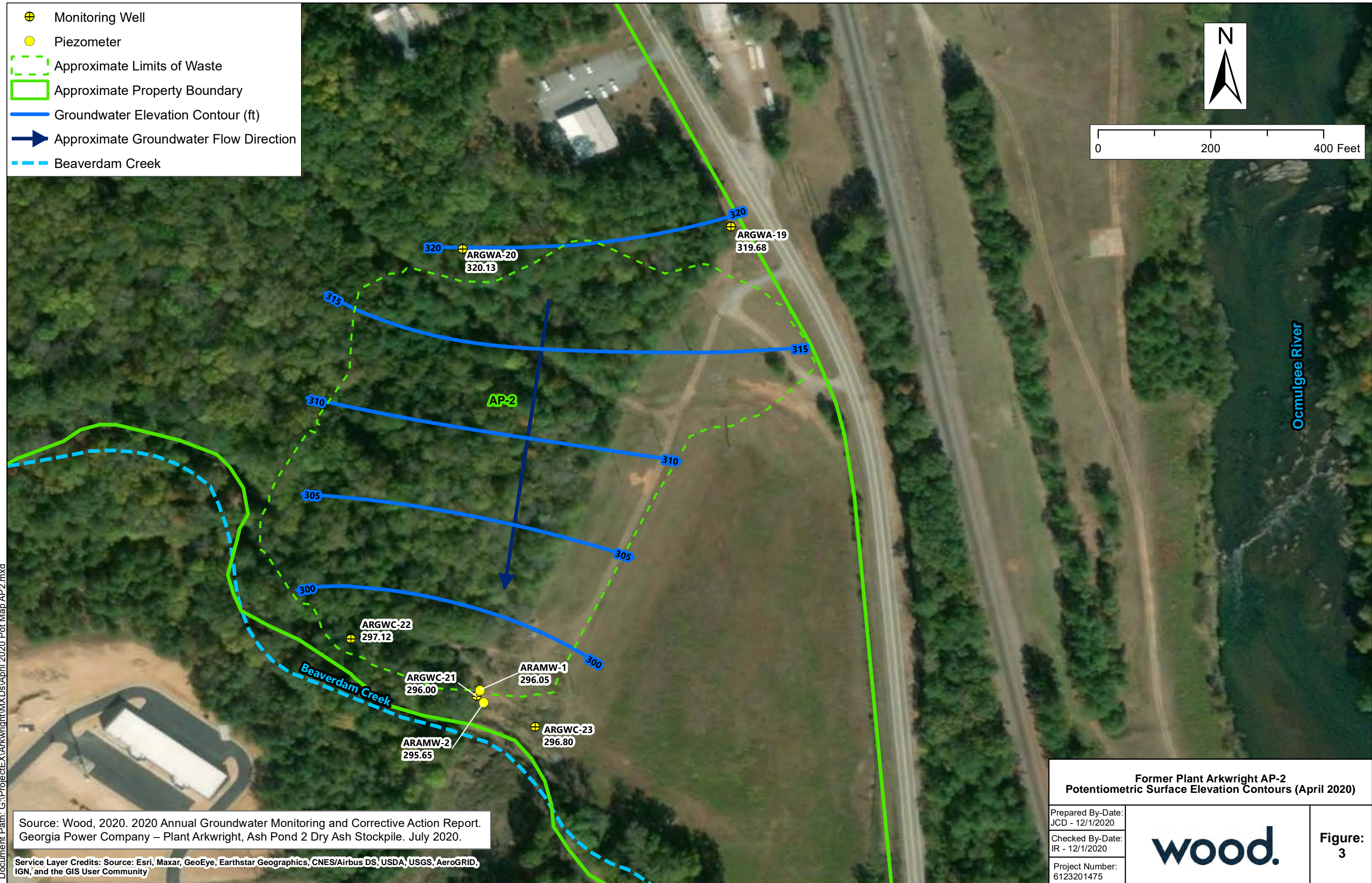
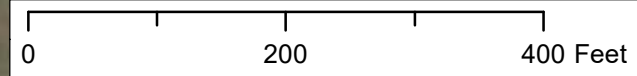


Document Path: G:\Project\Arkwright\MXD\Site Plan AP2.mxd

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

Former Plant Arkwright AP-2 Site Layout and Monitoring Well Network		
Prepared By-Date: JCD - 12/1/2020		Figure: 2
Checked By-Date: LO - 12/1/2020		
Project Number: 6123201475		

-  Monitoring Well
-  Piezometer
-  Approximate Limits of Waste
-  Approximate Property Boundary
-  Groundwater Elevation Contour (ft)
-  Approximate Groundwater Flow Direction
-  Beaverdam Creek



Document Path: G:\Project\EX\Arkwright\MXDs\April 2020 Pot Map AP2.mxd

Source: Wood, 2020. 2020 Annual Groundwater Monitoring and Corrective Action Report. Georgia Power Company – Plant Arkwright, Ash Pond 2 Dry Ash Stockpile. July 2020.

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

**Former Plant Arkwright AP-2
Potentiometric Surface Elevation Contours (April 2020)**

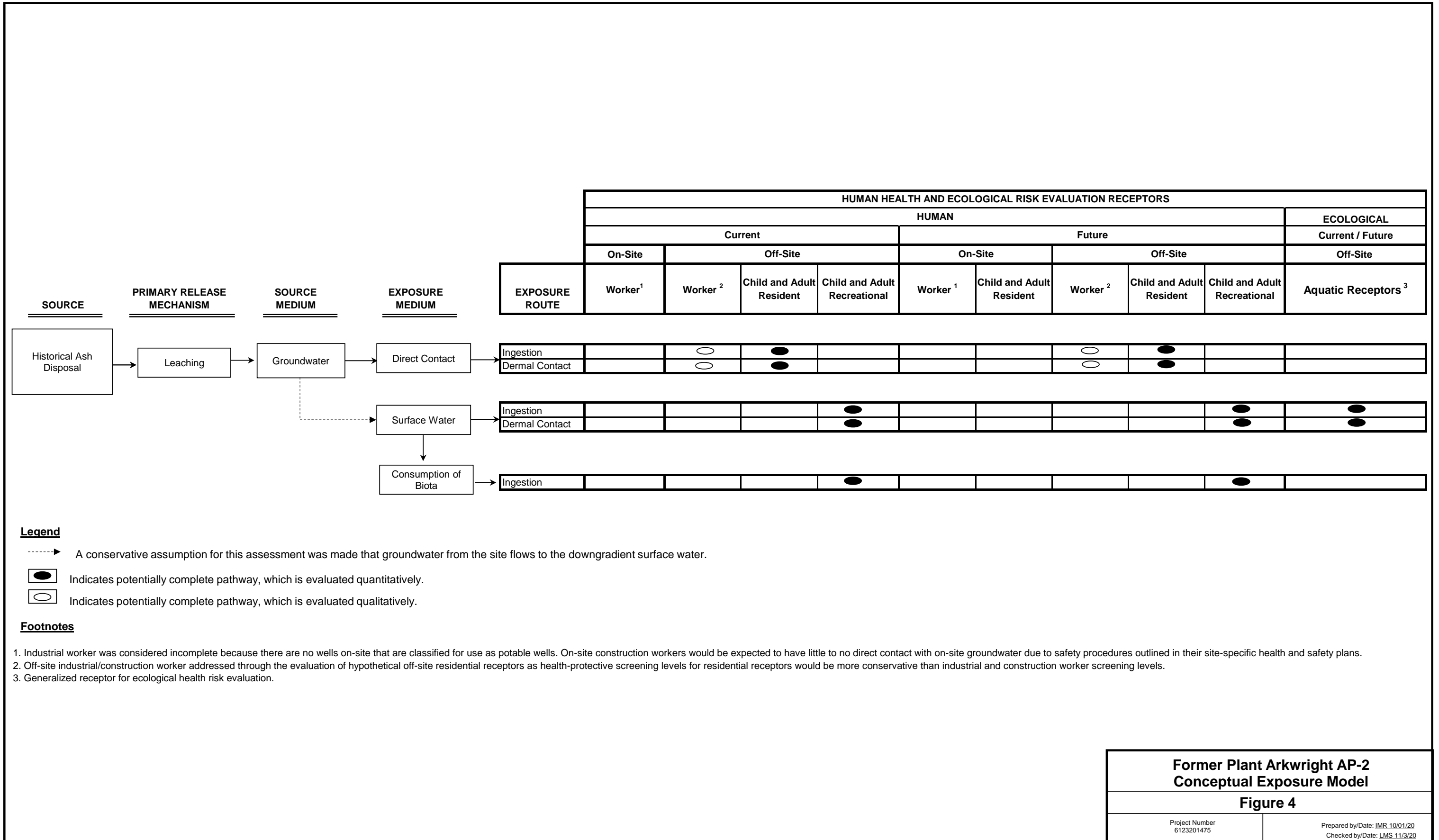
Prepared By-Date:
JCD - 12/1/2020

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

Project Number:
6123201475



**Figure:
3**



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.

**Former Plant Arkwright AP-2
Conceptual Exposure Model**

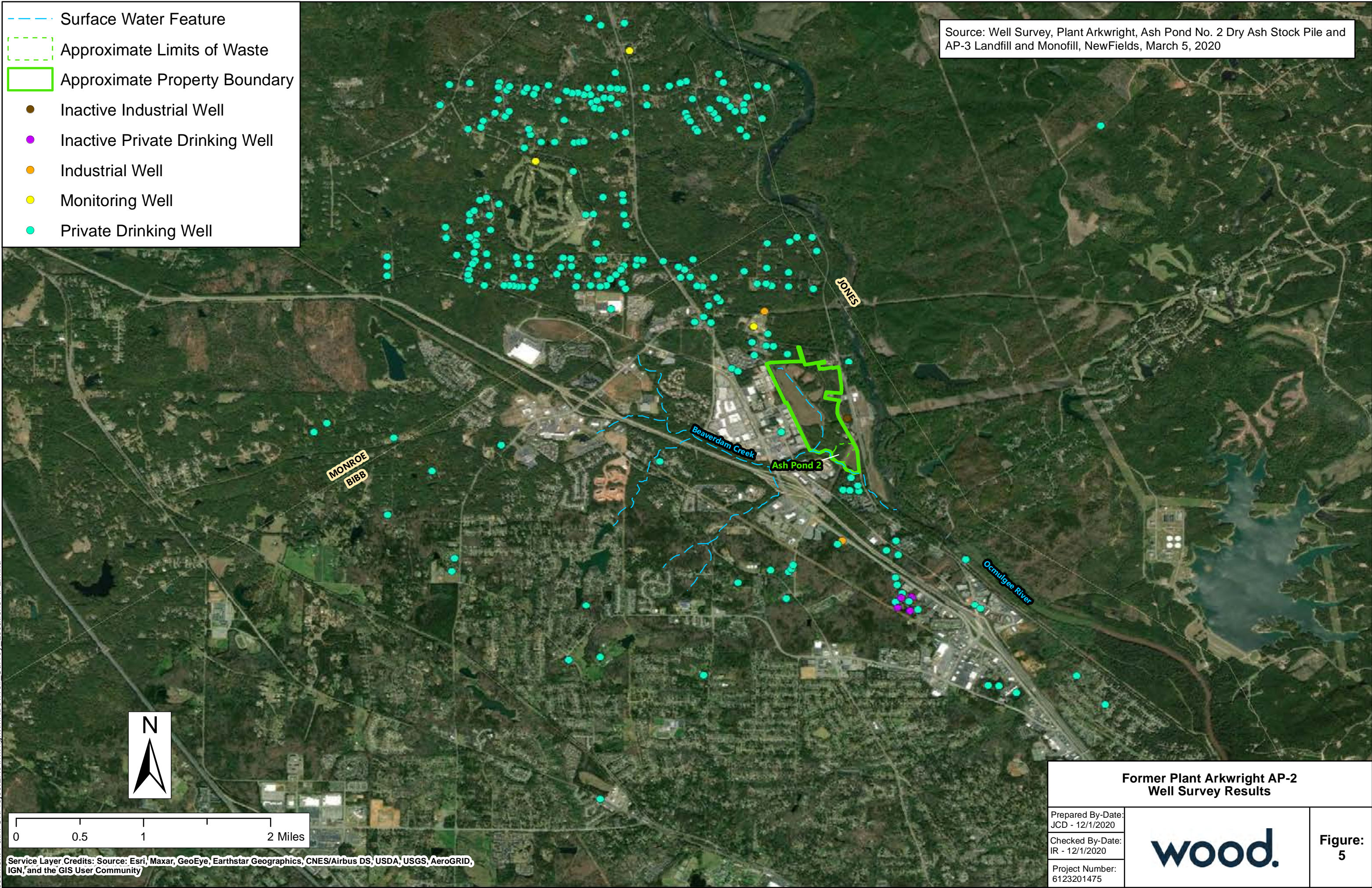
Figure 4

Project Number
6123201475

Prepared by/Date: IMR 10/01/20
Checked by/Date: LMS 11/3/20

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

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

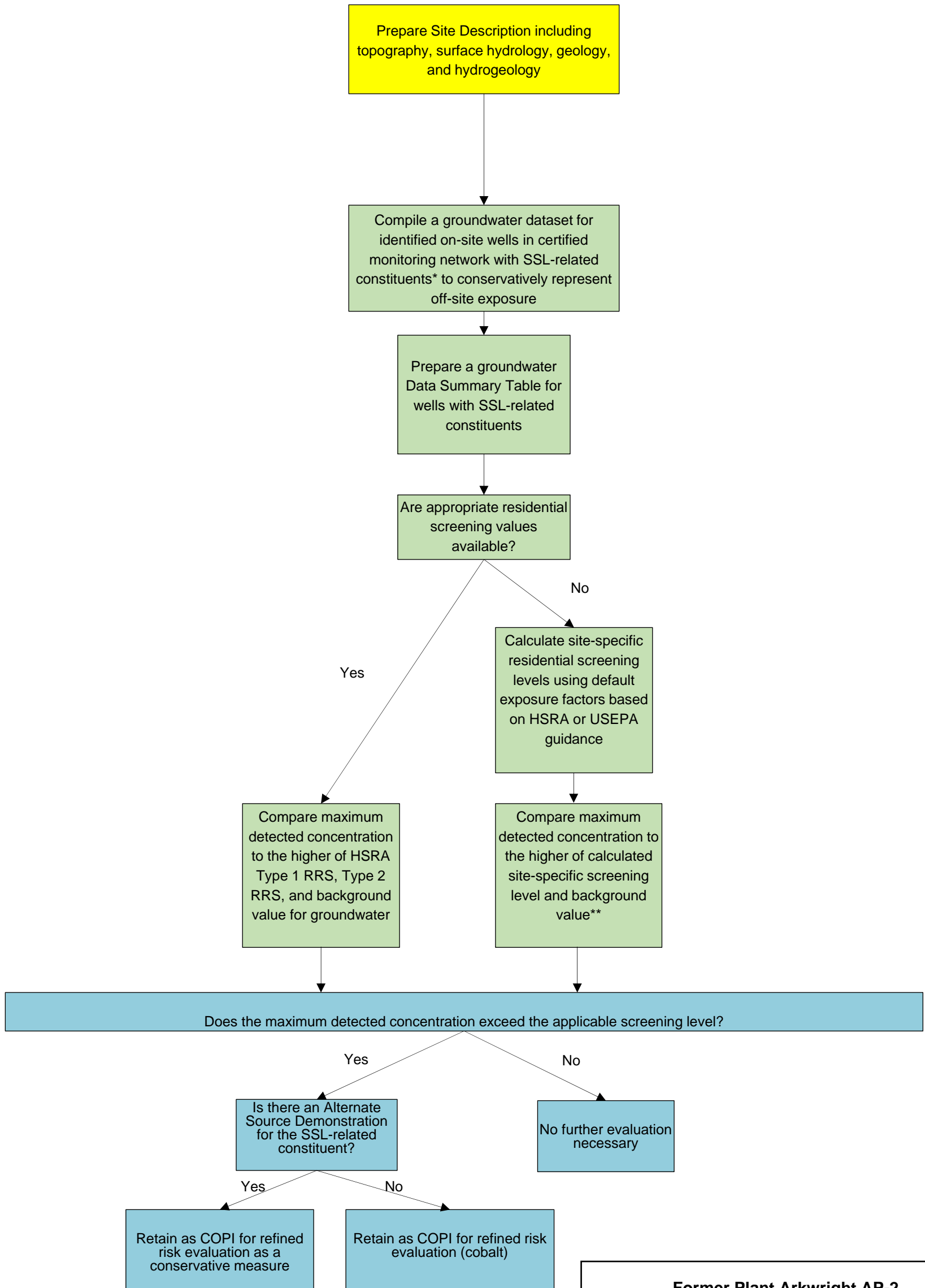


Document Path: G:\ProjectEX\Arkwright\MXD\Well_Survey_Locations AP2.mxd

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

Former Plant Arkwright AP-2 Well Survey Results		
Prepared By-Date: JCD - 12/1/2020		Figure: 5
Checked By-Date: IR - 12/1/2020		
Project Number: 6123201475		

Risk Screening Approach (Groundwater) for AP-2



Notes:

* Initial screen evaluates AP-2 wells with SSL-related constituents: cobalt (ARGWC-22).

SSL = Statistically Significant Level

COPI = Constituent of Potential Interest

HSRA = Hazardous Site Response Act

RRS = Risk Reduction Standard

USEPA = United States Environmental Protection Agency

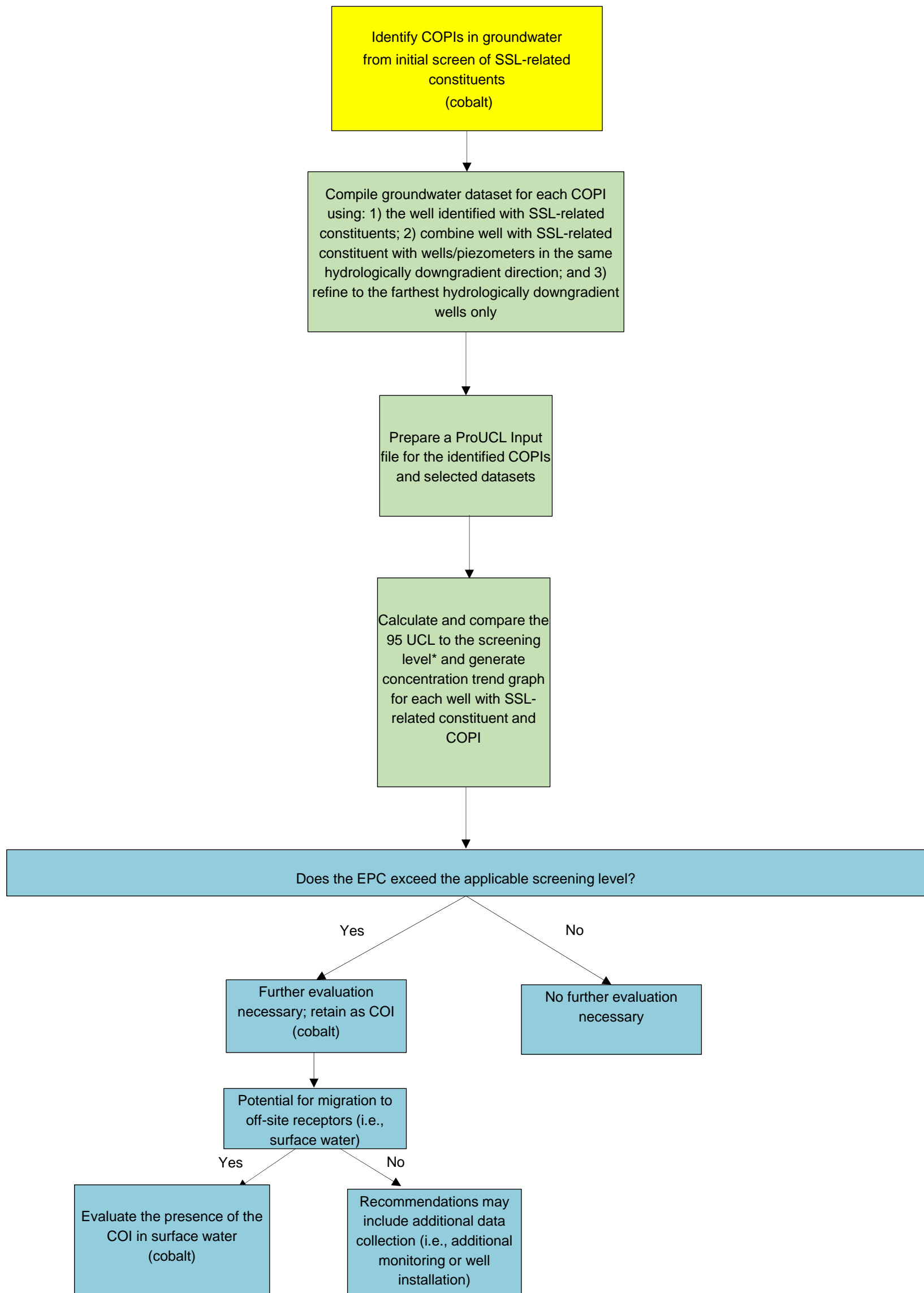
**Former Plant Arkwright AP-2
Groundwater Risk Screening Approach**

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-2



Notes:
 *If the 95 UCL exceeds the maximum concentration, use the maximum as the EPC.
 SSL = Statistically Significant Level
 COPI = Constituent of Potential Interest
 EPC = Exposure Point Concentration
 UCL = Upper Confidence Limit
 COI = Constituent of Interest

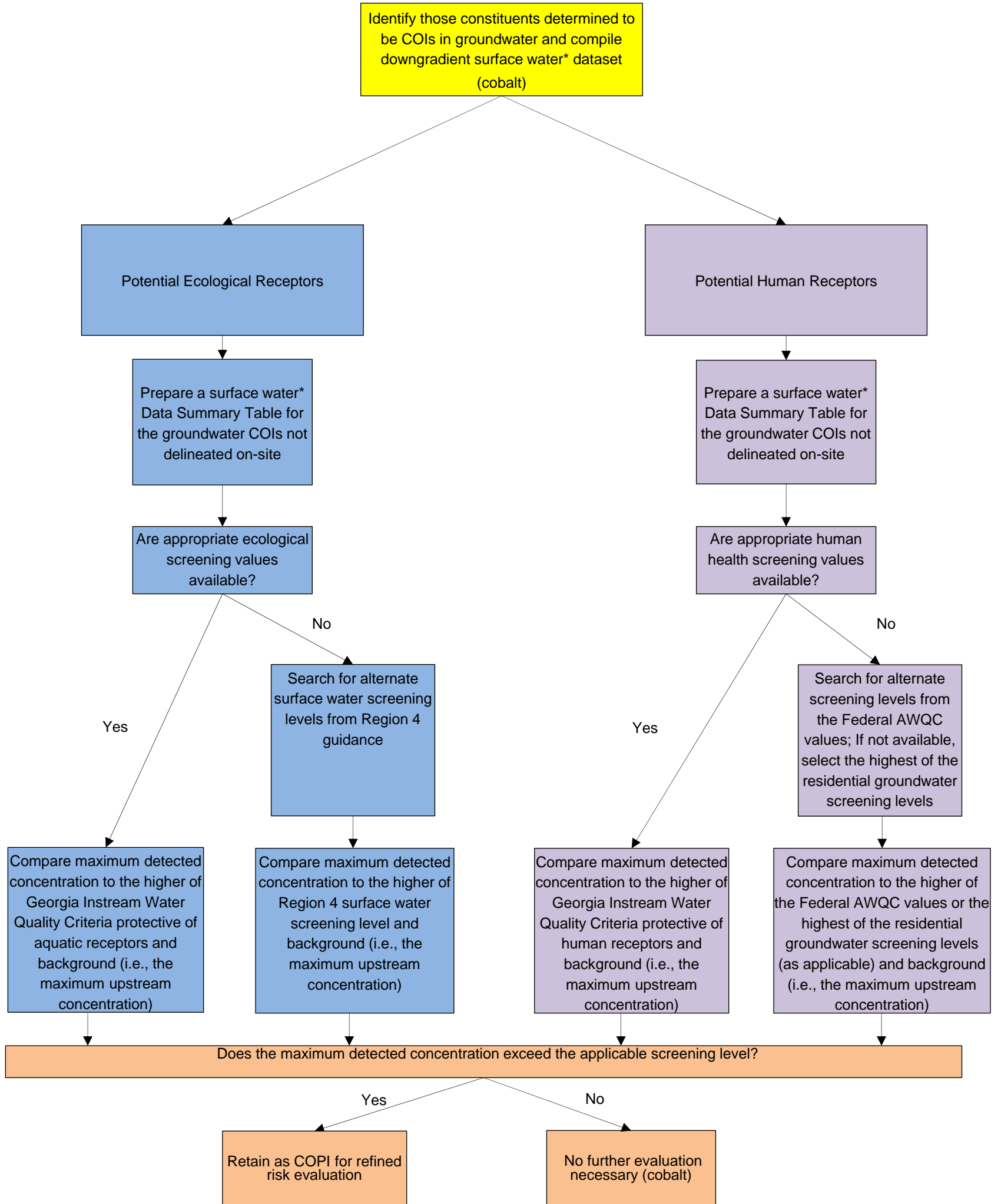
**Former Plant Arkwright AP-2
 Approach for Refined Groundwater Risk
 Evaluation**

Figure 7

Project Number
6123201475

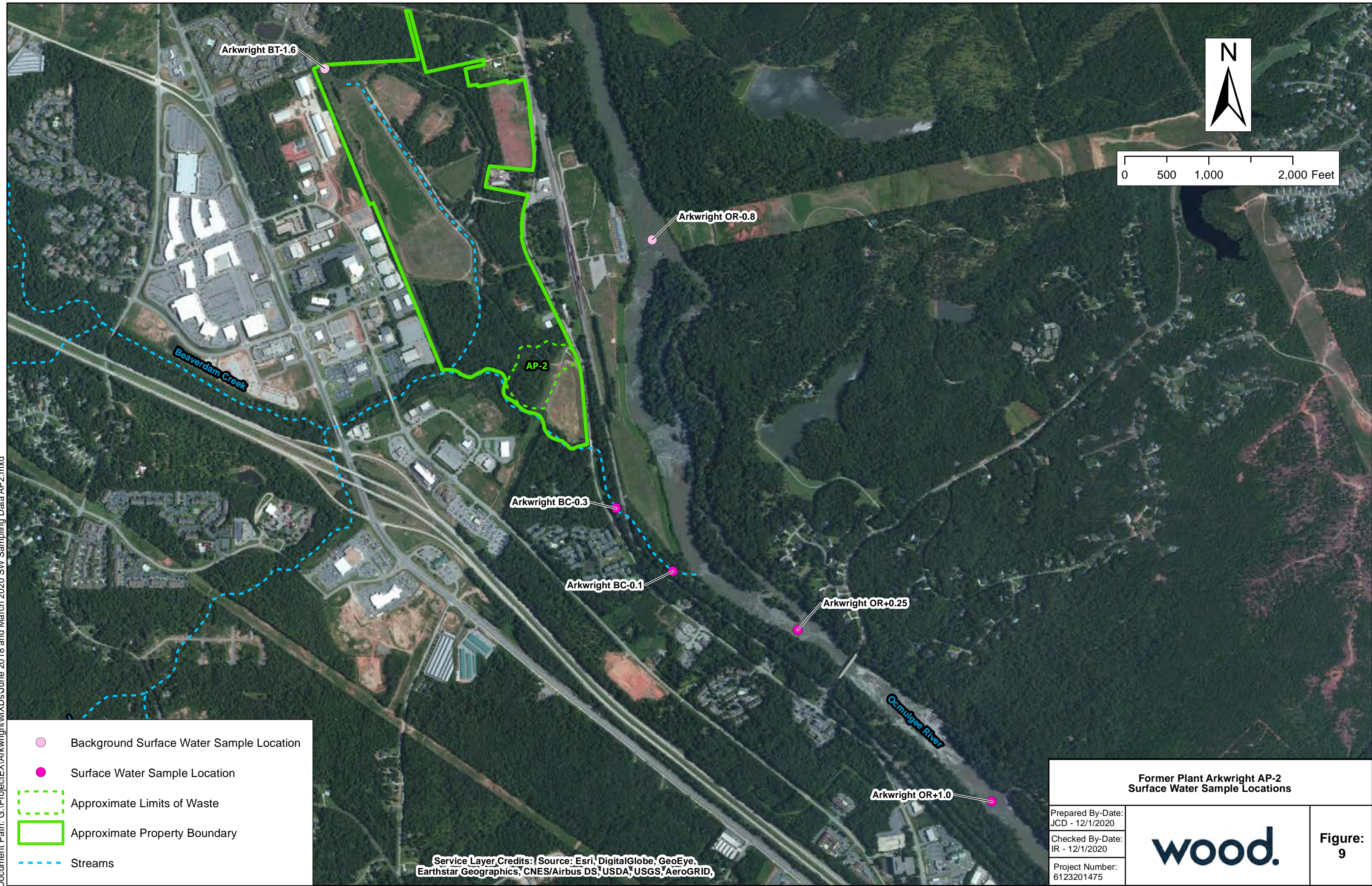
Prepared by/Date: IMR 09/01/20
 Checked by/Date: LMS 11/3/20

Risk Screening Approach (Surface Water) for AP-2



* Surface water data collected from Beaverdam Creek, Ocmulgee River, and two background locations.
 SSL = Statistically Significant Level
 AWQC = Ambient Water Quality Criteria
 COI = Constituent of Interest
 COPI = Constituent of Potential Interest

Former Plant Arkwright AP-2 Surface Water Risk Screening Approach	
Figure 8	
Project Number 6123201475	Prepared by/Date: <u>IMR_09/01/20</u> Checked by/Date: <u>LMS_11/3/20</u>



- Background Surface Water Sample Location
- Surface Water Sample Location
- Approximate Limits of Waste
- Approximate Property Boundary
- Streams

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID,

Former Plant Arkwright AP-2 Surface Water Sample Locations		
Prepared By-Date: JCD - 12/1/2020		Figure: 9
Checked By-Date: IR - 12/1/2020		
Project Number: 6123201475		

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.¹ 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 21st, 2019 requesting information about wells in the Investigated Area. Mr. Gillis confirmed that there are no public wells in the Investigated Area.

¹ <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.² 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.

² <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

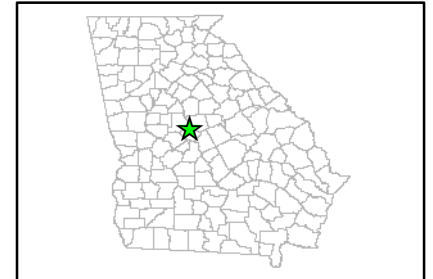
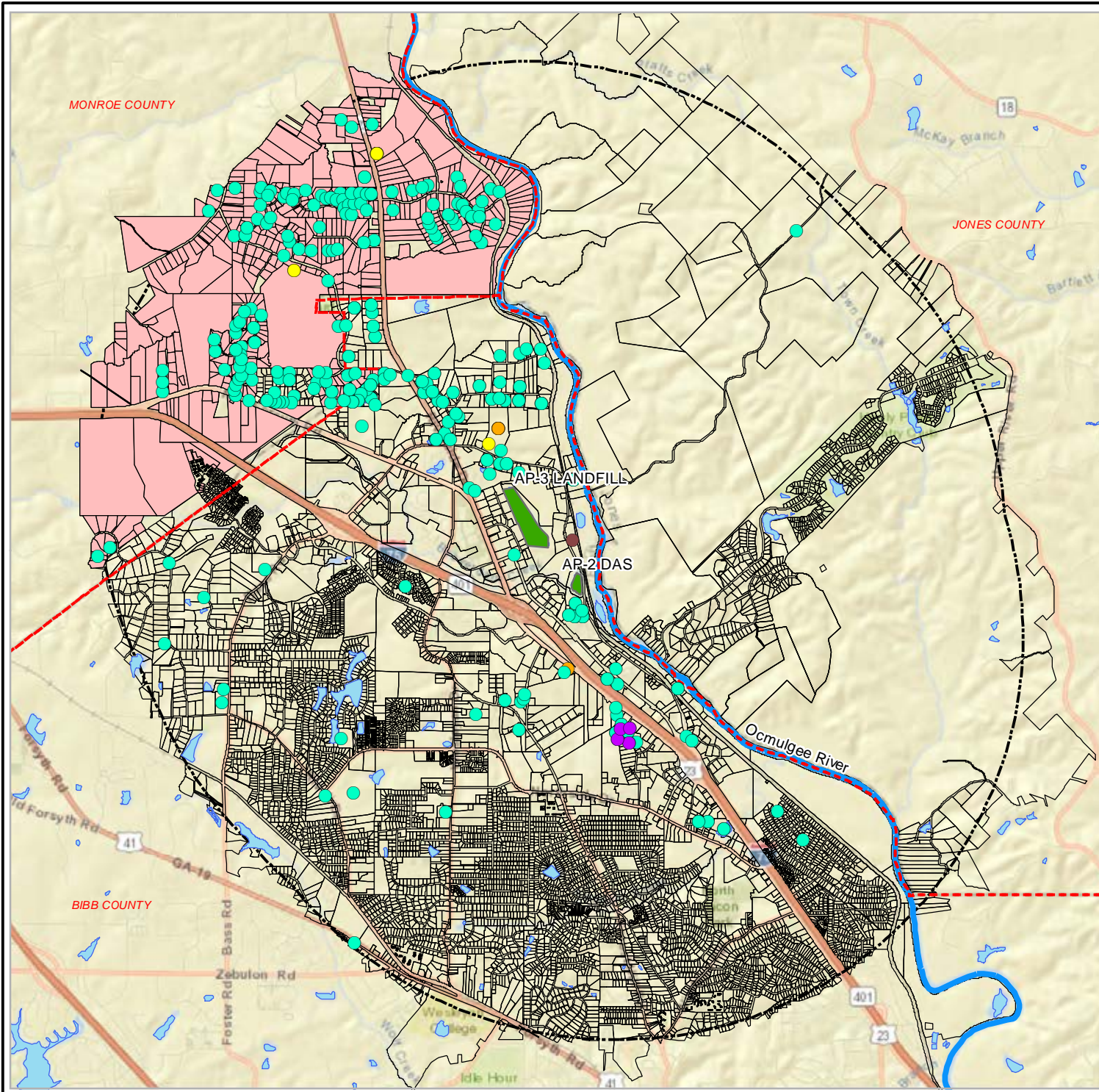
A windshield survey of the area was conducted on November 15, 2019. During the survey wells were visually identified and compiled into the GIS database. The majority of these wells were located near residences. The windshield survey could not be conducted in the area across the Ocmulgee River in Jones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

Summary

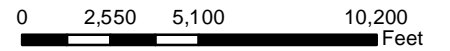
Municipal water from the Macon Water Authority is widely available throughout the Bibb County portion of the Investigated Area. Some water lines dates as far back as 1922, with the majority of the water lines around the plant being built in the 1970s, when the nearby homes were constructed. Municipal 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



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

APPENDIX B
Data Used in Risk Evaluation

APPENDIX B-1
Groundwater Data

Appendix B-1
Site Groundwater Data for Evaluation of SSLs¹
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

Well	Date	CAS	Constituent	Units	Obs	Flags	MDL	PQL
ARGWC-22	12/16/19	7440-48-4	Cobalt	mg/L	0.018		0.000075	0.0005
ARGWC-22	01/14/20	7440-48-4	Cobalt	mg/L	0.0072		0.00013	0.0005
ARGWC-22	02/11/20	7440-48-4	Cobalt	mg/L	0.013		0.00013	0.0005
ARGWC-22	03/09/20	7440-48-4	Cobalt	mg/L	0.015		0.00013	0.0025
ARGWC-22	04/07/20	7440-48-4	Cobalt	mg/L	0.009		0.00013	0.0005
ARGWC-22	05/27/20	7440-48-4	Cobalt	mg/L	0.0059		0.00013	0.0025

Notes:

1) 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

ND - not detected above the laboratory MDL

PQL - practical quantitation limit

Prepared by/Date: LO 10/26/20

Checked by/Date: IMR 10/26/20

APPENDIX B-2
Surface Water Data

Appendix B-2
Surface Water Data
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

Sample Location	Location ID	Sample Designation	Date	CAS	Constituent	Units	Fraction	Result	Flags	MDL	RL
Beaverdam	BC-0.1	Downgradient	06/08/18	7440-48-4	Cobalt	mg/L	T		ND	0.000371	0.005
Beaverdam	BC-0.3	Downgradient	06/08/18	7440-48-4	Cobalt	mg/L	T		ND	0.000371	0.005
Beaverdam	BC-0.1	Downgradient	03/02/20	7440-48-4	Cobalt	mg/L	T	0.00063	J	0.0003	0.005
Beaverdam	BC-0.3	Downgradient	03/02/20	7440-48-4	Cobalt	mg/L	T	0.00071	J	0.0003	0.005
Ocmulgee	OR+0.25	Downgradient	06/08/18	7440-48-4	Cobalt	mg/L	T		ND	0.000371	0.005
Ocmulgee	OR+1.0	Downgradient	06/08/18	7440-48-4	Cobalt	mg/L	T		ND	0.000371	0.005
Ocmulgee	OR+0.25	Downgradient	03/02/20	7440-48-4	Cobalt	mg/L	T	0.0005	J	0.0003	0.005
Ocmulgee	OR+1.0	Downgradient	03/02/20	7440-48-4	Cobalt	mg/L	T	0.0005	J	0.0003	0.005
Beaverdam	BT-1.6	Background	06/08/18	7440-48-4	Cobalt	mg/L	T	0.000709	J	0.000371	0.005
Beaverdam	BT-1.6	Background	03/02/20	7440-48-4	Cobalt	mg/L	T		ND	0.0003	0.005
Ocmulgee	OR-0.8	Background	06/08/18	7440-48-4	Cobalt	mg/L	T		ND	0.000371	0.005
Ocmulgee	OR-0.8	Background	03/02/20	7440-48-4	Cobalt	mg/L	T	0.0005	J	0.0003	0.005

Notes:

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

MDL - method detection limit

mg/L - milligrams per liter

ND - not detected above the laboratory MDL

RL - Reporting Limit

T - Total

Prepared by/Date: LO 11/02/20

Checked by/Date: IMR 11/02/20

APPENDIX C

USEPA RSL Calculator Generated Residential Screening Levels

Appendix C-1
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

December 2020

Appendix C-1

Arkwright AP-2

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 ³	0.5
I_{sc} (apparent thickness of stratum corneum) cm	0.001
ED _{res} (exposure duration - resident) years	26
ED _{res-c} (exposure duration - child) years	6
ED _{res-a} (exposure duration - adult) years	20
ED ₀₋₂ (mutagenic exposure duration first phase) years	2
ED ₂₋₆ (mutagenic exposure duration second phase) years	4
ED ₆₋₁₆ (mutagenic exposure duration third phase) years	10
ED ₁₆₋₂₆ (mutagenic exposure duration fourth phase) years	10
EF _{res} (exposure frequency) days/year	350
EF _{res-c} (exposure frequency - child) days/year	350
EF _{res-a} (exposure frequency - adult) days/year	350
EF ₀₋₂ (mutagenic exposure frequency first phase) days/year	350
EF ₂₋₆ (mutagenic exposure frequency second phase) days/year	350
EF ₆₋₁₆ (mutagenic exposure frequency third phase) days/year	350
EF ₁₆₋₂₆ (mutagenic exposure frequency fourth phase) days/year	350
ET _{event-res-adj} (age-adjusted exposure time) hours/event	0.67077
ET _{event-res-madj} (mutagenic age-adjusted exposure time) hours/event	0.67077
ET _{res} (exposure time) hours/day	24
ET _{res-c} (dermal exposure time - child) hours/event	0.54
ET _{res-a} (dermal exposure time - adult) hours/event	0.71
ET _{res-c} (inhalation exposure time - child) hours/day	24
ET _{res-a} (inhalation exposure time - adult) hours/day	24
Appendix D-3	24
ET ₁₆₋₂₆ (mutagenic inhalation exposure time fourth phase) hours/day	24
ET ₀₋₂ (mutagenic dermal exposure time first phase) hours/event	0.54
ET ₂₋₆ (mutagenic dermal exposure time second phase) hours/event	0.54
ET ₆₋₁₆ (mutagenic dermal exposure time third phase) hours/event	0.71
ET ₁₆₋₂₆ (mutagenic dermal exposure time fourth phase) hours/event	0.71
BW _{res-a} (body weight - adult) kg	80

Appendix C-1
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

December 2020

Appendix C-1
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

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

Appendix C-2
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
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 _o (mg/kg-day) ⁻¹	SF _o Ref	IUR (ug/m ³) ⁻¹	IUR Ref	RfD (mg/kg-day)	RfD Ref	RfC (mg/m ³)	RfC Ref	GIABS	K _p (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

Appendix C-2
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
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 _{event} (hr/event)	FA (unitless)	In EPD?	DA _{event} (ca)	DA _{event} (nc child)	DA _{event} (nc adult)	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	-

Appendix C-2
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
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

Appendix C-2
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
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	-

Appendix C-2
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
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	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

APPENDIX D

Support for Refined Risk Evaluation

Appendix D-1
Exposure Point Concentration
Calculation Results

Appendix D-1
Exposure Point Calculation Details¹
Arkwright AP-2
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-22	0.018	6 / 6	5 / 6	0.015	0.015	0.015

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:

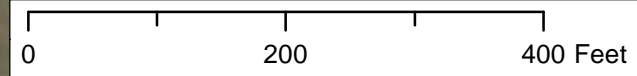
EPC = Exposure Point Concentration
mg/L = milligrams per liter

Prepared by/Date: IMR 10/06/20
Checked by/Date: LMS 10/26/20

Appendix D-2

Exposure Point Concentration Figure

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



Document Path: G:\Project\Arkwright\MXD\AP2 Exposure Point Concentration for Cobalt\April 2020.mxd

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

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

Appendix D-3

ProUCL Input/Output Files

Appendix D-3a
Groundwater ProUCL Input - Cobalt
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

Steps 1, 2, 3

Well	Date	Cobalt	D_Cobalt
ARGWC-22	12/16/19	0.018	1
ARGWC-22	01/14/20	0.0072	1
ARGWC-22	02/11/20	0.013	1
ARGWC-22	03/09/20	0.015	1
ARGWC-22	04/07/20	0.009	1
ARGWC-22	05/27/20	0.0059	1

Notes:

1) Concentrations in units of milligrams per liter (mg/L).

Prepared by/Date: LO 10/01/20
Checked by/Date: IMR 10/26/20

Appendix D-3b
Groundwater ProUCL Output - Cobalt
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA

UCL Statistics for Data Sets with Non-Detects

User Selected Options
 Date/Time of Computation ProUCL 5.110/6/2020 10:52:48 AM
 From File WorkSheet.xls
 Full Precision OFF
 Confidence Coefficient 95%
 Number of Bootstrap Operations 2000

Cobalt

General Statistics			
Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	0.0059	Mean	0.0114
Maximum	0.018	Median	0.011
SD	0.00475	Std. Error of Mean	0.00194
Coefficient of Variation	0.418	Skewness	0.283

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test		Shapiro Wilk GOF Test	
Shapiro Wilk Test Statistic	0.945	Data appear Normal at 5% Significance Level	
5% Shapiro Wilk Critical Value	0.788	Lilliefors GOF Test	
Lilliefors Test Statistic	0.19	Data appear Normal at 5% Significance Level	
5% Lilliefors Critical Value	0.325		

Data appear Normal at 5% Significance Level

Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Normal UCL			
95% Student's-t UCL	0.0153	95% Adjusted-CLT UCL (Chen-1995)	0.0148
		95% Modified-t UCL (Johnson-1978)	0.0153

Gamma GOF Test		Anderson-Darling Gamma GOF Test	
A-D Test Statistic	0.256	Detected data appear Gamma Distributed at 5% Significance Level	
5% A-D Critical Value	0.698	Kolmogorov-Smirnov Gamma GOF Test	
K-S Test Statistic	0.186	Detected data appear Gamma Distributed at 5% Significance Level	
5% K-S Critical Value	0.333		

Detected data appear Gamma Distributed at 5% Significance Level

**Appendix D-3b
Groundwater ProUCL Output - Cobalt
Arkwright AP-2 Risk Evaluation Report
Arkwright AP-2
Former Plant Arkwright, Bibb County, GA**

Gamma Statistics

k hat (MLE)	6.604	k star (bias corrected MLE)	3.413
Theta hat (MLE)	0.00172	Theta star (bias corrected MLE)	0.00333
nu hat (MLE)	79.25	nu star (bias corrected)	40.96
MLE Mean (bias corrected)	0.0114	MLE Sd (bias corrected)	0.00614
		Approximate Chi Square Value (0.05)	27.29
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	23.34

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.017	95% Adjusted Gamma UCL (use when n<50)	0.0199
---	-------	--	--------

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.949
5% Shapiro Wilk Critical Value	0.788
Lilliefors Test Statistic	0.187
5% Lilliefors Critical Value	0.325

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	-5.133	Mean of logged Data	-4.556
Maximum of Logged Data	-4.017	SD of logged Data	0.439

Assuming Lognormal Distribution

95% H-UCL	0.0189	90% Chebyshev (MVUE) UCL	0.0175
95% Chebyshev (MVUE) UCL	0.0202	97.5% Chebyshev (MVUE) UCL	0.0241
99% Chebyshev (MVUE) UCL	0.0316		

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0145	95% Jackknife UCL	0.0153
95% Standard Bootstrap UCL	0.0143	95% Bootstrap-t UCL	0.0157
95% Hall's Bootstrap UCL	0.0142	95% Percentile Bootstrap UCL	0.0143
95% BCA Bootstrap UCL	0.0144		
90% Chebyshev(Mean, Sd) UCL	0.0172	95% Chebyshev(Mean, Sd) UCL	0.0198
97.5% Chebyshev(Mean, Sd) UCL	0.0235	99% Chebyshev(Mean, Sd) UCL	0.0306

Suggested UCL to Use

95% Student's-t UCL	0.0153
---------------------	--------

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

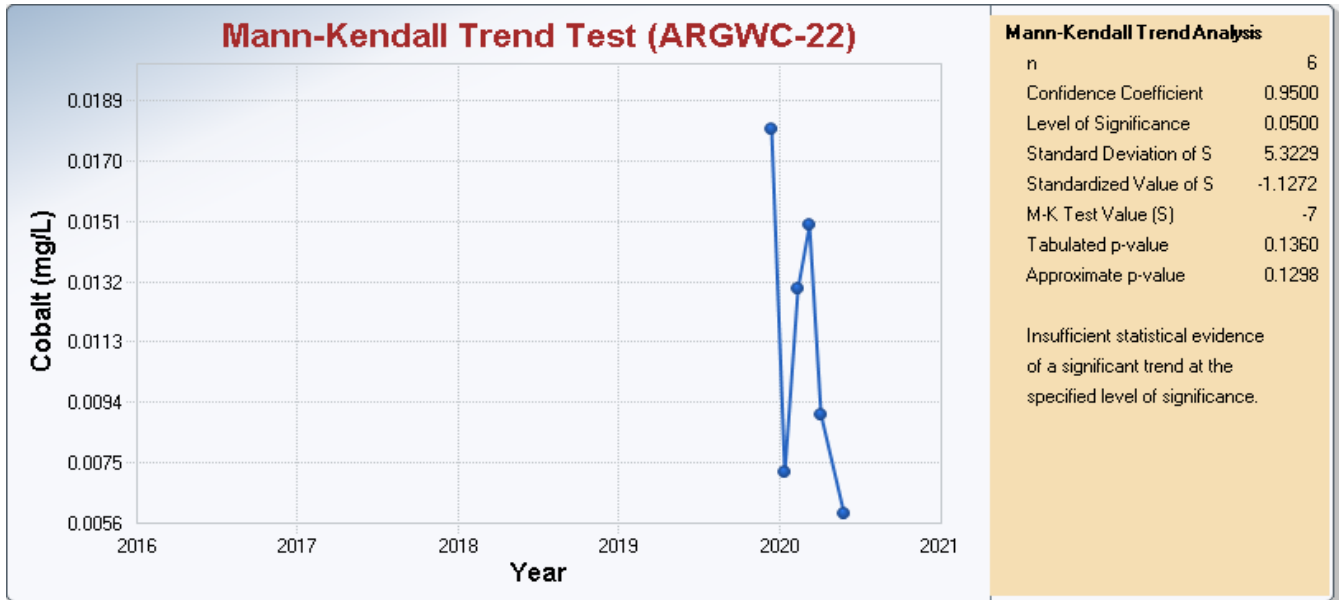
Recommendations are based upon data size, data distribution, and skewness.

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



Prepared by/Date: LO 10/26/20
Checked by/Date: LMS 11/3/20

APPENDIX B



DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-19
Sheet 1 of 2

SITE Former Plant Arkwright HOLE DEPTH 49.7 SURF.ELEV. 340.65
 LOCATION Solid Waste Management Area COORDINATES N 1063774.217 E 2439487.88
 ANGLE _____ BEARING _____ CONTRACTOR SCS, Inc. DRILL NO. _____
 DRILLING METHOD HSA/HQ Rock core with water NO. SAMPLES 6 NO. U.D. SAMPLES 0
 CASING SIZE _____ LENGTH _____ CORE SIZE _____ TOTAL % REC. _____
 WATER TABLE DEPTH 28.1 ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN 12/18/2008
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 12/5/2008
 DRILLER S. Milam RECORDER L. Garland APPROVED _____ DRILLING COMP. DATE 12/16/2008

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	340.65								
1	339.65								
2	338.65								
3	337.65								
4	336.65								
5	335.65	Yellow brown sandy SILT	1	4.5-6	5-5-5	10			
6	334.65								
7	333.65								
8	332.65								
9	331.65								
10	330.65	Same as above	2	9.5-11	5-5-5	10			
11	329.65								
12	328.65								
13	327.65								
14	326.65								
15	325.65	Same as above	3	14.5-16	5-7-9	14			
16	324.65								
17	323.65								
18	322.65								
19	321.65								
20	320.65	Same as above	4	19.5-21	6-9-11	20			
21	319.65								
22	318.65								
23	317.65								
24	316.65								

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWA-19

Sheet 2 of 2

SITE **Former Plant Arkwright** TOTAL DEPTH **49.7** SURF.ELEV. **340.6522**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25	315.65	Yellow and brown silty SAND, medium to fine grained	5	24.5-26	16-50/2	R			
26	314.65								
27	313.65								
28	312.65								
29	311.65								
30	310.65	Same as above	6	29.5-31	50/4	R			
31	309.65								
32	308.65	Auger refusal 32.8'							
33	307.65	Biotite gneiss, highly weathered, heavily fractured, heavy weathering on fracture faces		33-34.7				100	
34	306.65								
35	305.65								
36	304.65	Same as above with less weathering		34.7-39.7				96	
37	303.65								
38	302.65								
39	301.65								
40	300.65	Biotite gneiss, unweathered to slightly weathered, moderately to heavily fractured, with slight to moderately weathered fracture faces		39.7-44.7				84	
41	299.65								
42	298.65								
43	297.65								
44	296.65								
45	295.65	Same as above		44.7-49.7				76	
46	294.65								
47	293.65								
48	292.65								
49	291.65	49.7' - Bottom of boring							
50	290.65								
51	289.65								
52	288.65								
53	287.65								
54	286.65								
55	285.65								
56	284.65								

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-19
DATE CONSTRUCTED: 12/16/2008		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-2.82	343.48
GROUND SURFACE		0.00	340.65	
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 6 bags @ 1.3 cf/bag = 7.80 cf</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	35.00	305.65
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	37.00	303.65
<p>FILTER PACK 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	39.68	300.97
<p>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</p>		BOTTOM OF SCREEN	49.68	290.97
		BOTTOM OF CASING	49.98	290.68
HOLE DIA: 9"				



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWA-20
Sheet 1 of 2

SITE Former Plant Arkwright HOLE DEPTH 36 SURF.ELEV. 328.63
 LOCATION Solid Waste Management Area COORDINATES N 1063732.851 E 2439088.116
 ANGLE _____ BEARING _____ CONTRACTOR SCS, Inc. DRILL NO. _____
 DRILLING METHOD HSA NO. SAMPLES 7 NO. U.D. SAMPLES 0
 CASING SIZE _____ LENGTH _____ CORE SIZE _____ TOTAL % REC. _____
 WATER TABLE DEPTH 15 ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN 12/18/2008
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 12/4/2008
 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	328.63								
1	327.63								
2	326.63								
3	325.63								
4	324.63								
5	323.63	Reddish brown sandy SILT, with clay	1	4.5-6	3-3-3	6			
6	322.63								
7	321.63								
8	320.63								
9	319.63								
10	318.63	Same as above	2	9.5-11	3-4-5	9			
11	317.63								
12	316.63								
13	315.63								
14	314.63								
15	313.63	Grayish yellow clayey SILT, with sand	3	14.5-16	3-6-8	14			
16	312.63								
17	311.63								
18	310.63								
19	309.63								
20	308.63	Dark yellow brown silty SAND, fine to medium grained, micaceous	4	19.5-21	6-4-5	9			
21	307.63								
22	306.63								
23	305.63								
24	304.63								

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWA-20

Sheet 2 of 2

SITE **Former Plant Arkwright** TOTAL DEPTH **36** SURF.ELEV. **328.63308**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25	303.63	Tan silty SAND, fine to coarse grained	5	24.5-26	6-8-9	17			
26	302.63								
27	301.63								
28	300.63								
29	299.63								
30	298.63	Dark yellow and brown sandy SILT, micaceous	6	29.5-31	4-4-12	16			
31	297.63								
32	296.63								
33	295.63								
34	294.63								
35	293.63	Dark gray and yellow silty SAND, fine to medium grained, micaceous	7	34.5-36	14-25-26	51			
36	292.63								
37	291.63	36' - bottom of boring							
38	290.63								
39	289.63								
40	288.63								
41	287.63								
42	286.63								
43	285.63								
44	284.63								
45	283.63								
46	282.63								
47	281.63								
48	280.63								
49	279.63								
50	278.63								
51	277.63								
52	276.63								
53	275.63								
54	274.63								
55	273.63								
56	272.63								

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	GWA-20
DATE CONSTRUCTED: 12/4/2008		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-2.85	331.48
GROUND SURFACE		0.00	328.63	
PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING				
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 cf/bag = 5.20 cf RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL		19.00	309.63	
ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1.5 buckets PLACEMENT: Tremie TOP OF FILTER PACK		22.50	306.13	
FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 6 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN		24.55	304.08	
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		34.55	294.08	
BOTTOM OF CASING		34.85	293.78	
HOLE DIA: 9"				



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWC-21
Sheet 1 of 1

SITE Former Plant Arkwright HOLE DEPTH 24 SURF.ELEV. 306.68
 LOCATION Solid Waste Management Area COORDINATES N 1062940.974 E 2439112.393
 ANGLE _____ BEARING _____ CONTRACTOR SCS, Inc. DRILL NO. _____
 DRILLING METHOD HSA NO. SAMPLES 4 NO. U.D. SAMPLES 0
 CASING SIZE _____ LENGTH _____ CORE SIZE _____ TOTAL % REC. _____
 WATER TABLE DEPTH 10.5 ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN 12/18/2008
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 12/1/2008
 DRILLER S. Milam RECORDER L. Garland APPROVED _____ DRILLING COMP. DATE 12/1/2008

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	306.68								
1	305.68								
2	304.68								
3	303.68								
4	302.68								
5	301.68	Dark reddish brown silty SAND, fine grained	1	4.5-6	6-5-6	11			
6	300.68								
7	299.68								
8	298.68								
9	297.68								
10	296.68	Brown sandy SILT, with gray mottling and organics	2	9.5-11	1-2-2	4			
11	295.68								
12	294.68								
13	293.68								
14	292.68								
15	291.68	Gray sandy GRAVEL, with some silt and organics to medium grained sand	3	14.5-16	2-4-9	13			
16	290.68								
17	289.68								
18	288.68								
19	287.68								
20	286.68	Dark yellow and gray silty SAND, coarse to fine grained, with gravel, decomposed rock	4	19.5-21	21-50/4	R			
21	285.68								
22	284.68								
23	283.68								
24	282.68	24' - Bottom of boring							

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-21
DATE CONSTRUCTED: 12/2/2008		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-2.71	309.40
GROUND SURFACE		0.00	306.68	
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 cf/bag = 5.20 cf</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	9.60	297.08
<p>ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	12.00	294.68
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	14.27	292.41
<p>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</p>		BOTTOM OF SCREEN	24.27	282.41
		BOTTOM OF CASING	24.57	282.12
HOLE DIA: 9"				

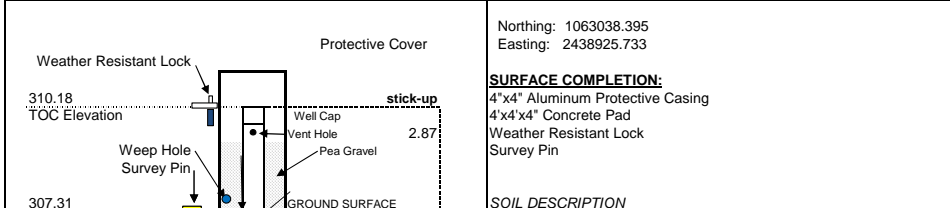


ATLANTIC COAST CONSULTING, INC.

ARGWC-22

BORING ID

PROJECT:	Plant Arkwright	PROJECT NO.:	I054-110
TOTAL DEPTH:	27.78 ft. BTOC	SITE LOCATION:	Macon, Georgia
DATE BEGIN:	19-Nov-2019	DRILLER:	Jaime Everson
DATE COMPLETE:	19-Nov-2019	RIG TYPE:	T-300 Rotosonic
INSTALLED BY:	Cascade	METHOD:	Rotosonic
SUPERVISED BY:	Taylor Goble		
WATER 1ST ENCOUNTERED:	10.95' BGS		
WATER AFTER 48 HOURS:	13.03' BTOC		



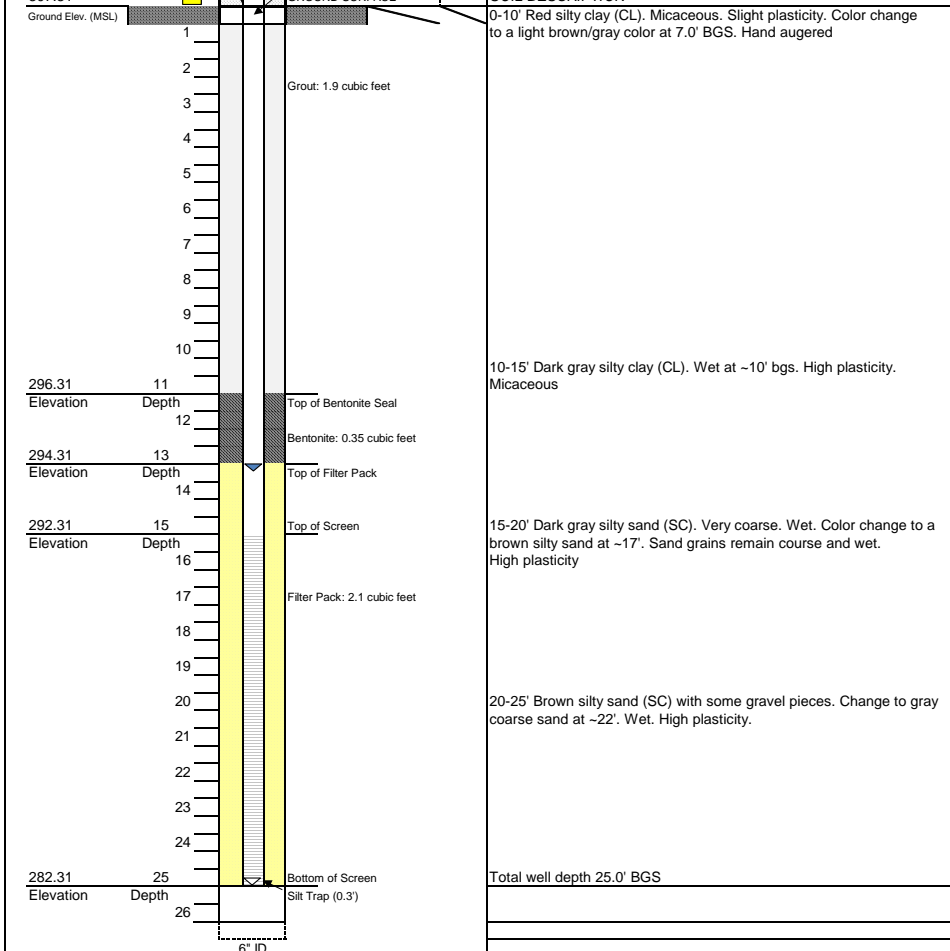
Northing: 1063038.395
Easting: 2438925.733

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

SOIL DESCRIPTION

0-10' Red silty clay (CL). Micaceous. Slight plasticity. Color change to a light brown/gray color at 7.0' BGS. Hand augered

Core Photos



MATERIALS:

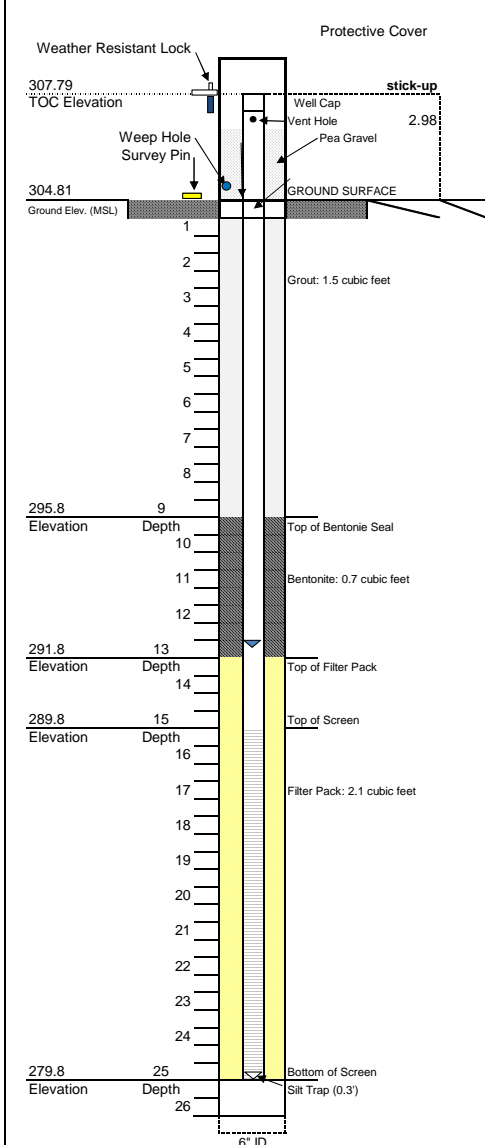
GROUT:		Bentonite Grout
MANUFACTURER:		AquaGuard
BENTONITE SEAL:		3/8" Bentonite Pellets
MANUFACTURER:		Pel-Plug
FILTER PACK SAND:		20/30 Mesh
MANUFACTURER:		Standard Sand & Silica
WELL SCREEN:		Sch. 40 - 2" PVC
MANUFACTURER:		Campbell Monoflex
SLOT SIZE:		0.010-Inch Slot
WELL CASING:		Sch. 40 - 2" PVC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



PROJECT: Plant Arkwright	PROJECT NO.: I054-110
TOTAL DEPTH: 27.21 ft. BTOC	SITE LOCATION: Macon, Georgia
DATE BEGIN: 20-Nov-2019	DRILLER: Isaac Young
DATE COMPLETE: 20-Nov-2019	RIG TYPE: T-300 Rotosonic
INSTALLED BY: Cascade	METHOD: Rotosonic
SUPERVISED BY: Taylor Goble	
WATER 1ST ENCOUNTERED: 10.95' BGS	
WATER AFTER 48 HOURS: 12.51' BTOC	



Northing: 1062885.484
Easting: 2439201.881

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

SOIL DESCRIPTION
0-9' Red silty clay (CL). Slight plasticity. Color change to a light brown at ~7.0 bgs. Hand augered

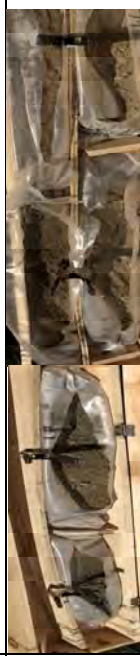
9-14' Light brown silty sand (SC). Micaceous. Dry. Progression to a darker brown silty sand at ~11' bgs. Moist after this point.

14-19' Dark brown/gold colored silty sand (SC). Moist. Mottled white and black.

19-25' Brown/gray silty sand (SC) with some gravel pieces. Moist. Progresses to a coarse gray sand at ~22. bgs. Very wet.

Total well depth 25.0' BGS

Core Photos



MATERIALS:

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

ARAMW-1

BORING ID

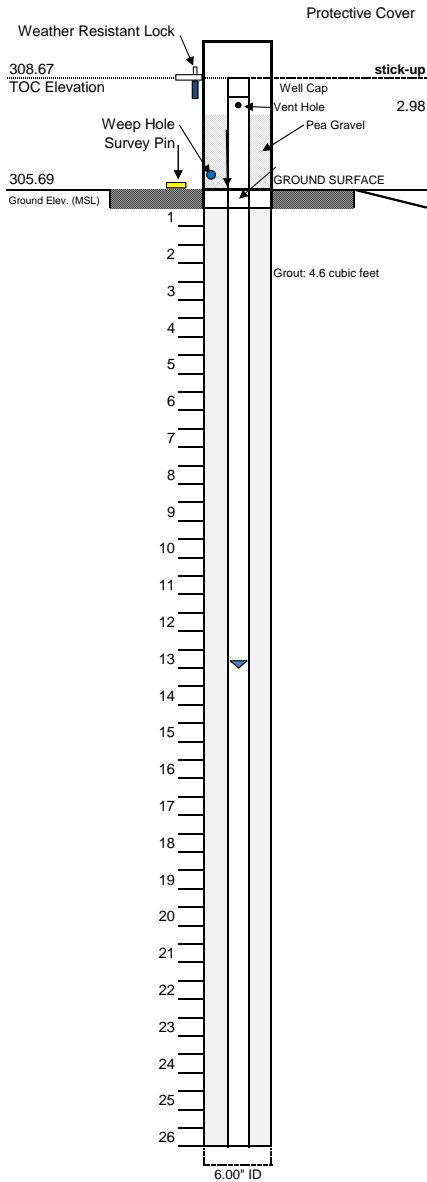
PROJECT:	Plant Arkwright	PROJECT NO.:	I054-110
TOTAL DEPTH:	45.33 ft. BTOC	SITE LOCATION:	Macon, Georgia
DATE BEGIN:	20-Nov-2019	DRILLER:	Isaac Young
DATE COMPLETE:	20-Nov-2019	RIG TYPE:	T-300 Rotasonic
INSTALLED BY:	Cascade	METHOD:	Rotosonic
SUPERVISED BY:	Taylor Goble		
WATER 1ST ENCOUNTERED:	14' BGS		
WATER AFTER 48 HOURS:	13.43' BTOC		

Northing: 1062937.141
Easting: 2439119.673

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

SOIL DESCRIPTION
 0-10' Red silty clay (CL). Micaceous. Color change to light brown.
 Hang augered

Core Photos



10-14' No recovery when driller switched to rock coring techniques at 14' bgs

14-19' Rock. Gneiss with high quartz content. Iron staining and light fracturing evident from 14-17'. Harder rock from 17-19'

19-24' Extremely fractured section. Mottled dark brown moist silty sand from 19-20'. Return to gneiss found above at 20'. Extremely large core pieces. No fracturing or iron staining.

24-29' As above.



MATERIALS:

GROUT:		Bentonite Grout
MANUFACTURER:		AquaGuard
BENTONITE SEAL:		3/8" Bentonite Pellets
MANUFACTURER:		Pel-Plug
FILTER PACK SAND:		20/30 Mesh
MANUFACTURER:		Standard Sand & Silica
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



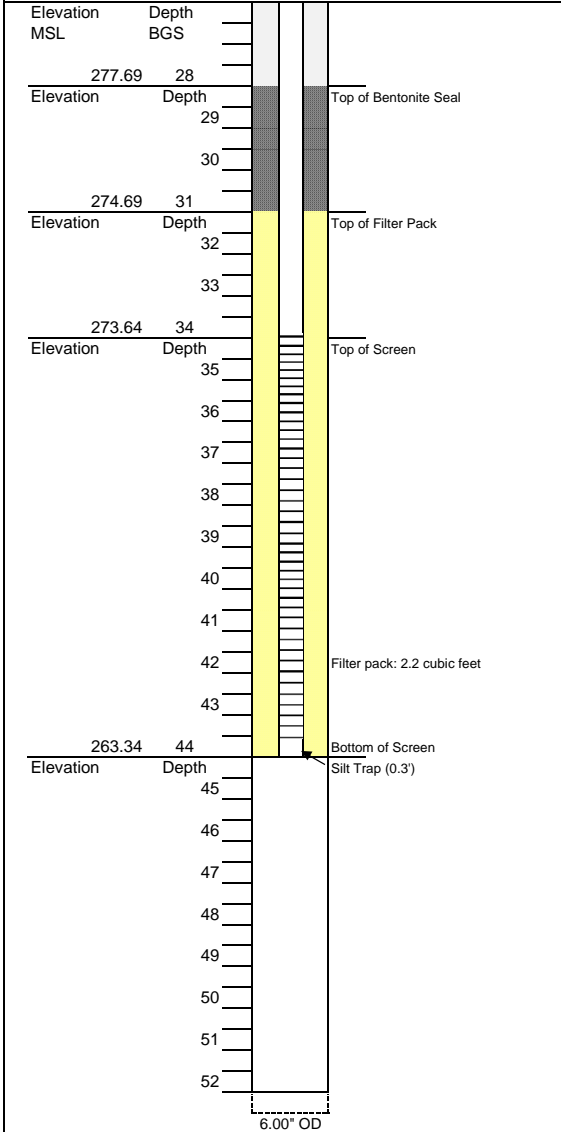
ATLANTIC COAST CONSULTING, INC.

ARAMW-1

BORING ID

PROJECT: Plant Arkwright	PROJECT NO.: I054-110
TOTAL DEPTH: 45.33 ft. BTOC	SITE LOCATION: Macon, Georgia
DATE BEGIN: 20-Nov-2019	DRILLER: Isaac Young
DATE COMPLETE: 20-Nov-2019	RIG TYPE: T-300 Rotosonic
INSTALLED BY: Cascade	METHOD: Rotosonic
SUPERVISED BY: Taylor Goble	
WATER 1ST ENCOUNTERED: 14' BGS	
WATER AFTER 48 HOURS: 13.43' BTOC	

Core Photos



29-34' As above. Some fracturing and iron staining present. Layer of mottled gold and black sand, moist, from 32-34'

34-39' Hard gneiss. No fracturing or iron staining. Large pieces.

39-44' As above. Some fracturing and iron staining ~44'. Limited recovery

Total well depth 44.0' BGS



MATERIALS:

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

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



ATLANTIC COAST CONSULTING, INC.

ARAMW-2

BORING ID

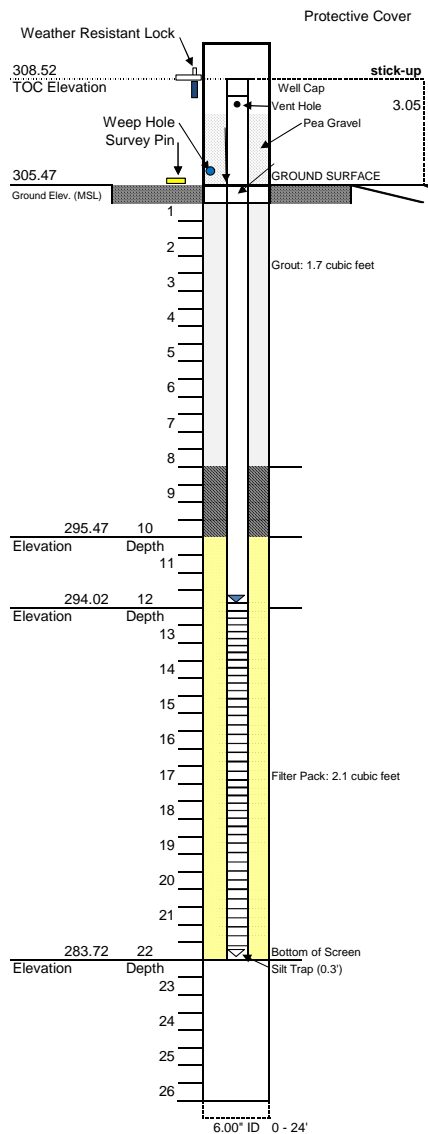
PROJECT:	Plant Arkwright	PROJECT NO.:	I054-110
TOTAL DEPTH:	24.80 ft. BTOC	SITE LOCATION:	Macon, Georgia
DATE BEGIN:	20-Nov-2019	DRILLER:	Isaac Young
DATE COMPLETE:	20-Nov-2019	RIG TYPE:	T-300 Rotasonic
INSTALLED BY:	Cascade	METHOD:	Rotasonic
SUPERVISED BY:	Taylor Goble		
WATER 1ST ENCOUNTERED:	12.0' BGS		
WATER AFTER 48 HOURS:	13.49' BTOC		

Northing: 1062926.908
Easting: 2439115.223

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

SOIL DESCRIPTION
0-9' Red silty clay (CL). Micaceous. Color change to light brown. Hand augered.

Core Photos



9-15' Gray silty sand (SC). Dry. Becomes wet around 12'. Changes in color to a red brown coarse sand (S) around 13.5'.

15-22' Continue gray coarse sand (S). Moist. Transitions into a dry and gravelly brown sand at 19'. Bigger gravel pieces and rock pieces apparent from 19-22' (SG).

Total well depth 22.0' 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:		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

APPENDIX C

ANALYTICAL REPORT

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

Laboratory Job ID: 180-101076-1

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:
1/30/2020 3:57:01 PM

Veronica Bortot, Senior Project Manager
(412)963-2435

veronica.bortot@testamericainc.com

LINKS

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results through
TotalAccess

Have a Question?



Visit us at:
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: 180-101076-1

Job ID: 180-101076-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-101076-1

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.

GC Semi VOA

Method 300.0: The continuing calibration blank (CCB) for analytical batch 180-305040 contained Sulfate above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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.

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

Job ID: 180-101076-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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
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: 180-101076-1

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: 180-101076-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-101076-1	ARGWC-22	Water	01/14/20 09:39	01/16/20 08:30	
180-101076-2	ARGWC-23	Water	01/14/20 10:59	01/16/20 08:30	

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Method Summary

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

Job ID: 180-101076-1

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
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

Job ID: 180-101076-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-101076-1

Date Collected: 01/14/20 09:39

Matrix: Water

Date Received: 01/16/20 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: CHICS2100B		1	1 mL	1.0 mL	305040	01/27/20 11:04	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		10			305040	01/27/20 11:20	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	305060	01/27/20 07:32	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			305452	01/29/20 17:27	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	305086	01/27/20 10:31	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			305250	01/28/20 14:00	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	304206	01/16/20 14:23	AVS	TAL PIT

Client Sample ID: ARGWC-23

Lab Sample ID: 180-101076-2

Date Collected: 01/14/20 10:59

Matrix: Water

Date Received: 01/16/20 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: CHICS2100B		1			305040	01/27/20 10:48	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	305060	01/27/20 07:32	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			305452	01/29/20 18:22	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	305086	01/27/20 10:31	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			305250	01/28/20 14:01	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	304206	01/16/20 14:23	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

RJR = Ron Rosenbaum

Batch Type: Analysis

AVS = Abbey Smith

MJH = Matthew Hartman

NAM = Nicole Marfisi

RSK = Robert Kurtz

Client Sample Results

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

Job ID: 180-101076-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-101076-1

Date Collected: 01/14/20 09:39

Matrix: Water

Date Received: 01/16/20 08:30

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			01/27/20 11:04	1
Fluoride	<0.026		0.10	0.026	mg/L			01/27/20 11:04	1
Sulfate	930	^	10	3.8	mg/L			01/27/20 11:20	10

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		01/27/20 07:32	01/29/20 17:27	1
Barium	0.071		0.010	0.0016	mg/L		01/27/20 07:32	01/29/20 17:27	1
Beryllium	0.00036	J	0.0010	0.00018	mg/L		01/27/20 07:32	01/29/20 17:27	1
Boron	2.7		0.080	0.039	mg/L		01/27/20 07:32	01/29/20 17:27	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		01/27/20 07:32	01/29/20 17:27	1
Calcium	210		0.50	0.13	mg/L		01/27/20 07:32	01/29/20 17:27	1
Chromium	<0.0015		0.0020	0.0015	mg/L		01/27/20 07:32	01/29/20 17:27	1
Cobalt	0.0072		0.00050	0.00013	mg/L		01/27/20 07:32	01/29/20 17:27	1
Molybdenum	0.0012	J	0.0050	0.00061	mg/L		01/27/20 07:32	01/29/20 17:27	1
Lead	0.00022	J B	0.0010	0.00013	mg/L		01/27/20 07:32	01/29/20 17:27	1
Antimony	<0.00038		0.0020	0.00038	mg/L		01/27/20 07:32	01/29/20 17:27	1
Selenium	<0.0015		0.0050	0.0015	mg/L		01/27/20 07:32	01/29/20 17:27	1
Thallium	0.00027	J B	0.0010	0.00015	mg/L		01/27/20 07:32	01/29/20 17:27	1
Lithium	0.034		0.0050	0.0034	mg/L		01/27/20 07:32	01/29/20 17:27	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		01/27/20 10:31	01/28/20 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1400		10	10	mg/L			01/16/20 14:23	1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-101076-2

Date Collected: 01/14/20 10:59

Matrix: Water

Date Received: 01/16/20 08:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.0		1.0	0.32	mg/L			01/27/20 10:48	1
Fluoride	0.21		0.10	0.026	mg/L			01/27/20 10:48	1
Sulfate	68	^	1.0	0.38	mg/L			01/27/20 10:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00042	J	0.0010	0.00031	mg/L		01/27/20 07:32	01/29/20 18:22	1
Barium	0.075		0.010	0.0016	mg/L		01/27/20 07:32	01/29/20 18:22	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		01/27/20 07:32	01/29/20 18:22	1
Boron	0.43		0.080	0.039	mg/L		01/27/20 07:32	01/29/20 18:22	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		01/27/20 07:32	01/29/20 18:22	1
Calcium	65		0.50	0.13	mg/L		01/27/20 07:32	01/29/20 18:22	1
Chromium	<0.0015		0.0020	0.0015	mg/L		01/27/20 07:32	01/29/20 18:22	1
Cobalt	0.0031		0.00050	0.00013	mg/L		01/27/20 07:32	01/29/20 18:22	1
Molybdenum	0.032		0.0050	0.00061	mg/L		01/27/20 07:32	01/29/20 18:22	1
Lead	0.00018	J B	0.0010	0.00013	mg/L		01/27/20 07:32	01/29/20 18:22	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-101076-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-101076-2

Date Collected: 01/14/20 10:59

Matrix: Water

Date Received: 01/16/20 08:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		01/27/20 07:32	01/29/20 18:22	1
Selenium	<0.0015		0.0050	0.0015	mg/L		01/27/20 07:32	01/29/20 18:22	1
Thallium	<0.00015		0.0010	0.00015	mg/L		01/27/20 07:32	01/29/20 18:22	1
Lithium	0.022		0.0050	0.0034	mg/L		01/27/20 07:32	01/29/20 18:22	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		01/27/20 10:31	01/28/20 14:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	340		10	10	mg/L			01/16/20 14:23	1

QC Sample Results

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

Job ID: 180-101076-1

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

Lab Sample ID: MB 180-305040/6
Matrix: Water
Analysis Batch: 305040

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			01/27/20 05:28	1
Fluoride	<0.026		0.10	0.026	mg/L			01/27/20 05:28	1
Sulfate	<0.38		1.0	0.38	mg/L			01/27/20 05:28	1

Lab Sample ID: LCS 180-305040/5
Matrix: Water
Analysis Batch: 305040

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	48.2		mg/L		96	90 - 110
Fluoride	2.50	2.36		mg/L		94	90 - 110
Sulfate	50.0	47.4		mg/L		95	90 - 110

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

Lab Sample ID: MB 180-305060/1-A
Matrix: Water
Analysis Batch: 305452

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 305060

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		01/27/20 07:32	01/29/20 17:22	1
Barium	<0.0016		0.010	0.0016	mg/L		01/27/20 07:32	01/29/20 17:22	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		01/27/20 07:32	01/29/20 17:22	1
Boron	<0.039		0.080	0.039	mg/L		01/27/20 07:32	01/29/20 17:22	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		01/27/20 07:32	01/29/20 17:22	1
Calcium	<0.13		0.50	0.13	mg/L		01/27/20 07:32	01/29/20 17:22	1
Chromium	<0.0015		0.0020	0.0015	mg/L		01/27/20 07:32	01/29/20 17:22	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		01/27/20 07:32	01/29/20 17:22	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		01/27/20 07:32	01/29/20 17:22	1
Lead	0.000199	J	0.0010	0.00013	mg/L		01/27/20 07:32	01/29/20 17:22	1
Antimony	<0.00038		0.0020	0.00038	mg/L		01/27/20 07:32	01/29/20 17:22	1
Selenium	<0.0015		0.0050	0.0015	mg/L		01/27/20 07:32	01/29/20 17:22	1
Thallium	0.000150	J	0.0010	0.00015	mg/L		01/27/20 07:32	01/29/20 17:22	1

Lab Sample ID: MB 180-305060/1-A
Matrix: Water
Analysis Batch: 305504

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 305060

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0034		0.0050	0.0034	mg/L		01/27/20 07:32	01/30/20 09:51	1

Lab Sample ID: LCS 180-305060/2-A
Matrix: Water
Analysis Batch: 305452

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 305060

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.908		mg/L		91	80 - 120
Barium	1.00	1.04		mg/L		104	80 - 120
Beryllium	0.500	0.514		mg/L		103	80 - 120
Boron	1.25	1.24		mg/L		99	80 - 120

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-101076-1

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

Lab Sample ID: LCS 180-305060/2-A
Matrix: Water
Analysis Batch: 305452

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 305060

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.500	0.528		mg/L		106	80 - 120
Calcium	25.0	25.4		mg/L		102	80 - 120
Chromium	0.500	0.531		mg/L		106	80 - 120
Cobalt	0.500	0.467		mg/L		93	80 - 120
Molybdenum	0.500	0.502		mg/L		100	80 - 120
Lead	0.500	0.519		mg/L		104	80 - 120
Antimony	0.250	0.246		mg/L		98	80 - 120
Selenium	1.00	0.906		mg/L		91	80 - 120
Thallium	1.00	1.08		mg/L		108	80 - 120
Lithium	0.500	0.488		mg/L		98	80 - 120

Lab Sample ID: 180-101076-1 MS
Matrix: Water
Analysis Batch: 305452

Client Sample ID: ARGWC-22
Prep Type: Total Recoverable
Prep Batch: 305060

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00038	J	1.00	0.929		mg/L		93	75 - 125
Barium	0.071		1.00	1.12		mg/L		105	75 - 125
Beryllium	0.00036	J	0.500	0.498		mg/L		100	75 - 125
Boron	2.7		1.25	4.02		mg/L		104	75 - 125
Cadmium	<0.00022		0.500	0.532		mg/L		106	75 - 125
Calcium	210		25.0	244	4	mg/L		141	75 - 125
Chromium	<0.0015		0.500	0.527		mg/L		105	75 - 125
Cobalt	0.0072		0.500	0.468		mg/L		92	75 - 125
Molybdenum	0.0012	J	0.500	0.518		mg/L		103	75 - 125
Lead	0.00022	J B	0.500	0.509		mg/L		102	75 - 125
Antimony	<0.00038		0.250	0.250		mg/L		100	75 - 125
Selenium	<0.0015		1.00	0.891		mg/L		89	75 - 125
Thallium	0.00027	J B	1.00	1.06		mg/L		106	75 - 125
Lithium	0.034		0.500	0.529		mg/L		99	75 - 125

Lab Sample ID: 180-101076-1 MSD
Matrix: Water
Analysis Batch: 305452

Client Sample ID: ARGWC-22
Prep Type: Total Recoverable
Prep Batch: 305060

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00038	J	1.00	0.906		mg/L		91	75 - 125	2	20
Barium	0.071		1.00	1.11		mg/L		104	75 - 125	1	20
Beryllium	0.00036	J	0.500	0.495		mg/L		99	75 - 125	1	20
Boron	2.7		1.25	3.92		mg/L		96	75 - 125	3	20
Cadmium	<0.00022		0.500	0.523		mg/L		105	75 - 125	2	20
Calcium	210		25.0	240	4	mg/L		125	75 - 125	2	20
Chromium	<0.0015		0.500	0.523		mg/L		105	75 - 125	1	20
Cobalt	0.0072		0.500	0.462		mg/L		91	75 - 125	1	20
Molybdenum	0.0012	J	0.500	0.521		mg/L		104	75 - 125	1	20
Lead	0.00022	J B	0.500	0.509		mg/L		102	75 - 125	0	20
Antimony	<0.00038		0.250	0.247		mg/L		99	75 - 125	1	20
Selenium	<0.0015		1.00	0.876		mg/L		88	75 - 125	2	20
Thallium	0.00027	J B	1.00	1.04		mg/L		104	75 - 125	2	20

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-101076-1

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

Lab Sample ID: 180-101076-1 MSD
Matrix: Water
Analysis Batch: 305452

Client Sample ID: ARGWC-22
Prep Type: Total Recoverable
Prep Batch: 305060

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.034		0.500	0.508		mg/L		95	75 - 125	4	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-305086/1-A
Matrix: Water
Analysis Batch: 305250

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 305086

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		01/27/20 10:31	01/28/20 13:45	1

Lab Sample ID: LCS 180-305086/2-A
Matrix: Water
Analysis Batch: 305250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 305086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00243		mg/L		97	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-304206/2
Matrix: Water
Analysis Batch: 304206

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			01/16/20 14:23	1

Lab Sample ID: LCS 180-304206/1
Matrix: Water
Analysis Batch: 304206

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	661	780		mg/L		118	80 - 120

QC Association Summary

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

Job ID: 180-101076-1

HPLC/IC

Analysis Batch: 305040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101076-1	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-101076-1	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-101076-2	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
MB 180-305040/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-305040/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 305060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101076-1	ARGWC-22	Total Recoverable	Water	3005A	
180-101076-2	ARGWC-23	Total Recoverable	Water	3005A	
MB 180-305060/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-305060/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-101076-1 MS	ARGWC-22	Total Recoverable	Water	3005A	
180-101076-1 MSD	ARGWC-22	Total Recoverable	Water	3005A	

Prep Batch: 305086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101076-1	ARGWC-22	Total/NA	Water	7470A	
180-101076-2	ARGWC-23	Total/NA	Water	7470A	
MB 180-305086/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-305086/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 305250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101076-1	ARGWC-22	Total/NA	Water	EPA 7470A	305086
180-101076-2	ARGWC-23	Total/NA	Water	EPA 7470A	305086
MB 180-305086/1-A	Method Blank	Total/NA	Water	EPA 7470A	305086
LCS 180-305086/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	305086

Analysis Batch: 305452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101076-1	ARGWC-22	Total Recoverable	Water	EPA 6020B	305060
180-101076-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	305060
MB 180-305060/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	305060
LCS 180-305060/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	305060
180-101076-1 MS	ARGWC-22	Total Recoverable	Water	EPA 6020B	305060
180-101076-1 MSD	ARGWC-22	Total Recoverable	Water	EPA 6020B	305060

Analysis Batch: 305504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-305060/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	305060

General Chemistry

Analysis Batch: 304206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101076-1	ARGWC-22	Total/NA	Water	SM 2540C	
180-101076-2	ARGWC-23	Total/NA	Water	SM 2540C	
MB 180-304206/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-304206/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Pittsburgh



THU - 16 JAN 3:00F
STANDARD OVERNIGHT

TRK# 1516 9322 8473
0201

NA AGCA

15238
-US PIT

Uncorrectea temp
Thermometer ID

CF Initials JB

PT-WH-SR-001 effective 11/9/18



- 1
- 2
- 3
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- 5
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- 13

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101076-1

Login Number: 101076

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: 180-101076-2
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:
2/13/2020 11:33:07 PM

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

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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: 180-101076-2

Job ID: 180-101076-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-101076-2

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.

RAD

Methods 903.0, 9315: Ra-226 Prep Batch 160-457542

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-22 (180-101076-1), ARGWC-23 (180-101076-2), (LCS 160-457542/1-A), (MB 160-457542/17-A), (240-125139-S-1-A) and (240-125139-S-1-B DU)

Methods 904.0, 9320: Radium-228 Batch 160-457557

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-22 (180-101076-1), ARGWC-23 (180-101076-2), (LCS 160-457557/1-A), (MB 160-457557/17-A), (240-125139-S-1-C) and (240-125139-S-1-D DU)

Method PrecSep_0: Radium 228 Prep Batch 160-457557:

Samples 560-84503-4, 240-125139-1, 240-125139-3, 180-101076-1, 180-101076-2, 600-199087-1 were prepared at a reduced aliquot due to limited volume.

Sample 310-174061-1 and 310-174061-5 were reduced due to a yellow/brown cloudy discoloration. Samples 310-174061-2, 310-174061-3, 310-174061-4, 310-17061-8 were reduced to having a slightly yellow cloudy discoloration. Sample 310-174061-6 was reduced due to yellow discoloration with floating particles. Sample 310-174061-7 was reduced due to a cloudy dark brown color.

Method PrecSep-21: Radium 226 Prep Batch 160-457542:

Samples 560-84503-4, 240-125139-1, 240-125139-3, 180-101076-1, 180-101076-2, 600-199087-1 were prepared at a reduced aliquot due to limited volume.

Sample 310-174061-1 and 310-174061-5 were reduced due to a yellow/brown cloudy discoloration. Samples 310-174061-2, 310-174061-3, 310-174061-4, 310-17061-8 were reduced to having a slightly yellow cloudy discoloration. Sample 310-174061-6 was reduced due to yellow discoloration with floating particles. Sample 310-174061-7 was reduced due to a cloudy dark brown color.

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: 180-101076-2

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)
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: 180-101076-2

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	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

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



Accreditation/Certification Summary

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

Job ID: 180-101076-2

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
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	11-30-19 *
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	04-01-20
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	02-28-20 *
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
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

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

Sample Summary

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

Job ID: 180-101076-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-101076-1	ARGWC-22	Water	01/14/20 09:39	01/16/20 08:30	
180-101076-2	ARGWC-23	Water	01/14/20 10:59	01/16/20 08:30	

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Method Summary

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

Job ID: 180-101076-2

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: 180-101076-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-101076-1

Date Collected: 01/14/20 09:39

Matrix: Water

Date Received: 01/16/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.5 mL	1.0 g	457542	01/22/20 09:36	RBR	TAL SL
Total/NA	Analysis	9315		1			460292	02/13/20 09:49	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			750.5 mL	1.0 g	457557	01/22/20 11:25	EJQ	TAL SL
Total/NA	Analysis	9320		1			458956	01/31/20 13:38	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			460297	02/13/20 12:48	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-23

Lab Sample ID: 180-101076-2

Date Collected: 01/14/20 10:59

Matrix: Water

Date Received: 01/16/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.2 mL	1.0 g	457542	01/22/20 09:36	RBR	TAL SL
Total/NA	Analysis	9315		1			460292	02/13/20 09:49	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			750.2 mL	1.0 g	457557	01/22/20 11:25	EJQ	TAL SL
Total/NA	Analysis	9320		1			458956	01/31/20 13:38	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			460297	02/13/20 12:48	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

EJQ = Erin Quinn

RBR = Rachael Ratcliff

Batch Type: Analysis

AJD = Audra DeMariano

CJQ = Caleb Quinn

SMP = Siobhan Perry

Client Sample Results

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

Job ID: 180-101076-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-101076-1

Date Collected: 01/14/20 09:39

Matrix: Water

Date Received: 01/16/20 08:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.254		0.133	0.135	1.00	0.181	pCi/L	01/22/20 09:36	02/13/20 09:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.8		40 - 110					01/22/20 09:36	02/13/20 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	0.529	U	0.362	0.366	1.00	0.564	pCi/L	01/22/20 11:25	01/31/20 13:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.8		40 - 110					01/22/20 11:25	01/31/20 13:38	1
Y Carrier	88.1		40 - 110					01/22/20 11:25	01/31/20 13:38	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	0.783		0.386	0.390	5.00	0.564	pCi/L		02/13/20 12:48	1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-101076-2

Date Collected: 01/14/20 10:59

Matrix: Water

Date Received: 01/16/20 08:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.153		0.0960	0.0970	1.00	0.127	pCi/L	01/22/20 09:36	02/13/20 09:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					01/22/20 09:36	02/13/20 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	0.715		0.457	0.462	1.00	0.703	pCi/L	01/22/20 11:25	01/31/20 13:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					01/22/20 11:25	01/31/20 13:38	1
Y Carrier	72.0		40 - 110					01/22/20 11:25	01/31/20 13:38	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-101076-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-101076-2

Date Collected: 01/14/20 10:59

Matrix: Water

Date Received: 01/16/20 08:30

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	0.869		0.467	0.472	5.00	0.703	pCi/L		02/13/20 12:48	1

QC Sample Results

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

Job ID: 180-101076-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-457542/17-A
Matrix: Water
Analysis Batch: 460292

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 457542

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.05948	U	0.0598	0.0600	1.00	0.150	pCi/L	01/22/20 09:36	02/13/20 09:50	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
%Yield	Qualifier									
Ba Carrier	99.4		40 - 110			01/22/20 09:36	02/13/20 09:50	1		

Lab Sample ID: LCS 160-457542/1-A
Matrix: Water
Analysis Batch: 460292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 457542

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	15.1	12.96		1.34	1.00	0.114	pCi/L	86	75 - 125
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
%Yield	Qualifier								
Ba Carrier	99.7		40 - 110						

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-457557/17-A
Matrix: Water
Analysis Batch: 458752

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 457557

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.8565		0.415	0.422	1.00	0.621	pCi/L	01/22/20 11:25	01/31/20 13:35	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
%Yield	Qualifier									
Ba Carrier	99.4		40 - 110			01/22/20 11:25	01/31/20 13:35	1		
Y Carrier	90.2		40 - 110			01/22/20 11:25	01/31/20 13:35	1		

Lab Sample ID: LCS 160-457557/1-A
Matrix: Water
Analysis Batch: 458956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 457557

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-228	12.2	10.40		1.25	1.00	0.516	pCi/L	85	75 - 125
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
%Yield	Qualifier								
Ba Carrier	99.7		40 - 110						
Y Carrier	91.1		40 - 110						

QC Association Summary

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

Job ID: 180-101076-2

Rad

Prep Batch: 457542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101076-1	ARGWC-22	Total/NA	Water	PrecSep-21	
180-101076-2	ARGWC-23	Total/NA	Water	PrecSep-21	
MB 160-457542/17-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-457542/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 457557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101076-1	ARGWC-22	Total/NA	Water	PrecSep_0	
180-101076-2	ARGWC-23	Total/NA	Water	PrecSep_0	
MB 160-457557/17-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-457557/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	



THU - 16 JAN 3:00F
STANDARD OVERNIGHT

TRK# 1516 9322 8473
0201

NA AGCA

15238
-US PIT

Uncorrected temp
Thermometer ID

CF Initials JB

PT-WH-SR-001 effective 11/9/18



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Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler: Bortot, Veronica	Lab PM: Bortot, Veronica	Carrier Tracking No(s): 180-383030-1	COG No: 180-383030-1
Shipping/Receiving Company: TestAmerica Laboratories, Inc.		Phone: veronica.bortot@testamericainc.com	E-Mail: veronica.bortot@testamericainc.com	State of Origin: Georgia	Page: Page 1 of 1
Address: 13715 Rider Trail North, Earth City, MO, 63045		Due Date Requested: 2/13/2020	Analysis Requested	Job #: 180-101076-2	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecalhydrate U - Acetone V - MCAA W - pH 4.5 X - EDTA Y - EDA Z - other (specify) Other:
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		TAT Requested (days):	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers
Email:		PO #:	9315_Ra226/PreSep_21 Radium 226	9320_Ra228/PreSep_0 Radium 228	Ra226Ra228_GFPc
Project Name: CCR - Plant Arkwright		WO #:	Matrix (W=water, S=solid, O=organic, A=air)	Preservation Code:	Special Instructions/Note:
Site: Arkwright		Sample Date	Sample Type (C=comp, G=grab)	Sample Time	
Sample Identification - Client ID (Lab ID)		1/14/20	Water	09:39 Eastern	
ARGWC-22 (180-101076-1)		1/14/20	Water	10:59 Eastern	
ARGWC-23 (180-101076-2)					
<p>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/test/matrix 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.</p>					
Possible Hazard Identification					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)					
Primary Deliverable Rank: 2					
Date: _____ Time: _____					
Empty Kit Relinquished by: _____					
Relinquished by: _____ Date: 2/20/20 17:00 Company: PUF					
Relinquished by: _____ Date: _____ Company: _____					
Relinquished by: _____ Date: _____ Company: _____					
Custody Seals Intact: _____ Custody Seal No.: _____					
Cooler Temperature(s) °C and Other Remarks: _____					

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101076-2

Login Number: 101076

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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: 180-101076-2

Login Number: 101076

List Number: 2

Creator: Hellm, Michael

List Source: Eurofins TestAmerica, St. Louis

List Creation: 01/21/20 12:44 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.	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	18.0
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?	N/A	
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").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Product Name: Low-Flow System

Date: 2020-01-14 09:41:45

Project Information:

Operator Name Ryan Walker
Company Name Atlantic Coast Consulting
Project Name Plant Arkwright - Ash Pond 2
Site Name Plant Arkwright
Latitude 32° 55' 18.28"
Longitude -83° -42' -10.19"
Sonde SN 369557
Turbidity Make/Model Hack 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type poly
Tubing Diameter .17 in
Tubing Length 27 ft

Pump placement from TOC 22 ft

Well Information:

Well ID ARGWC-22
Well diameter 2 in
Well Total Depth 27.78 ft
Screen Length 10 ft
Depth to Water 9.91 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.2105124 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 5 in
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 0.3	+/- 10
Last 5	09:19:39	600.01	18.09	5.96	1601.00	15.50	10.30	0.22	-40.07
Last 5	09:24:39	900.00	18.11	5.92	1598.60	8.90	10.30	0.19	-42.68
Last 5	09:29:39	1200.00	18.14	5.92	1595.21	6.43	10.30	0.18	-45.00
Last 5	09:34:39	1500.00	18.16	5.91	1590.74	5.65	10.30	0.17	-46.25
Last 5	09:39:39	1799.99	18.24	5.91	1584.95	4.13	10.30	0.16	-47.28
Variance 0			0.03	-0.01	-3.39			-0.01	-2.32
Variance 1			0.01	-0.01	-4.47			-0.01	-1.26
Variance 2			0.08	0.00	-5.79			-0.01	-1.03

Notes

Sampled at 09:39. Light rain, 60's.

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-14 11:00:33

Project Information:

Operator Name Ryan Walker
Company Name Atlantic Coast Consulting
Project Name Plant Arkwright - Ash Pond 2
Site Name Plant Arkwright
Latitude 32° 55' 16.92"
Longitude -83° -42' -7.13"
Sonde SN 369557
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type poly
Tubing Diameter .17 in
Tubing Length 27 ft

Pump placement from TOC 22 ft

Well Information:

Well ID ARGWC-23
Well diameter 2 in
Well Total Depth 27.21 ft
Screen Length 10 ft
Depth to Water 7.50 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.2105124 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 13 in
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 0.3	+/- 10
Last 5	10:39:51	900.01	19.27	6.66	482.20	6.83	8.60	0.48	9.75
Last 5	10:44:51	1200.00	19.27	6.65	481.86	14.60	8.60	0.48	13.97
Last 5	10:49:51	1500.00	19.32	6.64	481.12	6.16	8.60	0.47	10.56
Last 5	10:54:51	1799.99	19.35	6.62	482.05	4.97	8.60	0.44	7.08
Last 5	10:59:51	2099.99	19.41	6.62	480.24	4.89	8.60	0.42	8.39
Variance 0			0.05	-0.01	-0.73			-0.01	-3.41
Variance 1			0.03	-0.01	0.93			-0.03	-3.48
Variance 2			0.06	0.00	-1.81			-0.02	1.31

Notes

Sampled at 10:59. Light rain, 60's.

Grab Samples

ANALYTICAL REPORT

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

Laboratory Job ID: 180-102295-1
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:
2/29/2020 5:56:21 PM

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

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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: 180-102295-1

Job ID: 180-102295-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-102295-1

Comments

No additional comments.

Receipt

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

GC Semi VOA

Methods 300.0, 9056A: The continuing calibration verification (CCV) associated with batch 180-308008 recovered outside acceptance criteria, low biased, for Fluoride. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect or estimated (J) for this analyte, the data have been reported.

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.

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

Job ID: 180-102295-1

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.
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: 180-102295-1

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.

Eurofins TestAmerica, Pittsburgh



Sample Summary

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

Job ID: 180-102295-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-102295-1	ARGWC-23	Water	02/11/20 13:10	02/13/20 09:00	
180-102295-2	ARGWC-22	Water	02/11/20 14:20	02/13/20 09:00	

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Method Summary

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

Job ID: 180-102295-1

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

Job ID: 180-102295-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-102295-1

Date Collected: 02/11/20 13:10

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/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			308276	02/27/20 12:04	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	307272	02/17/20 11:20	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			307748	02/20/20 17:00	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	307460	02/18/20 15:50	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			307605	02/19/20 15:53	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	307102	02/14/20 11:59	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			307817	02/11/20 13:10	FDS	TAL PIT

Client Sample ID: ARGWC-22

Lab Sample ID: 180-102295-2

Date Collected: 02/11/20 14:20

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/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			308008	02/25/20 22:15	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		10			308008	02/25/20 22:30	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	307272	02/17/20 11:20	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			307748	02/20/20 17:12	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	307460	02/18/20 15:50	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			307605	02/19/20 15:56	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	307102	02/14/20 11:59	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			307817	02/11/20 14:20	FDS	TAL PIT

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: 180-102295-1

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

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Client Sample Results

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

Job ID: 180-102295-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-102295-1

Date Collected: 02/11/20 13:10

Matrix: Water

Date Received: 02/13/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.7		1.0	0.32	mg/L			02/27/20 12:04	1
Fluoride	0.13		0.10	0.026	mg/L			02/27/20 12:04	1
Sulfate	18		1.0	0.38	mg/L			02/27/20 12:04	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		02/17/20 11:20	02/20/20 17:00	1
Barium	0.046		0.010	0.0016	mg/L		02/17/20 11:20	02/20/20 17:00	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/17/20 11:20	02/20/20 17:00	1
Boron	0.079	J	0.080	0.039	mg/L		02/17/20 11:20	02/20/20 17:00	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/17/20 11:20	02/20/20 17:00	1
Calcium	10		0.50	0.13	mg/L		02/17/20 11:20	02/20/20 17:00	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/17/20 11:20	02/20/20 17:00	1
Cobalt	0.00056		0.00050	0.00013	mg/L		02/17/20 11:20	02/20/20 17:00	1
Molybdenum	0.021		0.0050	0.00061	mg/L		02/17/20 11:20	02/20/20 17:00	1
Lead	0.00026	J	0.0010	0.00013	mg/L		02/17/20 11:20	02/20/20 17:00	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/17/20 11:20	02/20/20 17:00	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/17/20 11:20	02/20/20 17:00	1
Thallium	0.00028	J B	0.0010	0.00015	mg/L		02/17/20 11:20	02/20/20 17:00	1
Lithium	0.0078		0.0050	0.0034	mg/L		02/17/20 11:20	02/20/20 17:00	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		02/18/20 15:50	02/19/20 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	110		10	10	mg/L			02/14/20 11:59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.71				SU			02/11/20 13:10	1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-102295-2

Date Collected: 02/11/20 14:20

Matrix: Water

Date Received: 02/13/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.0		1.0	0.32	mg/L			02/25/20 22:15	1
Fluoride	0.056	J	0.10	0.026	mg/L			02/25/20 22:15	1
Sulfate	660		10	3.8	mg/L			02/25/20 22:30	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00040	J	0.0010	0.00031	mg/L		02/17/20 11:20	02/20/20 17:12	1
Barium	0.046		0.010	0.0016	mg/L		02/17/20 11:20	02/20/20 17:12	1
Beryllium	0.00023	J	0.0010	0.00018	mg/L		02/17/20 11:20	02/20/20 17:12	1
Boron	3.0		0.080	0.039	mg/L		02/17/20 11:20	02/20/20 17:12	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/17/20 11:20	02/20/20 17:12	1
Calcium	180		0.50	0.13	mg/L		02/17/20 11:20	02/20/20 17:12	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-102295-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-102295-2

Date Collected: 02/11/20 14:20

Matrix: Water

Date Received: 02/13/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.0048		0.0020	0.0015	mg/L		02/17/20 11:20	02/20/20 17:12	1
Cobalt	0.013		0.00050	0.00013	mg/L		02/17/20 11:20	02/20/20 17:12	1
Molybdenum	0.00093	J	0.0050	0.00061	mg/L		02/17/20 11:20	02/20/20 17:12	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/17/20 11:20	02/20/20 17:12	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/17/20 11:20	02/20/20 17:12	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/17/20 11:20	02/20/20 17:12	1
Thallium	0.00034	J B	0.0010	0.00015	mg/L		02/17/20 11:20	02/20/20 17:12	1
Lithium	0.010		0.0050	0.0034	mg/L		02/17/20 11:20	02/20/20 17:12	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		02/18/20 15:50	02/19/20 15:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10	10	mg/L			02/14/20 11:59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.90				SU			02/11/20 14:20	1

QC Sample Results

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

Job ID: 180-102295-1

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

Lab Sample ID: MB 180-308008/50
Matrix: Water
Analysis Batch: 308008

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			02/25/20 18:56	1
Fluoride	<0.026		0.10	0.026	mg/L			02/25/20 18:56	1
Sulfate	<0.38		1.0	0.38	mg/L			02/25/20 18:56	1

Lab Sample ID: MB 180-308008/6
Matrix: Water
Analysis Batch: 308008

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			02/25/20 05:32	1
Fluoride	<0.026		0.10	0.026	mg/L			02/25/20 05:32	1
Sulfate	<0.38		1.0	0.38	mg/L			02/25/20 05:32	1

Lab Sample ID: LCS 180-308008/49
Matrix: Water
Analysis Batch: 308008

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	51.3		mg/L		103	90 - 110
Fluoride	2.50	2.29		mg/L		92	90 - 110
Sulfate	50.0	49.3		mg/L		99	90 - 110

Lab Sample ID: MB 180-308276/6
Matrix: Water
Analysis Batch: 308276

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			02/27/20 04:55	1
Fluoride	<0.026		0.10	0.026	mg/L			02/27/20 04:55	1
Sulfate	<0.38		1.0	0.38	mg/L			02/27/20 04:55	1

Lab Sample ID: LCS 180-308276/5
Matrix: Water
Analysis Batch: 308276

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	51.1		mg/L		102	90 - 110
Fluoride	2.50	2.56		mg/L		102	90 - 110
Sulfate	50.0	50.6		mg/L		101	90 - 110

Lab Sample ID: 180-102295-1 MS
Matrix: Water
Analysis Batch: 308276

Client Sample ID: ARGWC-23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.7		25.0	28.6		mg/L		96	80 - 120
Fluoride	0.13		1.25	1.32		mg/L		95	80 - 120
Sulfate	18		25.0	40.4		mg/L		90	80 - 120

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-102295-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 180-102295-1 MSD
Matrix: Water
Analysis Batch: 308276

Client Sample ID: ARGWC-23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.7		25.0	29.2		mg/L		98	80 - 120	2	20
Fluoride	0.13		1.25	1.35		mg/L		97	80 - 120	2	20
Sulfate	18		25.0	41.0		mg/L		93	80 - 120	1	20

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

Lab Sample ID: MB 180-307272/1-A
Matrix: Water
Analysis Batch: 307748

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 307272

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		02/17/20 11:20	02/20/20 16:55	1
Barium	<0.0016		0.010	0.0016	mg/L		02/17/20 11:20	02/20/20 16:55	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/17/20 11:20	02/20/20 16:55	1
Boron	<0.039		0.080	0.039	mg/L		02/17/20 11:20	02/20/20 16:55	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/17/20 11:20	02/20/20 16:55	1
Calcium	<0.13		0.50	0.13	mg/L		02/17/20 11:20	02/20/20 16:55	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/17/20 11:20	02/20/20 16:55	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/17/20 11:20	02/20/20 16:55	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/17/20 11:20	02/20/20 16:55	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/17/20 11:20	02/20/20 16:55	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/17/20 11:20	02/20/20 16:55	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/17/20 11:20	02/20/20 16:55	1
Thallium	0.000186	J	0.0010	0.00015	mg/L		02/17/20 11:20	02/20/20 16:55	1

Lab Sample ID: MB 180-307272/1-A
Matrix: Water
Analysis Batch: 307853

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 307272

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0034		0.0050	0.0034	mg/L		02/17/20 11:20	02/21/20 10:38	1

Lab Sample ID: LCS 180-307272/2-A
Matrix: Water
Analysis Batch: 307748

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 307272

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	1.02		mg/L		102	80 - 120
Beryllium	0.500	0.510		mg/L		102	80 - 120
Boron	1.25	1.25		mg/L		100	80 - 120
Cadmium	0.500	0.528		mg/L		106	80 - 120
Calcium	25.0	25.9		mg/L		104	80 - 120
Chromium	0.500	0.520		mg/L		104	80 - 120
Cobalt	0.500	0.494		mg/L		99	80 - 120
Molybdenum	0.500	0.555		mg/L		111	80 - 120
Lead	0.500	0.517		mg/L		103	80 - 120
Antimony	0.250	0.244		mg/L		98	80 - 120
Selenium	1.00	1.05		mg/L		105	80 - 120

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-102295-1

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

Lab Sample ID: LCS 180-307272/2-A
Matrix: Water
Analysis Batch: 307748

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 307272

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	1.00	1.08		mg/L		108	80 - 120
Lithium	0.500	0.471		mg/L		94	80 - 120

Lab Sample ID: 180-102295-1 MS
Matrix: Water
Analysis Batch: 307748

Client Sample ID: ARGWC-23
Prep Type: Total Recoverable
Prep Batch: 307272

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.00031		1.00	1.10		mg/L		110	75 - 125
Barium	0.046		1.00	1.10		mg/L		105	75 - 125
Beryllium	<0.00018		0.500	0.520		mg/L		104	75 - 125
Boron	0.079	J	1.25	1.34		mg/L		101	75 - 125
Cadmium	<0.00022		0.500	0.550		mg/L		110	75 - 125
Calcium	10		25.0	36.1		mg/L		104	75 - 125
Chromium	<0.0015		0.500	0.541		mg/L		108	75 - 125
Cobalt	0.00056		0.500	0.495		mg/L		99	75 - 125
Molybdenum	0.021		0.500	0.598		mg/L		115	75 - 125
Lead	0.00026	J	0.500	0.528		mg/L		105	75 - 125
Antimony	<0.00038		0.250	0.251		mg/L		100	75 - 125
Selenium	<0.0015		1.00	1.10		mg/L		110	75 - 125
Thallium	0.00028	J B	1.00	1.11		mg/L		111	75 - 125
Lithium	0.0078		0.500	0.503		mg/L		99	75 - 125

Lab Sample ID: 180-102295-1 MSD
Matrix: Water
Analysis Batch: 307748

Client Sample ID: ARGWC-23
Prep Type: Total Recoverable
Prep Batch: 307272

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	<0.00031		1.00	1.09		mg/L		109	75 - 125	1	20
Barium	0.046		1.00	1.10		mg/L		105	75 - 125	0	20
Beryllium	<0.00018		0.500	0.502		mg/L		100	75 - 125	3	20
Boron	0.079	J	1.25	1.32		mg/L		99	75 - 125	2	20
Cadmium	<0.00022		0.500	0.540		mg/L		108	75 - 125	2	20
Calcium	10		25.0	35.9		mg/L		104	75 - 125	0	20
Chromium	<0.0015		0.500	0.527		mg/L		105	75 - 125	3	20
Cobalt	0.00056		0.500	0.489		mg/L		98	75 - 125	1	20
Molybdenum	0.021		0.500	0.587		mg/L		113	75 - 125	2	20
Lead	0.00026	J	0.500	0.521		mg/L		104	75 - 125	1	20
Antimony	<0.00038		0.250	0.252		mg/L		101	75 - 125	1	20
Selenium	<0.0015		1.00	1.03		mg/L		103	75 - 125	7	20
Thallium	0.00028	J B	1.00	1.13		mg/L		112	75 - 125	1	20
Lithium	0.0078		0.500	0.507		mg/L		100	75 - 125	1	20

QC Sample Results

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

Job ID: 180-102295-1

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-307460/1-A
Matrix: Water
Analysis Batch: 307605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 307460

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/18/20 15:50	02/19/20 15:41	1

Lab Sample ID: LCS 180-307460/2-A
Matrix: Water
Analysis Batch: 307605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 307460
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00210		mg/L		84	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-307102/2
Matrix: Water
Analysis Batch: 307102

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			02/14/20 11:59	1

Lab Sample ID: LCS 180-307102/1
Matrix: Water
Analysis Batch: 307102

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	661	650		mg/L		98	80 - 120

QC Association Summary

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

Job ID: 180-102295-1

HPLC/IC

Analysis Batch: 308008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-2	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-102295-2	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
MB 180-308008/50	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
MB 180-308008/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-308008/49	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 308276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-1	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
MB 180-308276/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-308276/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-102295-1 MS	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-102295-1 MSD	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 307272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-1	ARGWC-23	Total Recoverable	Water	3005A	
180-102295-2	ARGWC-22	Total Recoverable	Water	3005A	
MB 180-307272/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-307272/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-102295-1 MS	ARGWC-23	Total Recoverable	Water	3005A	
180-102295-1 MSD	ARGWC-23	Total Recoverable	Water	3005A	

Prep Batch: 307460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-1	ARGWC-23	Total/NA	Water	7470A	
180-102295-2	ARGWC-22	Total/NA	Water	7470A	
MB 180-307460/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-307460/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 307605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-1	ARGWC-23	Total/NA	Water	EPA 7470A	307460
180-102295-2	ARGWC-22	Total/NA	Water	EPA 7470A	307460
MB 180-307460/1-A	Method Blank	Total/NA	Water	EPA 7470A	307460
LCS 180-307460/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	307460

Analysis Batch: 307748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-1	ARGWC-23	Total Recoverable	Water	EPA 6020B	307272
180-102295-2	ARGWC-22	Total Recoverable	Water	EPA 6020B	307272
MB 180-307272/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	307272
LCS 180-307272/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	307272
180-102295-1 MS	ARGWC-23	Total Recoverable	Water	EPA 6020B	307272
180-102295-1 MSD	ARGWC-23	Total Recoverable	Water	EPA 6020B	307272

Analysis Batch: 307853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-307272/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	307272

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-102295-1

General Chemistry

Analysis Batch: 307102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-1	ARGWC-23	Total/NA	Water	SM 2540C	
180-102295-2	ARGWC-22	Total/NA	Water	SM 2540C	
MB 180-307102/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-307102/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 307817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-1	ARGWC-23	Total/NA	Water	Field Sampling	
180-102295-2	ARGWC-22	Total/NA	Water	Field Sampling	



Environn
TestAme

ORIGIN ID: LTYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTAMERICA
6500 MCDONOUGH DRIVE
SUITE 100-10
NORCROSS, GA 30093
UNITED STATES US

SHIP
ACT
CAD
BILL

TO **SAMPLE RECIEVING**

EUROFINS TESTAMERICA PITTS
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238

(412) 963-7068

REF: ACC PLT ARTWRIGHT



THU
STANDA

TRK# 1516 9323 0290
0201

NA AGCA

Uncorrected temp
Thermometer ID

CF °C
LV
Initials B

PT-WR-SR-001 effective 11/8/18



180-102295 Waybill

- 1
- 2
- 3
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- 11
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- 13

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-102295-1

Login Number: 102295

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	

ANALYTICAL REPORT

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

Laboratory Job ID: 180-102295-2
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:
3/23/2020 11:04:44 AM

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

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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: 180-102295-2

Job ID: 180-102295-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-102295-2

Comments

No additional comments.

Receipt

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

RAD

Methods 903.0, 9315: Radium-226 Prep Batch 160-460621

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-23 (180-102295-1), ARGWC-22 (180-102295-2), (LCS 160-460621/1-A), (MB 160-460621/22-A) and (180-102295-A-2-B DU)

Methods 904.0, 9320: Radium-228 Prep Batch 160-460625

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-23 (180-102295-1), ARGWC-22 (180-102295-2), (LCS 160-460625/1-A), (MB 160-460625/22-A) and (180-102295-A-2-D DU)

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: 180-102295-2

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)
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: 180-102295-2

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	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	02-06-21
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
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 Summary

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

Job ID: 180-102295-2

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
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	04-01-20
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	02-28-20 *
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

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

Sample Summary

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

Job ID: 180-102295-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-102295-1	ARGWC-23	Water	02/11/20 13:10	02/13/20 09:00	
180-102295-2	ARGWC-22	Water	02/11/20 14:20	02/13/20 09:00	

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Method Summary

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

Job ID: 180-102295-2

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: 180-102295-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-102295-1

Date Collected: 02/11/20 13:10

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/NA	Prep	PrecSep-21			999.85 mL	1.0 g	460621	02/17/20 11:37	MNH	TAL SL
Total/NA	Analysis	9315		1			463541	03/10/20 11:01	KLS	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.85 mL	1.0 g	460625	02/17/20 12:02	MNH	TAL SL
Total/NA	Analysis	9320		1			462662	03/03/20 17:38	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			464942	03/19/20 11:20	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-22

Lab Sample ID: 180-102295-2

Date Collected: 02/11/20 14:20

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/NA	Prep	PrecSep-21			999.76 mL	1.0 g	460621	02/17/20 11:37	MNH	TAL SL
Total/NA	Analysis	9315		1			463541	03/10/20 11:02	KLS	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.76 mL	1.0 g	460625	02/17/20 12:02	MNH	TAL SL
Total/NA	Analysis	9320		1			462662	03/03/20 17:38	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			464942	03/19/20 11:20	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

MNH = Molly Howard

Batch Type: Analysis

AJD = Audra DeMariano

KLS = Kody Saulters

SMP = Siobhan Perry

Client Sample Results

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

Job ID: 180-102295-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-102295-1

Date Collected: 02/11/20 13:10

Matrix: Water

Date Received: 02/13/20 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	0.0559	U	0.0578	0.0580	1.00	0.0896	pCi/L	02/17/20 11:37	03/10/20 11:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.7		40 - 110					02/17/20 11:37	03/10/20 11:01	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0268	U	0.230	0.230	1.00	0.416	pCi/L	02/17/20 12:02	03/03/20 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.7		40 - 110					02/17/20 12:02	03/03/20 17:38	1
Y Carrier	85.2		40 - 110					02/17/20 12:02	03/03/20 17:38	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	0.0291	U	0.237	0.237	2.00	0.416	pCi/L		03/19/20 11:20	1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-102295-2

Date Collected: 02/11/20 14:20

Matrix: Water

Date Received: 02/13/20 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	0.0956		0.0687	0.0692	1.00	0.0912	pCi/L	02/17/20 11:37	03/10/20 11:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.2		40 - 110					02/17/20 11:37	03/10/20 11:02	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.133	U	0.232	0.232	1.00	0.395	pCi/L	02/17/20 12:02	03/03/20 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.2		40 - 110					02/17/20 12:02	03/03/20 17:38	1
Y Carrier	83.7		40 - 110					02/17/20 12:02	03/03/20 17:38	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-102295-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-102295-2

Date Collected: 02/11/20 14:20

Matrix: Water

Date Received: 02/13/20 09:00

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	0.229	U	0.242	0.242	2.00	0.395	pCi/L		03/19/20 11:20	1

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QC Sample Results

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

Job ID: 180-102295-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-460621/22-A
Matrix: Water
Analysis Batch: 463541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 460621

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)				02/17/20 11:37	03/10/20 13:26		
Radium-226	0.01227	U	0.0475	0.0475	1.00	0.0934	pCi/L	02/17/20 11:37	03/10/20 13:26	1	
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac	
Ba Carrier	%Yield	Qualifier	40 - 110					02/17/20 11:37	03/10/20 13:26	1	
	98.5										

Lab Sample ID: LCS 160-460621/1-A
Matrix: Water
Analysis Batch: 463541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 460621

Analyte	LCS LCS		Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec.	Dil Fac
	Result	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)					Limits	
Radium-226			11.3	9.510		1.03	1.00	0.0982	pCi/L	84	75 - 125	
Carrier	LCS LCS		Limits									
Ba Carrier	%Yield	Qualifier	40 - 110									
	84.9											

Lab Sample ID: 180-102295-2 DU
Matrix: Water
Analysis Batch: 463541

Client Sample ID: ARGWC-22
Prep Type: Total/NA
Prep Batch: 460621

Analyte	Sample Sample		DU	DU	Total	RL	MDC	Unit	RER	RER	Limit
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					0.11	
Radium-226	0.0956		0.07983	U	0.0675	1.00	0.0960	pCi/L			1
Carrier	DU DU		Limits								
Ba Carrier	%Yield	Qualifier	40 - 110								
	84.9										

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-460625/22-A
Matrix: Water
Analysis Batch: 462661

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 460625

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)				02/17/20 12:02	03/03/20 17:42		
Radium-228	0.2903	U	0.272	0.273	1.00	0.440	pCi/L	02/17/20 12:02	03/03/20 17:42	1	
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac	
Ba Carrier	%Yield	Qualifier	40 - 110					02/17/20 12:02	03/03/20 17:42	1	
Y Carrier	98.5		40 - 110					02/17/20 12:02	03/03/20 17:42	1	
	89.3										

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-102295-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-460625/1-A
Matrix: Water
Analysis Batch: 462662

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 460625

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.05	9.016		1.09	1.00	0.461	pCi/L	100	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	84.9		40 - 110
Y Carrier	89.7		40 - 110

Lab Sample ID: 180-102295-2 DU
Matrix: Water
Analysis Batch: 462662

Client Sample ID: ARGWC-22
Prep Type: Total/NA
Prep Batch: 460625

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.133	U	0.2138	U	0.278	1.00	0.461	pCi/L	0.16	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	84.9		40 - 110
Y Carrier	84.9		40 - 110

QC Association Summary

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

Job ID: 180-102295-2

Rad

Prep Batch: 460621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-1	ARGWC-23	Total/NA	Water	PrecSep-21	
180-102295-2	ARGWC-22	Total/NA	Water	PrecSep-21	
MB 160-460621/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-460621/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-102295-2 DU	ARGWC-22	Total/NA	Water	PrecSep-21	

Prep Batch: 460625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-102295-1	ARGWC-23	Total/NA	Water	PrecSep_0	
180-102295-2	ARGWC-22	Total/NA	Water	PrecSep_0	
MB 160-460625/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-460625/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-102295-2 DU	ARGWC-22	Total/NA	Water	PrecSep_0	

Chain of Custody Record

Client Information Client Contact: Joju Abraham Company: Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: SCS10347656 Email: JAbraham@southernco.com Project Name: CCR Plant Arkwright - Ash Pond 2 Site: Georgia		Sampler: <i>Chris Parker</i> Phone: <i>404-988-5629</i> Lab PM: Bortol, Veronica E-Mail: <Veronica.Bortol@testamerica.com>		Carrier Trading No(s): ACC to TA-ATL		COC No: 400-73521-29028.1 Page: Job #:	
Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: Project #: 40007712 SSOV#:		Analysis Requested Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/> Metals App. III and APP IV (EPA 60207470) 300 ORGM, 28D - Chloride, Fluoride & Sulfate, 2540C - TDS Radium 226 & 228 (SM-646 9316/9320)		Preservation Codes: A - HCL B - NiOH 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 - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)		Special Instructions/Note: APP III, APP IV pH = 6.71 PH = 5.90	
Sample Identification AR6WC-23 AR6WC-22		Matrix (Water, S-solid, O-oxidant, B-bioactive, A-Air) Water Water Water Water Water Water Water Water Water Water		Sample Type (C=Comp, G=grab) G G G G G G G G G G		Sample Date 2/11/20 2/11/20	
Sample Time 1310 1420		Sample Date 2/11/20 2/11/20		Sample Time 1310 1420		Sample Date 2/11/20 2/11/20	
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, 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:		Date:		Method of Shipment:		180-102295 Chain of Custody	
Relinquished by: <i>[Signature]</i>		Date/Time: 2/12/20 14:40 Company: ACC		Relinquished by: <i>[Signature]</i>		Date/Time: 2/12/20 14:40 Company: EVA	
Relinquished by: <i>[Signature]</i>		Date/Time: 2/12/20 16:00 Company: EVA		Relinquished by: <i>[Signature]</i>		Date/Time: 2/13/20 09:00 Company: EVA	
Relinquished by: <i>[Signature]</i>		Date/Time:		Relinquished by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Ver: 08/04/2016	



Environn
TestAme

ORIGIN ID: LTYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTAMERICA
6500 MCDONOUGH DRIVE
SUITE 100-10
NORCROSS, GA 30093
UNITED STATES US

SHIP
ACT
CAD
BILL

TO **SAMPLE RECIEVING**

EUROFINS TESTAMERICA PITTS
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238

(412) 963-7068

REF: ACC PLT ARTWRIGHT



THU
STANDA

TRK# 1516 9323 0290
0201

NA AGCA

Uncorrected temp
Thermometer ID

CF °C
LV
Initials B

PT-WR-SR-001 effective 11/8/18



180-102295 Waybill

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Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-102295-2

Login Number: 102295

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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: 180-102295-2

Login Number: 102295

List Number: 2

Creator: Harris, Lorin C

List Source: Eurofins TestAmerica, St. Louis

List Creation: 02/14/20 03:51 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.	False	
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?	False	
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").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Daily Instrument Calibration Log

SITE: Plant Arkwright
TECHNICIAN: C. Parker

WATER LEVEL: Solinst 101
WATER LEVEL S/N: 322101

INSTRUMENT S/N: 024479
INSTRUMENT TYPE: Insitu SmarTroll
CAL. SOLUTIONS/ID: PH 4 LOT #: 961282 EXP. DATE: 9/21
ID: 7 LOT #: 96A1160 EXP. DATE: 8/21
ID: 10 LOT #: 96A1078 EXP. DATE: 1/21
ID: SC LOT #: 96I176 EXP. DATE: 9/20
ID: ORP LOT #: 96K142 EXP. DATE: 8/20
ID: _____ LOT #: _____ EXP. DATE: _____
ID: _____ LOT #: _____ EXP. DATE: _____

Calibration Date: 2/10/20
RDO: 100% sat. = 96.5 ^{ORP} 97.2
PH: 4.00 = 4.85 7.00 = 7.61 10.00 = 10.38
CONDUCTIVITY: 1413 = 1343 45/cm
ORP (mV) 240 = 206

Calibration Date: 2/11/20
RDO: 100% sat. = 96.0
PH: 4.00 = 4.94 7.00 = 7.82 10.00 = 10.49
CONDUCTIVITY: 1413 = 1356 45/cm
ORP (mV) 236 = 198

Calibration Date: _____
RDO: 100% sat. = _____
PH: 4.00 = _____ 7.00 = _____ 10.00 = _____
CONDUCTIVITY: _____
ORP (mV) _____

Calibration Date: _____
RDO: 100% sat. = _____
PH: 4.00 = _____ 7.00 = _____ 10.00 = _____
CONDUCTIVITY: _____
ORP (mV) _____

Calibration Date: _____
RDO: 100% sat. = _____
PH: 4.00 = _____ 7.00 = _____ 10.00 = _____
CONDUCTIVITY: _____
ORP (mV) _____



Daily Instrument Calibration Log

SITE: Plant Arkwright
TECHNICIAN: C. Parker

INSTRUMENT S/N: 160 000052230 (firm)
INSTRUMENT TYPE: Hach 2100 Q
CAL. SOLUTION: 0 NTU - LOT # NA EXP. DATE: New DI water
10 NTU - LOT # A9270 EXP. DATE: 01/21
20 NTU - LOT # A9037 EXP. DATE: 05/20

Calibration Date: 2/10/20

Calibration Solution	Instrument Reading	
0.0	<u>0.24</u>	NTU
10.0	<u>10.6</u>	NTU
20.0	<u>20.7</u>	NTU

Calibration Date: 2/11/20

Calibration Solution	Instrument Reading	
0.0	<u>0.25</u>	NTU
10.0	<u>10.7</u>	NTU
20.0	<u>20.7</u>	NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Product Name: Low-Flow System

Date: 2020-02-11 14:17:27

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 28 ft

Pump placement from TOC 23 ft

Well Information:

Well ID ARGWC-22
Well diameter 2 in
Well Total Depth 27.78 ft
Screen Length 10 ft
Depth to Water 12.18 ft

Pumping Information:

Final Pumping Rate 250 mL/min
Total System Volume 0.2149758 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 5 in
Total Volume Pumped 10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 2	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 100
Last 5	13:55:51	600.01	19.14	5.91	1545.38	8.13	12.60	0.15	-41.59
Last 5	14:00:51	900.00	19.09	5.92	1542.33	6.02	12.60	0.13	-40.75
Last 5	14:05:51	1200.00	19.15	5.91	1538.52	5.76	12.60	0.11	-39.10
Last 5	14:10:51	1500.00	19.44	5.90	1535.45	5.26	12.60	0.10	-38.86
Last 5	14:15:51	1800.01	19.53	5.90	1535.45	3.78	12.60	0.10	-38.30
Variance 0			0.06	-0.00	-3.81			-0.02	1.66
Variance 1			0.29	-0.01	-3.07			-0.01	0.23
Variance 2			0.09	0.00	-0.00			-0.00	0.56

Notes

Sampled at 14:20. Cloudy 70s

Grab Samples

Product Name: Low-Flow System

Date: 2020-02-11 13:10:33

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 27 ft

Pump placement from TOC 22 ft

Well Information:

Well ID ARGWC-23
Well diameter 2 in
Well Total Depth 27.21 ft
Screen Length 10 ft
Depth to Water 8.70 ft

Pumping Information:

Final Pumping Rate 300 mL/min
Total System Volume 0.2105124 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 40 in
Total Volume Pumped 65 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 2	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 100
Last 5	12:47:30	8699.86	20.03	6.43	116.03	11.00	12.00	3.07	71.40
Last 5	12:52:30	8999.85	19.90	6.40	116.50	11.00	12.00	3.08	71.52
Last 5	12:57:30	9299.84	19.77	6.42	116.63	10.00	12.00	2.93	70.43
Last 5	13:02:30	9599.84	19.83	6.40	117.79	10.00	12.00	2.94	70.30
Last 5	13:07:30	9899.83	19.81	6.41	118.40	9.78	12.00	2.91	70.04
Variance 0			-0.12	0.02	0.13			-0.15	-1.09
Variance 1			0.06	-0.02	1.16			0.02	-0.13
Variance 2			-0.02	0.01	0.61			-0.03	-0.26

Notes

Sampled at 13:10. Light rain ,70s

Grab Samples

ANALYTICAL REPORT

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

Laboratory Job ID: 180-103434-1
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:
4/14/2020 4:18:39 PM

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

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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: 180-103434-1

Job ID: 180-103434-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

**Job Narrative
180-103434-1**

Comments

No additional comments.

Receipt

The samples were received on 3/11/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5° C.

GC Semi VOA

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

Metals

Method 6020B: The following sample was diluted to bring the concentration of target analytes within the calibration range: ARGWC-22 (180-103434-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or 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

Job ID: 180-103434-1

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.
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: 180-103434-1

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
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	03-31-20
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	03-31-20
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



Sample Summary

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

Job ID: 180-103434-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-103434-1	ARGWC-22	Water	03/09/20 16:21	03/11/20 09:00	
180-103434-2	ARGWC-23	Water	03/09/20 15:16	03/11/20 09:00	

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Method Summary

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

Job ID: 180-103434-1

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

Job ID: 180-103434-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-103434-1

Date Collected: 03/09/20 16:21

Matrix: Water

Date Received: 03/11/20 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			310688	03/21/20 22:48	SAC	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		5			310688	03/21/20 23:03	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:12	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		5			310945	03/23/20 16:56	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310061	03/16/20 12:05	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 15:52	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309877	03/13/20 10:05	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			309650	03/09/20 16:21	FDS	TAL PIT

Client Sample ID: ARGWC-23

Lab Sample ID: 180-103434-2

Date Collected: 03/09/20 15:16

Matrix: Water

Date Received: 03/11/20 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			310688	03/21/20 23:18	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:20	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310945	03/23/20 16:59	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310061	03/16/20 12:05	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 15:53	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309877	03/13/20 10:05	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			309650	03/09/20 15:16	FDS	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: CCR - Plant Arkwright

Job ID: 180-103434-1

Analyst References:

Lab: TAL PIT

Batch Type: Prep

KEM = Kimberly Mahoney

RJR = Ron Rosenbaum

Batch Type: Analysis

AVS = Abbey Smith

FDS = Sampler Field

NAM = Nicole Marfisi

RSK = Robert Kurtz

SAC = Shawn Clemente

WTR = Bill Reinheimer



Client Sample Results

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

Job ID: 180-103434-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-103434-1

Date Collected: 03/09/20 16:21

Matrix: Water

Date Received: 03/11/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.064	J	0.10	0.026	mg/L			03/21/20 22:48	1
Chloride	11		1.0	0.32	mg/L			03/21/20 22:48	1
Sulfate	630		5.0	1.9	mg/L			03/21/20 23:03	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0016		0.0050	0.0016	mg/L		03/17/20 11:48	03/23/20 16:56	5
Barium	0.039		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:12	1
Beryllium	0.00019	J B	0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:12	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:12	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:12	1
Cobalt	0.015		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:12	1
Molybdenum	0.00067	J	0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:12	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:12	1
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:12	1
Selenium	<0.0076		0.025	0.0076	mg/L		03/17/20 11:48	03/23/20 16:56	5
Thallium	0.00035	J B	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:12	1
Lithium	0.0071		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:12	1
Calcium	180		2.5	0.64	mg/L		03/17/20 11:48	03/23/20 16:56	5
Boron	2.7		0.40	0.19	mg/L		03/17/20 11:48	03/23/20 16:56	5

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		03/16/20 12:05	03/17/20 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10	10	mg/L			03/13/20 10:05	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.97				SU			03/09/20 16:21	1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-103434-2

Date Collected: 03/09/20 15:16

Matrix: Water

Date Received: 03/11/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.089	J	0.10	0.026	mg/L			03/21/20 23:18	1
Chloride	3.7		1.0	0.32	mg/L			03/21/20 23:18	1
Sulfate	49		1.0	0.38	mg/L			03/21/20 23:18	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		03/17/20 11:48	03/23/20 16:59	1
Barium	0.14		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:20	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:20	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:20	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:20	1
Cobalt	0.00061	J	0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:20	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-103434-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-103434-2

Date Collected: 03/09/20 15:16

Matrix: Water

Date Received: 03/11/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.013	J	0.015	0.00061	mg/L	-	03/17/20 11:48	03/22/20 14:20	1
Lead	<0.00013		0.0010	0.00013	mg/L	-	03/17/20 11:48	03/22/20 14:20	1
Antimony	<0.00038		0.0020	0.00038	mg/L	-	03/17/20 11:48	03/22/20 14:20	1
Selenium	<0.0015		0.0050	0.0015	mg/L	-	03/17/20 11:48	03/23/20 16:59	1
Thallium	0.00026	J B	0.0010	0.00015	mg/L	-	03/17/20 11:48	03/22/20 14:20	1
Lithium	0.013		0.0050	0.0034	mg/L	-	03/17/20 11:48	03/22/20 14:20	1
Calcium	46		0.50	0.13	mg/L	-	03/17/20 11:48	03/23/20 16:59	1
Boron	0.25		0.080	0.039	mg/L	-	03/17/20 11:48	03/23/20 16:59	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	-	03/16/20 12:05	03/17/20 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	210		10	10	mg/L	-		03/13/20 10:05	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.97				SU	-		03/09/20 15:16	1

QC Sample Results

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

Job ID: 180-103434-1

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

Lab Sample ID: MB 180-310688/6
Matrix: Water
Analysis Batch: 310688

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			03/21/20 15:48	1
Chloride	<0.32		1.0	0.32	mg/L			03/21/20 15:48	1
Sulfate	<0.38		1.0	0.38	mg/L			03/21/20 15:48	1

Lab Sample ID: LCS 180-310688/5
Matrix: Water
Analysis Batch: 310688

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	2.51		mg/L		100	90 - 110
Chloride	50.0	48.6		mg/L		97	90 - 110
Sulfate	50.0	50.5		mg/L		101	90 - 110

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

Lab Sample ID: MB 180-310194/1-A
Matrix: Water
Analysis Batch: 310808

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 310194

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.0016		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 13:53	1
Beryllium	0.000183	J	0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 13:53	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 13:53	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 13:53	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 13:53	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 13:53	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 13:53	1
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 13:53	1
Thallium	0.000349	J	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 13:53	1
Lithium	<0.0034		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 13:53	1

Lab Sample ID: MB 180-310194/1-A
Matrix: Water
Analysis Batch: 310945

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 310194

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 16:36	1
Calcium	<0.13		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 16:36	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 16:36	1

Lab Sample ID: LCS 180-310194/2-A
Matrix: Water
Analysis Batch: 310808

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 310194

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	1.00	0.960		mg/L		96	80 - 120
Beryllium	0.500	0.499		mg/L		100	80 - 120
Cadmium	0.500	0.490		mg/L		98	80 - 120
Chromium	0.500	0.472		mg/L		94	80 - 120
Cobalt	0.500	0.479		mg/L		96	80 - 120

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-103434-1

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

Lab Sample ID: LCS 180-310194/2-A
Matrix: Water
Analysis Batch: 310808

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 310194

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.500	0.488		mg/L		98	80 - 120
Lead	0.500	0.472		mg/L		94	80 - 120
Antimony	0.250	0.232		mg/L		93	80 - 120
Thallium	1.00	0.992		mg/L		99	80 - 120
Lithium	0.500	0.459		mg/L		92	80 - 120

Lab Sample ID: LCS 180-310194/2-A
Matrix: Water
Analysis Batch: 310945

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 310194

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.994		mg/L		99	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Calcium	25.0	25.3		mg/L		101	80 - 120
Boron	1.25	1.13		mg/L		90	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-310061/1-A
Matrix: Water
Analysis Batch: 310256

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 310061

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/16/20 12:05	03/17/20 15:36	1

Lab Sample ID: LCS 180-310061/2-A
Matrix: Water
Analysis Batch: 310256

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 310061

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00210		mg/L		84	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-309877/2
Matrix: Water
Analysis Batch: 309877

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			03/13/20 10:05	1

Lab Sample ID: LCS 180-309877/1
Matrix: Water
Analysis Batch: 309877

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	661	662		mg/L		100	80 - 120

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-103434-1

HPLC/IC

Analysis Batch: 310688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-103434-1	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-103434-2	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
MB 180-310688/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-310688/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 310061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total/NA	Water	7470A	
180-103434-2	ARGWC-23	Total/NA	Water	7470A	
MB 180-310061/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-310061/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 310194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total Recoverable	Water	3005A	
180-103434-2	ARGWC-23	Total Recoverable	Water	3005A	
MB 180-310194/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-310194/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 310256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total/NA	Water	EPA 7470A	310061
180-103434-2	ARGWC-23	Total/NA	Water	EPA 7470A	310061
MB 180-310061/1-A	Method Blank	Total/NA	Water	EPA 7470A	310061
LCS 180-310061/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	310061

Analysis Batch: 310808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total Recoverable	Water	EPA 6020B	310194
180-103434-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	310194
MB 180-310194/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	310194
LCS 180-310194/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	310194

Analysis Batch: 310945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total Recoverable	Water	EPA 6020B	310194
180-103434-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	310194
MB 180-310194/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	310194
LCS 180-310194/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	310194

General Chemistry

Analysis Batch: 309877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total/NA	Water	SM 2540C	
180-103434-2	ARGWC-23	Total/NA	Water	SM 2540C	
MB 180-309877/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-309877/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-103434-1

Field Service / Mobile Lab

Analysis Batch: 309650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total/NA	Water	Field Sampling	
180-103434-2	ARGWC-23	Total/NA	Water	Field Sampling	

- 1
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Chain of Custody Record

Client Information Client Contact: Joju Abraham Company: Southern Company Address: PO BOX 2841 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: [Redacted] Email: JAbraham@southernco.com Project Name: CCR Plant Arkwright - Ash Pond 2 Site: Georgia		Lab P.M.: Bortot, Veronica E-Mail: <Veronica.Bortot@testamericainc.com> Phone: 770-594-5998 Fax: 770-594-5998		COC No.: 400-73521-29028-1 Page: 1 of 1 Job #: [Redacted]	
Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: [Redacted] Project #: [Redacted] SSOW#: [Redacted]		Carrier Tracking No(s): Corners Tracking No(s):			
Sample Identification ARGWC - 22 ARGWC - 23		Sample Date 3-4-20 3-9-20		Sample Time 1621 1516	
Sample Type (C=comp, G=grab) G G		Matrix (W=water, S=solid, O=other, ST=Stream, A=Air) Water Water		Field Filtered Sample (Yes or No) N N	
Perform MS/MSD (Yes or No) X X		Metals App. III and App IV (EPA 6020/470) D N		TDS D N	
300 ORG/FL 28D - Chloride, Fluoride & Sulfate, 2540C - Radium 226 & 228 (SW-846 9315/9320)		D N D		Analysis Requested	
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 - EDTA Other:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)		Special Instructions/Note: Total Number of containers 3 pH = 5.47 3 pH = 6.32 pH = pH = pH =	
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		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: [Signature] Date/Time: 3/10/20 11:33 Company: ACC		Received by: [Signature] Date/Time: 3-10-20 11:33 Company: ETP			
Relinquished by: [Signature] Date/Time: 3/14/20 16:00 Company: Local		Received by: [Signature] Date/Time: 3-11-20 Company: EIA/PIA			
Relinquished by: [Signature]		Received by: [Signature] Date/Time: 9:00 Company:			
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:			



Chain of Custody Record

Client Information		Lab PM: Bortol, Veronica	
Client Contact: Jolu Abraham Southern Company Address: PO BOX 2641 GSC8 Birmingham State, Zip: AL, 35291 Phone: Email: JAbraham@southernco.com Project Name: CCR Plant Arkwright - Ash Pond 2 Site: Georgia		Carrier Tracking Note(s): Lab #: E-Mail: <Veronica.Bortol@testamericainc.com> Analysis Requested	
Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: Project #: SSCW#:		COC No: 400-73521-29028.1 Page: 1 of 1 Job #: 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)	
Sample Identification ARGWC - 22 ARGWC - 23		Total Number of Containers 3 3 pH = 5.47 pH = 6.32 pH = pH = pH =	
Sample Date 3-9-20 3-9-20		Special Instructions/Note: 180-103434-D-1 ARGWC-22 Bottle No Container: Sampled 3/9/2020 4:21 PM 180-3625212	
Sample Time 1621 1516		180-103434-D-2 ARGWC-23 Bottle No Container: Sampled 3/9/2020 3:16 PM 180-3625213	
Sample Type (C=Comp, G=grab) G G G G G G G G		Matrix (W=water, S=solid, D=dred, O=oil, A=air) Water Water Water Water Water Water Water Water	
Preservation Code: G G G G G G G G		Field Filtered Sample (Yes or No) N N N N N N N N	
Perform MS/MSD (Yes or No) N N N N N N N N		Metals App. III and APP IV (EPA 6020/470) 300 ORGM, 280 - Chloride, Fluoride & Sulfate, 2540C - TDS Radium 226 & 228 (SM-46 9315/9320)	
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		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, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: [Signature] Date/Time: 3/10/20 11:33 Company: ACC		Received by: [Signature] Date/Time: 3-10-20 11:33 Company: STA	
Relinquished by: [Signature] Date/Time: 3/10/20 Company: Social		Received by: [Signature] Date/Time: 3-11-20 Company: STA	
Relinquished by: [Signature] Date/Time: 3/10/20 Company: Social		Received by: [Signature] Date/Time: 3-11-20 Company: STA	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 9.00	





180-103434 Waybill

ORIGIN ID: SAVA (412) 963-2435
VERONICA BORTOT

SEE CHEERS 5 BEFORE BILL
301 ALPHA DR
PITTSBURGH, PA 15238
UNITED STATES US

SHIP DATE: 09MAR20
ACTWT: 45.90 LB
CAD: 6994920/SSFE2021
DIMS: 24x14x14 IN

BILL THIRD PARTY

TO VERONICA BORTOT

301 ALPHA DR

PITTSBURGH PA 15238

(412) 963-2436

REF:

DEPT:



FedEx
Express



201020011301V

TRK# 3909 8199 3408
0201

TUE - 10 MAR 10:30A
PRIORITY OVERNIGHT

XH AGA

15238
PA-US PIT

Uncorrected temp
Thermometer ID

4.5 C

17

CF 0

Initials JB

PT-WI-SR-001 effective 11/6/18



Temperature Controlled

Environment Testing
TotalEnergies

eurofins

IF THIS SHIPMENT IS DELAYED IN TRANSIT,
STORE REFRIGERATED (2° TO 8° C / 36° TO 46° F)

- 1
- 2
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Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-103434-1

Login Number: 103434

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	



ANALYTICAL REPORT

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

Laboratory Job ID: 180-103434-2

Client Project/Site: CCR - Plant Arkwright Ash Pond 2

For:

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

Attn: Joju Abraham



Authorized for release by:
4/30/2020 7:31:59 AM

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

Designee for

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

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
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 2

Job ID: 180-103434-2

Job ID: 180-103434-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-103434-2

Comments

No additional comments.

Receipt

The samples were received on 3/11/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5° C.

RAD

Method 9315: Radium-226 Prep Batch 160-464489

The following samples have a barium carrier recovery above the 110% QC limit. Affected samples had a barium correction applied, however, there is significant concentrations of salt-like compounds (i.e. calcium, magnesium, sodium, and strontium) that can interfere with a barium sulfate recovery. The LCS (laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported.

ARGWC-23 (180-103434-2)

Methods 903.0, 9315: Ra-226 Prep Batch 160-464489

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-22 (180-103434-1), ARGWC-23 (180-103434-2), (LCS 160-464489/1-A), (LCSD 160-464489/2-A) and (MB 160-464489/23-A)

Method 9320: Radium-228 Prep Batch 160-464492

The following samples have a barium carrier recovery above the 110% QC limit. Affected samples had a barium correction applied, however, there is significant concentrations of salt-like compounds (i.e. calcium, magnesium, sodium, and strontium) that can interfere with a barium sulfate recovery. The LCS (laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported.

ARGWC-23 (180-103434-2)

Methods 904.0, 9320: Ra-228 Prep Batch 160-464492

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-22 (180-103434-1), ARGWC-23 (180-103434-2), (LCS 160-464492/1-A), (LCSD 160-464492/2-A) and (MB 160-464492/23-A)

Method PrecSep_0: Radium-228 Prep Batch 160-464492:

The barium carrier recovery is outside the upper control limit (110%) for the following sample: ARGWC-23 (180-103434-2). The samples were re-heated to dry on a hot plate at high temp for one hour to ensure very little water molecules could contribute to a high bias of the carrier recovery. The QC samples associated with the batch have acceptable carrier recovery indicating the possibility of matrix interference.

Case Narrative

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-103434-2

Job ID: 180-103434-2 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

A native barium result was applied to the sample (180-103433-1) which brought the recovery below the 110% limit. The barium recovery is now 89%.

CJQ 4/13/20 7:11

Method PrecSep-21: Radium-226 Prep Batch 160-464489:

The barium carrier recovery is outside the upper control limit (110%) for the following sample: ARGWC-23 (180-103434-2). The samples were re-heated to dry on a hot plate at high temp for one hour to ensure very little water molecules could contribute to a high bias of the carrier recovery. The QC samples associated with the batch have acceptable carrier recovery indicating the possibility of matrix interference.

A native barium result was applied to the sample (180-103433-1) which brought the recovery below the 110% limit. The barium recovery is now 88%.

CJQ 4/13/20 07:04

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 2

Job ID: 180-103434-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

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 Ash Pond 2

Job ID: 180-103434-2

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 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

Accreditation/Certification Summary

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-103434-2

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
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 2

Job ID: 180-103434-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-103434-1	ARGWC-22	Water	03/09/20 16:21	03/11/20 09:00	
180-103434-2	ARGWC-23	Water	03/09/20 15:16	03/11/20 09:00	

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Method Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-103434-2

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 2

Job ID: 180-103434-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-103434-1

Date Collected: 03/09/20 16:21

Matrix: Water

Date Received: 03/11/20 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			999.50 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467299	04/09/20 05:45	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.50 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:38	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-23

Lab Sample ID: 180-103434-2

Date Collected: 03/09/20 15:16

Matrix: Water

Date Received: 03/11/20 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	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467299	04/09/20 05:45	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.88 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1	1.0 mL	1.0 mL	467126	04/08/20 12:38	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	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

MNH = Molly Howard

Batch Type: Analysis

CJQ = Caleb Quinn

KLS = Kody Saulters

SMP = Siobhan Perry

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-103434-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-103434-1

Date Collected: 03/09/20 16:21

Matrix: Water

Date Received: 03/11/20 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	0.0975	U	0.117	0.118	1.00	0.190	pCi/L	03/17/20 07:35	04/09/20 05:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.7		40 - 110					03/17/20 07:35	04/09/20 05:45	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.268	U	0.227	0.228	1.00	0.360	pCi/L	03/17/20 07:51	04/08/20 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.7		40 - 110					03/17/20 07:51	04/08/20 12:38	1
Y Carrier	86.0		40 - 110					03/17/20 07:51	04/08/20 12:38	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	0.365		0.255	0.257	2.00	0.360	pCi/L		04/13/20 07:29	1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-103434-2

Date Collected: 03/09/20 15:16

Matrix: Water

Date Received: 03/11/20 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	0.219		0.149	0.150	1.00	0.193	pCi/L	03/17/20 07:35	04/09/20 05:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	111	X	40 - 110					03/17/20 07:35	04/09/20 05:45	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.407		0.250	0.253	1.00	0.381	pCi/L	03/17/20 07:51	04/08/20 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	111	X	40 - 110					03/17/20 07:51	04/08/20 12:38	1
Y Carrier	84.5		40 - 110					03/17/20 07:51	04/08/20 12:38	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-103434-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-103434-2

Date Collected: 03/09/20 15:16

Matrix: Water

Date Received: 03/11/20 09:00

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	0.626		0.291	0.294	2.00	0.381	pCi/L		04/13/20 07:29	1

- 1
- 2
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QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-103434-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-464489/23-A
Matrix: Water
Analysis Batch: 467244

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 464489

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.04966	U	0.107	0.108	1.00	0.201	pCi/L	03/17/20 07:35	04/08/20 23:03	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	98.4		40 - 110			03/17/20 07:35	04/08/20 23:03	1		

Lab Sample ID: LCS 160-464489/1-A
Matrix: Water
Analysis Batch: 467244

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 464489

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	8.787		1.13	1.00	0.203	pCi/L	77	75 - 125
Carrier	LCS	LCS	Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Ba Carrier	106		40 - 110						

Lab Sample ID: LCSD 160-464489/2-A
Matrix: Water
Analysis Batch: 467244

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 464489

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	9.504		1.22	1.00	0.229	pCi/L	84	75 - 125	0.30	1
Carrier	LCSD	LCSD	Limits			Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier									
Ba Carrier	98.1		40 - 110								

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-464492/23-A
Matrix: Water
Analysis Batch: 467126

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 464492

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2712	U	0.240	0.242	1.00	0.384	pCi/L	03/17/20 07:51	04/08/20 12:38	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	98.4		40 - 110			03/17/20 07:51	04/08/20 12:38	1		
Y Carrier	81.9		40 - 110			03/17/20 07:51	04/08/20 12:38	1		

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-103434-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-464492/1-A
Matrix: Water
Analysis Batch: 467264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 464492

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.95	6.927		0.860	1.00	0.374	pCi/L	77	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	106		40 - 110
Y Carrier	81.9		40 - 110

Lab Sample ID: LCSD 160-464492/2-A
Matrix: Water
Analysis Batch: 467264

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 464492

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	8.95	7.121		0.902	1.00	0.423	pCi/L	80	75 - 125	0.11	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	98.1		40 - 110
Y Carrier	78.9		40 - 110

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-103434-2

Rad

Prep Batch: 464489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total/NA	Water	PrecSep-21	
180-103434-2	ARGWC-23	Total/NA	Water	PrecSep-21	
MB 160-464489/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-464489/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-464489/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 464492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103434-1	ARGWC-22	Total/NA	Water	PrecSep_0	
180-103434-2	ARGWC-23	Total/NA	Water	PrecSep_0	
MB 160-464492/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-464492/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-464492/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Chain of Custody Record

Client Information Client Contact: Joju Abraham Company: Southern Company Address: PO BOX 2841 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: [Redacted] Email: JAbraham@southernco.com Project Name: CCR Plant Arkwright - Ash Pond 2 Site: Georgia		Lab P.M.: Bortot, Veronica E-Mail: <Veronica.Bortot@testamericainc.com> Phone: 770-594-5998 Fax: 770-594-5998		COC No.: 400-73521-29028.1 Page: 1 of 1 Job #: [Redacted]	
Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: [Redacted] Project #: [Redacted] SSOW#: [Redacted]		Carrier Tracking No(s): Carnet Tracking No(s):		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 - EDTA Other:	
Sample Identification ARGWC - 22 ARGWC - 23		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)		Analysis Requested Metals App. III and App IV (EPA 6020/470) 300 ORG/FL 28D - Chloride, Fluoride & Sulfate, 2540C - TDS Radium 226 & 228 (SW-846 9315/9320)	
Sample Date 3-4-20 3-9-20		Sample Time 1621 1516		Sample Type (C=comp, G=grab) G G	
Matrix (W=water, S=solid, O=overhead, ST=stream, A=air) Water Water		Preservation Code NN NN		Total Number of Containers 3 3	
Special Instructions/Note: pH = 5.47 pH = 6.32 pH = pH = pH =		Special Instructions/Note: 180-103434 Chain of Custody		Special Instructions/Note: pH =	
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		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: Relinquished by: [Signature] Date/Time: 3/10/20 11:33 Company: ACC		Method of Shipment: Received by: [Signature] Date/Time: 3/10/20 11:33 Company: ETP		Relinquished by: [Signature] Date/Time: 3-11-20 Company: EIA/PLH	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:		Relinquished by: [Signature] Date/Time: 9:00 Company:	



Chain of Custody Record

Client Information Client Contact: Joju Abraham Company: Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State: AL, Zip: 35291 Phone: SCS10347656 Email: JAbraham@southernco.com Project Name: CCR Plant Arkwright - Ash Pond 2 Site: Georgia		Lab PM: Bortol, Veronica E-Mail: <Veronica.Bortol@testamericainc.com> Phone: 770-594-5998 Carrier Tracking Note:	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: SSCW#:		Analysis Requested Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Metals App. III and APP IV <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No EPA 6020/470 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 300 ORGM, 280 - Chloride, Fluoride & Sulfate, 2540C - <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No TDS <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Radium 226 & 228 (SM-46 9315/9320) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Identification ARGWC - 22 ARGWC - 23		Total Number of Containers: <input checked="" type="checkbox"/> 3 Special Instructions/Note:	
Sample Date: 3-9-20 Sample Time: 1621 Sample Date: 3-9-20 Sample Time: 1516		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)	
Sample Type (C=Comp, G=grab) <input checked="" type="checkbox"/> G Matrix (W=water, S=solid, D=dredge, A=air) <input checked="" type="checkbox"/> Water		pH = 5.47 pH = 6.32 pH = pH = pH =	
Barcode: 180-103434-D-1 ARGWC-22 Bottle No Container: Sampled 3/9/2020 4:21 PM 180-3625212		Barcode: 180-103434-D-2 ARGWC-23 Bottle No Container: Sampled 3/9/2020 3:16 PM 180-3625213	
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		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	
Date: 3/10/20 Time: 11:33 Company: ACC		Date/Time: 3/10/20 11:33 Company: STA	
Date: 3/10/20 Time: 16:00 Company: ETR		Date/Time: 3-11-20 Company: STA	
Date: 3/10/20 Time: 9:00 Company: ETR		Date/Time: 9:00 Company: STA	
Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature]		Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature]	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	





180-103434 Waybill

ORIGIN ID: SAVA (412) 963-2435
VERONICA BORTOT

SEE CHEERS 5 BEFORE BILL
301 ALPHA DR
PITTSBURGH, PA 15238
UNITED STATES US

SHIP DATE: 09MAR20
ACTWT: 45.90 LB
CAD: 6994920/SSFE2021
DIMS: 24x14x14 IN

BILL THIRD PARTY

TO VERONICA BORTOT

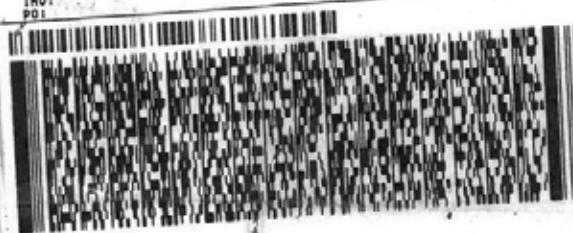
301 ALPHA DR

PITTSBURGH PA 15238

(412) 963-2436

REF:

DEPT:



FedEx
Express



201020011301V

TRK# 3909 8199 3408
0201

TUE - 10 MAR 10:30A
PRIORITY OVERNIGHT

XH AGA

15238
PA-US PIT

Uncorrected temp
Thermometer ID

4.5 C

17

CF 0

Initials JB

PT-WI-SR-001 effective 11/8/18



Temperature Controlled

Environment Testing
TotalTempics

eurofins

IF THIS SHIPMENT IS DELAYED IN TRANSIT,
STORE REFRIGERATED (2° TO 8° C / 36° TO 46° F)

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- 2
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- 11
- 12
- 13

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-103434-2

Login Number: 103434

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 <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: 180-103434-2

Login Number: 103434

List Number: 2

Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis

List Creation: 03/16/20 03:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	





Daily Instrument Calibration Log

SITE: Plant Arkwright
TECHNICIAN: Ryan Walker

WATER LEVEL: Heron
WATER LEVEL S/N: 244.24

INSTRUMENT S/N: 714293
INSTRUMENT TYPE: Insitu SmartTroll
CAL. SOLUTIONS/S:
ID: pH4 LOT #: 961003 EXP. DATE: 12/21
ID: pH7 LOT #: 2808E52 EXP. DATE: 8/20
ID: pH10 LOT #: 96E073 EXP. DATE: 06/20/21
ID: Con LOT #: 96E1018 EXP. DATE: 05/20
ID: ORP LOT #: 96L592 EXP. DATE: 09/20
ID: LOT #: EXP. DATE:
ID: LOT #: EXP. DATE:

Calibration Date: 3/9/20
RDO: 100% sat. = 91.54
PH: 4.00 = 3.95 7.00 = 7.21 10.00 = 9.93
CONDUCTIVITY: 191
ORP (mV) 224.3

Calibration Date:
RDO: 100% sat. =
PH: 4.00 = 7.00 = 10.00 =
CONDUCTIVITY:
ORP (mV)

Calibration Date:
RDO: 100% sat. =
PH: 4.00 = 7.00 = 10.00 =
CONDUCTIVITY:
ORP (mV)

Calibration Date:
RDO: 100% sat. =
PH: 4.00 = 7.00 = 10.00 =
CONDUCTIVITY:
ORP (mV)

Calibration Date:
RDO: 100% sat. =
PH: 4.00 = 7.00 = 10.00 =
CONDUCTIVITY:
ORP (mV)



Daily Instrument Calibration Log

SITE: Plant Arkwright
TECHNICIAN: Ryan Walker

INSTRUMENT S/N: 17120C063767
INSTRUMENT TYPE: Hach 2100 Q
CAL. SOLUTION: 0 NTU - LOT # NA EXP. DATE: New DI water
10 NTU - LOT # A8199 EXP. DATE: 07/2020
20 NTU - LOT # A8215 EXP. DATE: 08/2020

Calibration Date: 3/9/20

Calibration Solution	Instrument Reading	
0.0	0.33	NTU
10.0	9.05	NTU
20.0	19.3	NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Low-Flow Test Report:

Test Date / Time: 3/9/2020 3:51:18 PM

Project: Plant Arkwright - Pond 2

Operator Name: Ryan Walker

Location Name: ARGWC-22 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 17 ft Total Depth: 27.78 ft Initial Depth to Water: 11.61 ft	Pump Type: Peristaltic pump Tubing Type: Poly Pump Intake From TOC: 22 ft Estimated Total Volume Pumped: 5.25 liter Flow Cell Volume: 90 ml Final Flow Rate: 250 ml/min Final Draw Down: 5 in	Instrument Used: Aqua TROLL 400 Serial Number: 714293
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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	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
3/9/2020 3:51 PM	00:00	5.94 pH	19.62 °C	1,387.1 µS/cm	0.71 mg/L		52.7 mV	11.61 ft	250.00 ml/min
3/9/2020 3:56 PM	05:00	5.96 pH	18.71 °C	1,428.2 µS/cm	0.39 mg/L	12.90 NTU	34.5 mV	12.00 ft	250.00 ml/min
3/9/2020 4:01 PM	10:00	5.97 pH	18.73 °C	1,433.6 µS/cm	0.29 mg/L	9.28 NTU	29.0 mV	12.00 ft	250.00 ml/min
3/9/2020 4:06 PM	15:00	5.96 pH	18.82 °C	1,428.2 µS/cm	0.24 mg/L	13.30 NTU	26.3 mV	12.00 ft	250.00 ml/min
3/9/2020 4:11 PM	20:00	5.97 pH	18.71 °C	1,430.9 µS/cm	0.23 mg/L	7.96 NTU	24.0 mV	12.00 ft	250.00 ml/min
3/9/2020 4:16 PM	25:00	5.97 pH	18.55 °C	1,431.1 µS/cm	0.20 mg/L	4.97 NTU	22.2 mV	12.00 ft	250.00 ml/min
3/9/2020 4:21 PM	30:00	5.97 pH	18.57 °C	1,437.3 µS/cm	0.19 mg/L	4.50 NTU	20.5 mV	12.00 ft	250.00 ml/min

Samples

Sample ID:	Description:
ARGWC-22	

Low-Flow Test Report:

Test Date / Time: 3/9/2020 2:46:07 PM

Project: Plant Arkwright - Pond 2

Operator Name: Ryan Walker

Location Name: ARGWC-23 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 17 ft Total Depth: 27.21 ft Initial Depth to Water: 9.16 ft	Pump Type: Peristaltic pump Tubing Type: Poly Pump Intake From TOC: 22 ft Estimated Total Volume Pumped: 8 liter Flow Cell Volume: 90 ml Final Flow Rate: 300 ml/min Final Draw Down: 28 in	Instrument Used: Aqua TROLL 400 Serial Number: 714293
---	--	--

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	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
3/9/2020 2:46 PM	00:00	6.32 pH	19.55 °C	305.22 µS/cm	0.55 mg/L		114.8 mV	9.16 ft	300.00 ml/min
3/9/2020 2:51 PM	05:00	6.32 pH	19.67 °C	301.35 µS/cm	0.49 mg/L	4.23 NTU	118.0 mV	11.10 ft	300.00 ml/min
3/9/2020 2:56 PM	10:00	6.33 pH	19.47 °C	308.97 µS/cm	0.40 mg/L	3.59 NTU	113.4 mV	11.30 ft	300.00 ml/min
3/9/2020 3:01 PM	15:00	6.32 pH	19.35 °C	316.82 µS/cm	0.35 mg/L	3.09 NTU	114.1 mV	11.40 ft	300.00 ml/min
3/9/2020 3:06 PM	20:00	6.33 pH	19.42 °C	315.32 µS/cm	0.31 mg/L	2.76 NTU	113.1 mV	11.50 ft	300.00 ml/min
3/9/2020 3:11 PM	25:00	6.32 pH	19.59 °C	321.79 µS/cm	0.30 mg/L	2.40 NTU	113.1 mV	11.50 ft	300.00 ml/min
3/9/2020 3:16 PM	30:00	6.32 pH	19.88 °C	319.54 µS/cm	0.31 mg/L	2.43 NTU	112.2 mV	11.50 ft	300.00 ml/min

Samples

Sample ID:	Description:
ARGWC-23	

ANALYTICAL REPORT

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

Laboratory Job ID: 180-106373-1

Client Project/Site: CCR - Plant Arkwright Ash Pond 2

For:

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

Attn: Joju Abraham



Authorized for release by:
6/12/2020 10:35:18 AM

Shali Brown, Project Manager II
(615)301-5031
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 2

Job ID: 180-106373-1

Job ID: 180-106373-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

**Job Narrative
180-106373-1**

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.

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: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

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
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
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 2

Job ID: 180-106373-1

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	04-30-21
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 2

Job ID: 180-106373-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-106373-1	ARGWC-23	Water	05/27/20 16:23	05/29/20 08:45	
180-106373-2	ARGWC-22	Water	05/27/20 18:52	05/29/20 08:45	
180-106373-3	DUP	Water	05/27/20 00:00	05/29/20 08:45	
180-106373-4	EB	Water	05/27/20 14:40	05/29/20 08:45	

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Method Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

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 2

Job ID: 180-106373-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-106373-1

Date Collected: 05/27/20 16:23

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/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			317665	06/06/20 23:00	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			317672	06/05/20 21:30	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			317940	06/06/20 18:09	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	317376	06/03/20 19:40	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			317535	06/04/20 17:41	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	316997	05/30/20 08:44	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			317243	05/27/20 16:23	FDS	TAL PIT

Client Sample ID: ARGWC-22

Lab Sample ID: 180-106373-2

Date Collected: 05/27/20 18:52

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/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			317665	06/06/20 23:47	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		5			317665	06/07/20 00:03	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			317672	06/05/20 21:33	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			317940	06/06/20 18:12	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	317376	06/03/20 19:40	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			317535	06/04/20 17:46	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	316997	05/30/20 08:44	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			317243	05/27/20 18:52	FDS	TAL PIT

Lab Chronicle

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

Client Sample ID: DUP

Date Collected: 05/27/20 00:00

Date Received: 05/29/20 08:45

Lab Sample ID: 180-106373-3

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		1			317665	06/07/20 00:19	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			317672	06/05/20 21:36	RSK	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			317940	06/06/20 18:16	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			50 mL	50 mL	317376	06/03/20 19:40	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			317535	06/04/20 17:46	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	316997	05/30/20 08:44	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: EB

Date Collected: 05/27/20 14:40

Date Received: 05/29/20 08:45

Lab Sample ID: 180-106373-4

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		1			317665	06/07/20 00:35	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			317672	06/05/20 21:40	RSK	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			317940	06/06/20 18:19	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			50 mL	50 mL	317376	06/03/20 19:40	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			317535	06/04/20 17:47	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	316997	05/30/20 08:44	AVS	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

KEM = Kimberly Mahoney

NAM = Nicole Marfisi

Batch Type: Analysis

AVS = Abbey Smith

FDS = Sampler Field

MJH = Matthew Hartman

NAM = Nicole Marfisi

RSK = Robert Kurtz

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-106373-1

Date Collected: 05/27/20 16:23

Matrix: Water

Date Received: 05/29/20 08:45

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			06/06/20 23:00	1
Fluoride	0.25		0.10	0.026	mg/L			06/06/20 23:00	1
Sulfate	65	F1	1.0	0.38	mg/L			06/06/20 23:00	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		06/01/20 08:43	06/05/20 21:30	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		06/01/20 08:43	06/05/20 21:30	1
Barium	0.18	B	0.010	0.0016	mg/L		06/01/20 08:43	06/05/20 21:30	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		06/01/20 08:43	06/05/20 21:30	1
Boron	0.45	B	0.080	0.039	mg/L		06/01/20 08:43	06/06/20 18:09	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		06/01/20 08:43	06/05/20 21:30	1
Calcium	69		0.50	0.13	mg/L		06/01/20 08:43	06/05/20 21:30	1
Chromium	<0.0015		0.0020	0.0015	mg/L		06/01/20 08:43	06/05/20 21:30	1
Cobalt	0.0017	J	0.0025	0.00013	mg/L		06/01/20 08:43	06/05/20 21:30	1
Lead	<0.00013		0.0010	0.00013	mg/L		06/01/20 08:43	06/05/20 21:30	1
Lithium	0.037		0.0050	0.0034	mg/L		06/01/20 08:43	06/05/20 21:30	1
Molybdenum	0.048		0.015	0.00061	mg/L		06/01/20 08:43	06/05/20 21:30	1
Selenium	<0.0015		0.0050	0.0015	mg/L		06/01/20 08:43	06/05/20 21:30	1
Thallium	0.00026	J	0.0010	0.00015	mg/L		06/01/20 08:43	06/05/20 21:30	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		06/03/20 19:40	06/04/20 17:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	320		10	10	mg/L			05/30/20 08:44	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.3				SU			05/27/20 16:23	1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-106373-2

Date Collected: 05/27/20 18:52

Matrix: Water

Date Received: 05/29/20 08:45

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			06/06/20 23:47	1
Fluoride	0.060	J	0.10	0.026	mg/L			06/06/20 23:47	1
Sulfate	720		5.0	1.9	mg/L			06/07/20 00:03	5

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		06/01/20 08:43	06/05/20 21:33	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		06/01/20 08:43	06/05/20 21:33	1
Barium	0.054	B	0.010	0.0016	mg/L		06/01/20 08:43	06/05/20 21:33	1
Beryllium	0.00018	J	0.0025	0.00018	mg/L		06/01/20 08:43	06/05/20 21:33	1
Boron	2.5	B	0.080	0.039	mg/L		06/01/20 08:43	06/06/20 18:12	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		06/01/20 08:43	06/05/20 21:33	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-106373-2

Date Collected: 05/27/20 18:52

Matrix: Water

Date Received: 05/29/20 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	200		0.50	0.13	mg/L		06/01/20 08:43	06/05/20 21:33	1
Chromium	<0.0015		0.0020	0.0015	mg/L		06/01/20 08:43	06/05/20 21:33	1
Cobalt	0.0059		0.0025	0.00013	mg/L		06/01/20 08:43	06/05/20 21:33	1
Lead	<0.00013		0.0010	0.00013	mg/L		06/01/20 08:43	06/05/20 21:33	1
Lithium	0.017		0.0050	0.0034	mg/L		06/01/20 08:43	06/05/20 21:33	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/01/20 08:43	06/05/20 21:33	1
Selenium	<0.0015		0.0050	0.0015	mg/L		06/01/20 08:43	06/05/20 21:33	1
Thallium	<0.00015		0.0010	0.00015	mg/L		06/01/20 08:43	06/05/20 21:33	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		06/03/20 19:40	06/04/20 17:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10	10	mg/L			05/30/20 08:44	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.69				SU			05/27/20 18:52	1

Client Sample ID: DUP

Lab Sample ID: 180-106373-3

Date Collected: 05/27/20 00:00

Matrix: Water

Date Received: 05/29/20 08:45

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			06/07/20 00:19	1
Fluoride	0.25		0.10	0.026	mg/L			06/07/20 00:19	1
Sulfate	66		1.0	0.38	mg/L			06/07/20 00:19	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		06/01/20 08:43	06/05/20 21:36	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		06/01/20 08:43	06/05/20 21:36	1
Barium	0.18	B	0.010	0.0016	mg/L		06/01/20 08:43	06/05/20 21:36	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		06/01/20 08:43	06/05/20 21:36	1
Boron	0.47	B	0.080	0.039	mg/L		06/01/20 08:43	06/06/20 18:16	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		06/01/20 08:43	06/05/20 21:36	1
Calcium	70		0.50	0.13	mg/L		06/01/20 08:43	06/05/20 21:36	1
Chromium	<0.0015		0.0020	0.0015	mg/L		06/01/20 08:43	06/05/20 21:36	1
Cobalt	0.0017	J	0.0025	0.00013	mg/L		06/01/20 08:43	06/05/20 21:36	1
Lead	<0.00013		0.0010	0.00013	mg/L		06/01/20 08:43	06/05/20 21:36	1
Lithium	0.038		0.0050	0.0034	mg/L		06/01/20 08:43	06/05/20 21:36	1
Molybdenum	0.048		0.015	0.00061	mg/L		06/01/20 08:43	06/05/20 21:36	1
Selenium	<0.0015		0.0050	0.0015	mg/L		06/01/20 08:43	06/05/20 21:36	1
Thallium	<0.00015		0.0010	0.00015	mg/L		06/01/20 08:43	06/05/20 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		06/03/20 19:40	06/04/20 17:46	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

Client Sample ID: DUP
Date Collected: 05/27/20 00:00
Date Received: 05/29/20 08:45

Lab Sample ID: 180-106373-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	330		10	10	mg/L			05/30/20 08:44	1

Client Sample ID: EB
Date Collected: 05/27/20 14:40
Date Received: 05/29/20 08:45

Lab Sample ID: 180-106373-4
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			06/07/20 00:35	1
Fluoride	0.036	J	0.10	0.026	mg/L			06/07/20 00:35	1
Sulfate	0.48	J	1.0	0.38	mg/L			06/07/20 00:35	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		06/01/20 08:43	06/05/20 21:40	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		06/01/20 08:43	06/05/20 21:40	1
Barium	0.013	B	0.010	0.0016	mg/L		06/01/20 08:43	06/05/20 21:40	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		06/01/20 08:43	06/05/20 21:40	1
Boron	0.049	J B	0.080	0.039	mg/L		06/01/20 08:43	06/06/20 18:19	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		06/01/20 08:43	06/05/20 21:40	1
Calcium	0.13	J	0.50	0.13	mg/L		06/01/20 08:43	06/05/20 21:40	1
Chromium	<0.0015		0.0020	0.0015	mg/L		06/01/20 08:43	06/05/20 21:40	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/01/20 08:43	06/05/20 21:40	1
Lead	<0.00013		0.0010	0.00013	mg/L		06/01/20 08:43	06/05/20 21:40	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/01/20 08:43	06/05/20 21:40	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/01/20 08:43	06/05/20 21:40	1
Selenium	<0.0015		0.0050	0.0015	mg/L		06/01/20 08:43	06/05/20 21:40	1
Thallium	<0.00015		0.0010	0.00015	mg/L		06/01/20 08:43	06/05/20 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		06/03/20 19:40	06/04/20 17:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			05/30/20 08:44	1

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

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

Lab Sample ID: MB 180-317665/54
Matrix: Water
Analysis Batch: 317665

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			06/06/20 22:44	1
Fluoride	<0.026		0.10	0.026	mg/L			06/06/20 22:44	1
Sulfate	<0.38		1.0	0.38	mg/L			06/06/20 22:44	1

Lab Sample ID: LCS 180-317665/53
Matrix: Water
Analysis Batch: 317665

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	53.6		mg/L		107	90 - 110
Fluoride	2.50	2.46		mg/L		98	90 - 110
Sulfate	50.0	48.3		mg/L		97	90 - 110

Lab Sample ID: 180-106373-1 MS
Matrix: Water
Analysis Batch: 317665

Client Sample ID: ARGWC-23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.0		50.0	56.9		mg/L		106	90 - 110
Fluoride	0.25		2.50	2.70		mg/L		98	90 - 110
Sulfate	65	F1	50.0	111		mg/L		91	90 - 110

Lab Sample ID: 180-106373-1 MSD
Matrix: Water
Analysis Batch: 317665

Client Sample ID: ARGWC-23
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		50.0	54.3		mg/L		101	90 - 110	5	20
Fluoride	0.25		2.50	2.56		mg/L		93	90 - 110	5	20
Sulfate	65	F1	50.0	105	F1	mg/L		80	90 - 110	5	20

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
Antimony	<0.00038		0.0020	0.00038	mg/L		06/01/20 08:43	06/05/20 20:44	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		06/01/20 08:43	06/05/20 20:44	1
Barium	0.00761	J	0.010	0.0016	mg/L		06/01/20 08:43	06/05/20 20:44	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		06/01/20 08:43	06/05/20 20:44	1
Boron	0.0647	J	0.080	0.039	mg/L		06/01/20 08:43	06/05/20 20:44	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		06/01/20 08:43	06/05/20 20:44	1
Calcium	<0.13		0.50	0.13	mg/L		06/01/20 08:43	06/05/20 20:44	1
Chromium	<0.0015		0.0020	0.0015	mg/L		06/01/20 08:43	06/05/20 20:44	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/01/20 08:43	06/05/20 20:44	1
Lead	<0.00013		0.0010	0.00013	mg/L		06/01/20 08:43	06/05/20 20:44	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/01/20 08:43	06/05/20 20:44	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/01/20 08:43	06/05/20 20:44	1

Eurofins TestAmerica, Pittsburgh

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

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

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
Selenium	<0.0015		0.0050	0.0015	mg/L		06/01/20 08:43	06/05/20 20:44	1
Thallium	<0.00015		0.0010	0.00015	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
Antimony	0.250	0.242		mg/L		97	80 - 120
Arsenic	1.00	0.967		mg/L		97	80 - 120
Barium	1.00	0.956		mg/L		96	80 - 120
Beryllium	0.500	0.475		mg/L		95	80 - 120
Cadmium	0.500	0.475		mg/L		95	80 - 120
Calcium	25.0	26.3		mg/L		105	80 - 120
Chromium	0.500	0.486		mg/L		97	80 - 120
Cobalt	0.500	0.466		mg/L		93	80 - 120
Lead	0.500	0.496		mg/L		99	80 - 120
Lithium	0.500	0.473		mg/L		95	80 - 120
Molybdenum	0.500	0.491		mg/L		98	80 - 120
Selenium	1.00	0.961		mg/L		96	80 - 120
Thallium	1.00	1.06		mg/L		106	80 - 120

Lab Sample ID: LCS 180-317054/2-A
Matrix: Water
Analysis Batch: 317940

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 317054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1.25	1.10		mg/L		88	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-317376/1-A
Matrix: Water
Analysis Batch: 317535

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 317376

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		06/03/20 19:40	06/04/20 17:34	1

Lab Sample ID: LCS 180-317376/2-A
Matrix: Water
Analysis Batch: 317535

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 317376

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00233		mg/L		93	80 - 120

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

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

Lab Sample ID: 180-106373-1 MS
Matrix: Water
Analysis Batch: 317535

Client Sample ID: ARGWC-23
Prep Type: Total/NA
Prep Batch: 317376
 %Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	<0.00013		0.00100	0.000878		mg/L		88	75 - 125

Lab Sample ID: 180-106373-1 MSD
Matrix: Water
Analysis Batch: 317535

Client Sample ID: ARGWC-23
Prep Type: Total/NA
Prep Batch: 317376
 %Rec. RPD

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	<0.00013		0.00100	0.000871		mg/L		87	75 - 125	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-316997/2
Matrix: Water
Analysis Batch: 316997

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			05/30/20 08:44	1

Lab Sample ID: LCS 180-316997/1
Matrix: Water
Analysis Batch: 316997

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	192	204		mg/L		106	80 - 120

Lab Sample ID: 180-106373-3 DU
Matrix: Water
Analysis Batch: 316997

Client Sample ID: DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	330		308		mg/L		6	10

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

HPLC/IC

Analysis Batch: 317665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-106373-2	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-106373-2	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-106373-3	DUP	Total/NA	Water	EPA 300.0 R2.1	
180-106373-4	EB	Total/NA	Water	EPA 300.0 R2.1	
MB 180-317665/54	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-317665/53	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-106373-1 MS	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-106373-1 MSD	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 317054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total Recoverable	Water	3005A	
180-106373-2	ARGWC-22	Total Recoverable	Water	3005A	
180-106373-3	DUP	Total Recoverable	Water	3005A	
180-106373-4	EB	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	

Prep Batch: 317376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total/NA	Water	7470A	
180-106373-2	ARGWC-22	Total/NA	Water	7470A	
180-106373-3	DUP	Total/NA	Water	7470A	
180-106373-4	EB	Total/NA	Water	7470A	
MB 180-317376/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-317376/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-106373-1 MS	ARGWC-23	Total/NA	Water	7470A	
180-106373-1 MSD	ARGWC-23	Total/NA	Water	7470A	

Analysis Batch: 317535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total/NA	Water	EPA 7470A	317376
180-106373-2	ARGWC-22	Total/NA	Water	EPA 7470A	317376
180-106373-3	DUP	Total/NA	Water	EPA 7470A	317376
180-106373-4	EB	Total/NA	Water	EPA 7470A	317376
MB 180-317376/1-A	Method Blank	Total/NA	Water	EPA 7470A	317376
LCS 180-317376/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	317376
180-106373-1 MS	ARGWC-23	Total/NA	Water	EPA 7470A	317376
180-106373-1 MSD	ARGWC-23	Total/NA	Water	EPA 7470A	317376

Analysis Batch: 317672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total Recoverable	Water	EPA 6020B	317054
180-106373-2	ARGWC-22	Total Recoverable	Water	EPA 6020B	317054
180-106373-3	DUP	Total Recoverable	Water	EPA 6020B	317054
180-106373-4	EB	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

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

Metals

Analysis Batch: 317940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total Recoverable	Water	EPA 6020B	317054
180-106373-2	ARGWC-22	Total Recoverable	Water	EPA 6020B	317054
180-106373-3	DUP	Total Recoverable	Water	EPA 6020B	317054
180-106373-4	EB	Total Recoverable	Water	EPA 6020B	317054
LCS 180-317054/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	317054

General Chemistry

Analysis Batch: 316997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total/NA	Water	SM 2540C	
180-106373-2	ARGWC-22	Total/NA	Water	SM 2540C	
180-106373-3	DUP	Total/NA	Water	SM 2540C	
180-106373-4	EB	Total/NA	Water	SM 2540C	
MB 180-316997/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-316997/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-106373-3 DU	DUP	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 317243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total/NA	Water	Field Sampling	
180-106373-2	ARGWC-22	Total/NA	Water	Field Sampling	

Chain of Custody Record

681-Atlanta



Environment Testing
 America

Client Information Client Contact: Joju Abraham Company: Southern Company Address: 241 Ralph McGill Blvd SE B101B5 City: Atlanta State: Ga Zip: GA, 30308 Phone: SCS10382606 Email: JAbraham@southernco.com Project Name: CCR - Plant Arkwright App III/IV Site: Georgia		Lab PM: Brown, Shali E-Mail: shali.brown@testamericainc.com Carrier Tracking No(s): COC No: 180-60862-12387.1 Page: Page 1 of 1 Job #:	
Due Date Requested: Standard TAT Requested (days):		Analysis Requested 915_Ra226 - Radium 226 Ra226Ra228_GFP - Ra 226/228 920_Ra228 - Radium 228 300_ORGM_28D - Chloride Fluoride Sulfate 6020B_7470A 2540C_Calcd - Solids, Total Dissolved (TDS) 6020B - Lead	
Sample Identification ARGWC-23 ARGWC-22 DUP EB ARGWC-10 Temp Blank	Sample Date 5/27/20 ↓ 1910	Sample Time 1623 1852 - 1440 1910	Sample Type (C=Comp, G=grab) G G G G G
Matrix (Water, E-waste, D-waste, Air) W W W W W		Field Filtered Sample (Yes or No) X X X X X X	
Perform MS/MSD (Yes or No) X X X X X		Total Number of Containers 1	
Special Instructions/Note: PH = 6.30 PH = 5.69 PH = 5.98		Special Instructions/Note: 180-106373 Chain of Custody	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant 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/OC Requirements:	
Empty Kit Relinquished by: Relinquished by: Daniel K Howard Relinquished by:		Date: 5/28/20/1415 Date/Time: 5-29-20 Date/Time: 845 Date/Time:	
Custody Seals Intact Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	



ORIGIN ID: NCOA (770) 421-3348
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 61222014292002

Sample Receiving Phone 412 963

301 Alpha Drive, Pittsb

Alpha Drive RIDC Park

State 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



8121 9394 6105

Total Packages

Total Weight

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Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-106373-1

Login Number: 106373

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	



Product Name: Low-Flow System

Date: 2020-05-27 18:54:49

Project Information:

Operator Name Nicholas McMillan
Company Name Wood
Project Name Plant Arkwright Ash Pond 2
Site Name ARGWC-22
Latitude 32° 55' 17.97"
Longitude -83° -42' -10.21"
Sonde SN 601533
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type PINE Peristaltic
Tubing Type HDP
Tubing Diameter 0.17 in
Tubing Length 27.8 ft

Pump placement from TOC 22.8 ft

Well Information:

Well ID ARGWC-22
Well diameter 2 in
Well Total Depth 27.78 ft
Screen Length 10 ft
Depth to Water 13.37 ft

Pumping Information:

Final Pumping Rate 150 mL/min
Total System Volume 0.2140832 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 4.92 in
Total Volume Pumped 15 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	18:31:39	4204.01	18.74	5.69	1.58	7.19	13.78	0.08	54.33
Last 5	18:36:39	4504.01	18.79	5.68	1.59	6.39	13.78	0.08	54.56
Last 5	18:41:39	4804.01	18.88	5.68	1.57	6.34	13.78	0.07	53.94
Last 5	18:46:39	5104.01	18.83	5.69	1.57	4.89	13.78	0.07	53.14
Last 5	18:51:39	5404.01	18.83	5.69	1.57	4.72	13.78	0.07	52.72
Variance 0			0.09	0.00	-0.01			-0.00	-0.62
Variance 1			-0.04	0.01	-0.00			-0.00	-0.80
Variance 2			0.00	0.00	-0.00			-0.00	-0.42

Notes

Sample collected 1852

Grab Samples

Product Name: Low-Flow System

Date: 2020-05-27 16:23:40

Project Information:

Operator Name Nicholas McMillan
Company Name Wood
Project Name Plant Arkwright Ash Pond 2
Site Name ARGWC-23
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 601533
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type PINE Peristaltic Pump
Tubing Type HDP
Tubing Diameter .17 in
Tubing Length 27.2 ft

Pump placement from TOC 22.2 ft

Well Information:

Well ID ARGWC-23
Well diameter 2 in
Well Total Depth 27.21 ft
Screen Length 10 ft
Depth to Water 11.50 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.2114051 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0 in
Total Volume Pumped 4 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	16:00:33	900.03	20.71	6.32	0.50	2.34	14.03	0.16	82.63
Last 5	16:05:33	1200.02	20.61	6.31	0.50	2.01	13.58	0.19	83.05
Last 5	16:10:33	1500.02	20.66	6.31	0.50	1.48	13.71	0.17	82.04
Last 5	16:15:33	1800.02	20.57	6.30	0.50	2.53	13.71	0.15	82.19
Last 5	16:20:35	2102.02	20.48	6.30	0.50	1.59	13.65	0.16	82.10
Variance 0			0.05	-0.00	0.00			-0.02	-1.01
Variance 1			-0.09	-0.01	-0.00			-0.01	0.14
Variance 2			-0.09	0.00	0.00			0.01	-0.09

Notes

Arrived at 1510; DUP-1
Sample collected at 1623; DUP

Grab Samples

ANALYTICAL REPORT

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

Laboratory Job ID: 180-101057-1
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 1:54:30 PM
Kathy Myers, Project Management Assistant I
(412)963-2447
kathy.myers@testamericainc.com

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

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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: 180-101057-1

Job ID: 180-101057-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-101057-1

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: 180-101057-1

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: 180-101057-1

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: 180-101057-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-101057-1	ARAMW-1	Water	01/14/20 13:20	01/16/20 08:30	
180-101057-2	ARAMW-2	Water	01/14/20 14:39	01/16/20 08:30	

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Method Summary

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

Job ID: 180-101057-1

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: 180-101057-1

Client Sample ID: ARAMW-1

Date Collected: 01/14/20 13:20

Date Received: 01/16/20 08:30

Lab Sample ID: 180-101057-1

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 00:46	WTR	TAL PIT

Instrument ID: M

Client Sample ID: ARAMW-2

Date Collected: 01/14/20 14:39

Date Received: 01/16/20 08:30

Lab Sample ID: 180-101057-2

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 01:11	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: 180-101057-1

Client Sample ID: ARAMW-1

Date Collected: 01/14/20 13:20

Date Received: 01/16/20 08:30

Lab Sample ID: 180-101057-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0090		0.0050	0.0034	mg/L		01/16/20 11:43	01/18/20 00:46	1
Boron	1.1		0.080	0.039	mg/L		01/16/20 11:43	01/18/20 00:46	1

Client Sample ID: ARAMW-2

Date Collected: 01/14/20 14:39

Date Received: 01/16/20 08:30

Lab Sample ID: 180-101057-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.086		0.0050	0.0034	mg/L		01/16/20 11:43	01/18/20 01:11	1
Boron	1.8		0.080	0.039	mg/L		01/16/20 11:43	01/18/20 01:11	1

QC Sample Results

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

Job ID: 180-101057-1

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
Lithium	<0.0034		0.0050	0.0034	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	%Rec. Limits
Lithium	0.500	0.490		mg/L		98	80 - 120
Boron	1.25	1.11		mg/L		89	80 - 120

Lab Sample ID: 180-101057-1 MS
Matrix: Water
Analysis Batch: 304363

Client Sample ID: ARAMW-1
Prep Type: Total Recoverable
Prep Batch: 304164

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.0090		0.500	0.539		mg/L		106	75 - 125
Boron	1.1		1.25	2.23		mg/L		91	75 - 125

Lab Sample ID: 180-101057-1 MSD
Matrix: Water
Analysis Batch: 304363

Client Sample ID: ARAMW-1
Prep Type: Total Recoverable
Prep Batch: 304164

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lithium	0.0090		0.500	0.530		mg/L		104	75 - 125	2	20
Boron	1.1		1.25	2.22		mg/L		91	75 - 125	0	20

QC Association Summary

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

Job ID: 180-101057-1

Metals

Prep Batch: 304164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101057-1	ARAMW-1	Total Recoverable	Water	3005A	
180-101057-2	ARAMW-2	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	
180-101057-1 MS	ARAMW-1	Total Recoverable	Water	3005A	
180-101057-1 MSD	ARAMW-1	Total Recoverable	Water	3005A	

Analysis Batch: 304363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101057-1	ARAMW-1	Total Recoverable	Water	EPA 6020B	304164
180-101057-2	ARAMW-2	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
180-101057-1 MS	ARAMW-1	Total Recoverable	Water	EPA 6020B	304164
180-101057-1 MSD	ARAMW-1	Total Recoverable	Water	EPA 6020B	304164

Chain of Custody Record

Client Information Client Contact: Jojo Abraham Southern Company Address: PO BOX 2641 GSCB Birmingham State, Zip: AL, 35291 Phone: Email: JAbraham@southernco.com Project Name: CCR Plant, Arkwright - Ash Pond 2 Site: Georgia		Sample: Ryan Walker Lab PM: Veronica Bost Phone: 770-594-5998 E-Mail: Veronica.Bost@testamerica.com		Carrier Tracking No(s): COC No: 400-73521-29028.1 Page: Job #:				
Due Date Requested: TAT Requested (days): 2 DAY TAT PO #: SCS10347656 WO #: Project #: 40007712 SSOW#		Analysis Requested Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Metals (boron and lithium) <input checked="" type="checkbox"/> Total Number of Containers:						
Sample Identification ARAMW-1 ARAMW-2		Sample Date 1-14-20 1-14-20	Sample Time 1320 1439	Sample Type (C=Comp, G=grab) G G	Matrix (Powder, S=solid, O=organic, ST=Stoichiometric Acid) Water Water	Preservation Code G G	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Metals (boron and lithium) <input checked="" type="checkbox"/> Total Number of Containers:	Special Instructions/Note: 180-101057 Chain of Custody
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, IV, Other (specify)						
Empty Kit Relinquished by:		Date:		Method of Shipment:				
Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature]		Date Time: 1-15-20 / 1430 Date Time: 1-15-20 / 1610 Date Time: 1-16-20 / 830		Company: AEC Company: GTR Company: ETAPIT		Received by: [Signature] Received by: [Signature] Received by: [Signature]		
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:						



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101057-1

Login Number: 101057

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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: 2020-01-14 13:21:04

Project Information:

Operator Name Ryan Walker
Company Name Atlantic Coast Consulting
Project Name Plant Arkwright - Ash Pond 2
Site Name Plant Arkwright
Latitude 32° 55' 17.15"
Longitude -83° -42' -7.91"
Sonde SN 369557
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type poly
Tubing Diameter .17 in
Tubing Length 45 ft

Pump placement from TOC 40 ft

Well Information:

Well ID ARAMW-1
Well diameter 2 in
Well Total Depth 45.33 ft
Screen Length 10 ft
Depth to Water 7.92 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.290854 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 2 in
Total Volume Pumped 5.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 0.3	+/- 10
Last 5	12:58:23	300.04	19.64	6.17	768.47	1.01	8.10	0.31	21.97
Last 5	13:03:23	600.02	19.50	6.13	768.28	1.38	8.10	0.25	17.88
Last 5	13:08:23	900.01	19.45	6.10	766.99	1.05	8.10	0.24	16.57
Last 5	13:13:23	1200.00	19.40	6.08	768.19	1.05	8.10	0.23	15.27
Last 5	13:18:23	1499.99	19.36	6.07	767.66	0.90	8.10	0.22	12.68
Variance 0			-0.05	-0.03	-1.28			-0.01	-1.31
Variance 1			-0.05	-0.02	1.20			-0.01	-1.30
Variance 2			-0.05	-0.01	-0.53			-0.01	-2.59

Notes

Sampled at 13:20. Cloudy, 60's.

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-14 14:40:23

Project Information:

Operator Name Ryan Walker
Company Name Atlantic Coast Consulting
Project Name Plant Arkwright - Ash Pond 2
Site Name Plant Arkwright
Latitude 32° 55' 16.98"
Longitude -83° -42' -8.02"
Sonde SN 369557
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type poly
Tubing Diameter .17 in
Tubing Length 24 ft

Pump placement from TOC 19 ft

Well Information:

Well ID ARAMW-2
Well diameter 2 in
Well Total Depth 24.84 ft
Screen Length 10 ft
Depth to Water 7.56 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.1971222 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 1 in
Total Volume Pumped 9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 0.3	+/- 10
Last 5	14:19:43	1500.00	18.91	6.11	1156.91	4.22	7.60	0.19	-23.22
Last 5	14:24:43	1799.99	18.87	6.11	1188.26	2.33	7.60	0.17	-23.41
Last 5	14:29:43	2099.99	18.89	6.11	1215.88	1.14	7.60	0.15	-23.45
Last 5	14:34:43	2399.98	18.87	6.12	1240.83	0.86	7.60	0.15	-23.49
Last 5	14:39:43	2699.98	18.87	6.12	1251.67	3.01	7.60	0.14	-23.37
Variance 0			0.02	0.01	27.62			-0.02	-0.04
Variance 1			-0.02	0.01	24.95			0.00	-0.05
Variance 2			-0.00	0.00	10.84			-0.01	0.13

Notes

Sampled at 14:39. Raining, 60's.

Grab Samples

ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-184345-1
Laboratory Sample Delivery Group: Ash Pond 2
Client Project/Site: CCR - Plant Arkwright

For:
Southern Company
PO BOX 2641 GSC8
Birmingham, Alabama 35291

Attn: Joju Abraham



Authorized for release by:
2/27/2020 4:49:35 PM

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

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www.testamericainc.com

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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.



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Case Narrative

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

Job ID: 400-184345-1
SDG: Ash Pond 2

Job ID: 400-184345-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

**Job Narrative
400-184345-1**

Comments

No additional comments.

Receipt

The sample was received on 2/25/2020 9:33 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

Metals

Method 6020: The ISTD recovery outside SOP's criteria. The LCS recover within SOP's limits; therefore data is report.

(CCV 400-479706/29) and (LCS 400-479414/2-A ^5)

Method 6020: The matrix spike and matrix spike duplicate (MS/MSD) for the following sample associated with preparation batch 400-479414 and analytical batch 400-479706 recovered outside acceptance limits for Lithium, (400-184345-A-1-B MS ^5) and (400-184345-A-1-C MSD ^5). A post digestion spike (PDS) was performed with acceptable recoveries obtained. The results have been reported.

Method 6020: The ISTD recover outside SOP's criteria.

(CCB 400-479706/37)

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

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Detection Summary

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

Job ID: 400-184345-1
SDG: Ash Pond 2

Client Sample ID: ARAMW-2

Lab Sample ID: 400-184345-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.19	F2 F1	0.0050	0.0019	mg/L	5		6020	Total Recoverable

- 1
- 2
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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Sample Summary

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

Job ID: 400-184345-1
SDG: Ash Pond 2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-184345-1	ARAMW-2	Water	02/24/20 10:11	02/25/20 09:33	

- 1
- 2
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Client Sample Results

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

Job ID: 400-184345-1
SDG: Ash Pond 2

Client Sample ID: ARAMW-2

Lab Sample ID: 400-184345-1

Date Collected: 02/24/20 10:11

Matrix: Water

Date Received: 02/25/20 09:33

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.19	F2 F1	0.0050	0.0019	mg/L		02/25/20 15:15	02/26/20 19:20	5

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Definitions/Glossary

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

Job ID: 400-184345-1
SDG: Ash Pond 2

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

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)

QC Association Summary

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

Job ID: 400-184345-1
SDG: Ash Pond 2

Metals

Prep Batch: 479414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-184345-1	ARAMW-2	Total Recoverable	Water	3005A	
MB 400-479414/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-479414/2-A ^5	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 479706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-184345-1	ARAMW-2	Total Recoverable	Water	6020	479414
MB 400-479414/1-A ^5	Method Blank	Total Recoverable	Water	6020	479414
LCS 400-479414/2-A ^5	Lab Control Sample	Total Recoverable	Water	6020	479414

QC Sample Results

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

Job ID: 400-184345-1
 SDG: Ash Pond 2

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-479414/1-A ^5
Matrix: Water
Analysis Batch: 479706

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479414

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0019		0.0050	0.0019	mg/L		02/25/20 15:15	02/26/20 19:09	5

Lab Sample ID: LCS 400-479414/2-A ^5
Matrix: Water
Analysis Batch: 479706

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lithium	0.0500	0.0472		mg/L		94	80 - 120

Lab Chronicle

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

Job ID: 400-184345-1
SDG: Ash Pond 2

Client Sample ID: ARAMW-2

Lab Sample ID: 400-184345-1

Date Collected: 02/24/20 10:11

Matrix: Water

Date Received: 02/25/20 09:33

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	479414	02/25/20 15:15	NET	TAL PEN
Total Recoverable	Analysis	6020		5			479706	02/26/20 19:20	LDC	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-479414/1-A ^5

Date Collected: N/A

Matrix: Water

Date Received: N/A

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	479414	02/25/20 15:15	NET	TAL PEN
Total Recoverable	Analysis	6020		5	1.0 mL	5 mL	479706	02/26/20 19:09	LDC	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-479414/2-A ^5

Date Collected: N/A

Matrix: Water

Date Received: N/A

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	479414	02/25/20 15:15	NET	TAL PEN
Total Recoverable	Analysis	6020		5	1.0 mL	5 mL	479706	02/26/20 19:14	LDC	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Method Summary

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

Job ID: 400-184345-1
SDG: Ash Pond 2

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

Protocol References:

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

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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Accreditation/Certification Summary

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

Job ID: 400-184345-1
 SDG: Ash Pond 2

Laboratory: Eurofins TestAmerica, Pensacola

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

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-23-23
Arizona	State	AZ0710	01-13-21
Arkansas DEQ	State	88-0689	09-01-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	004586	10-09-19 *
Illinois	NELAP	004586	10-09-20
Iowa	State	367	08-01-20
Kansas	NELAP	E-10253	08-16-20
Kentucky (UST)	State	53	06-30-20
Kentucky (WW)	State	KY98030	12-31-20
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	State	LA017	12-31-20
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-20
New Jersey	NELAP	FL006	06-30-20
New York	NELAP	12115	04-30-20
New York	NELAP Secondary AB	12115	04-01-20
North Carolina (WW/SW)	State	314	12-31-20
Oklahoma	State	9810-186	08-31-20
Pennsylvania	NELAP	68-00467	01-31-21
Rhode Island	State	LAO00307	12-30-20
South Carolina	State	96026002	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20
West Virginia DEP	State	136	06-30-20

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

Accreditation/Certification Summary

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

Job ID: 400-184345-1
 SDG: Ash Pond 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	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.



400-184345 COC

Client Information
 Client Contact: Johu Abraham
 Southern Company
 Address: PO BOX 2641 GSC6
 City: Birmingham
 State, Zip: AL, 35291
 Phone: _____
 Email: JAbraham@southernco.com
 Project Name: CCR Plant Arkwright - Ash Pond 2
 Site: Georgia

Sample Information
 Sample: Biosol
 Phone: 770-592-5448
 Lab P/N: Bortot, Veronica
 E-Mail: <Veronica.Bortot@testamericainc.com>
 Carrier Tracking No(s): _____

Analysis Requested
 Due Date Requested: _____
 TAT Requested (days): 2 DAY!
 PO #: SCS10347656
 WO #: _____
 Project #: 40007712
 SSC/W#: _____

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Ice, Other)	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Metals App. III and App IV (EPA 6020/470)	100 ORGFM_250 - Chloride, Fluoride & Sulfate, 2540C	TDS	Radium 226 & 228 (SW-846 9315/9320)	D N D	Lithium 6020	Total Number of Containers	Special Instructions/Note:
					Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)										
ARAWW-Z	2/24/20	1011	G	Water											1	
			G	Water												
			G	Water												
			G	Water												
			G	Water												
			G	Water												
			G	Water												
			G	Water												
			G	Water												
			G	Water												
			G	Water												

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify) _____
 Return To Client Disposal By Lab Archive For _____ Months

Empty Kit Relinquished by: _____
 Relinquished by: [Signature] Date: 2/24/20 Time: 12:30 Company: ATA
 Relinquished by: [Signature] Date/Time: 2/24/20 16:00 Company: ATA
 Relinquished by: [Signature] Date/Time: 2-25-20 9:33 Company: ATA

Cooler Temperature(s) °C and Other Remarks: 2-2°C 1R8

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-184345-1

SDG Number: Ash Pond 2

Login Number: 184345

List Source: Eurofins TestAmerica, Pensacola

List Number: 1

Creator: Conrady, Hank W

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.	N/A	
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	2.2°C IR-8
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").	N/A	
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: 2/24/2020 9:00:21 AM

Project: Plant Arkwright - Ash Pond 2

Operator Name: Jordan Berisford

Location Name: ARAMW-2 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 14.84 ft Total Depth: 24.84 ft Initial Depth to Water: 12.07 ft	Pump Type: Peri Pump Tubing Type: Poly Pump Intake From TOC: 19 ft Estimated Total Volume Pumped: 25 L Flow Cell Volume: 90 ml Final Flow Rate: 350 ml/min Final Draw Down: 3 in	Instrument Used: Aqua TROLL 400 Serial Number: 714302
--	---	--

Test Notes:

Sampled at 10:11

Purged over 3 wells volumes.

3 well volumes =23,204 ml

Weather Conditions:

Light rain, 60s

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 100	+/- 100	+/- 0.3	
2/24/2020 9:00 AM	00:00	5.18 pH	14.08 °C	750.54 µS/cm	2.39 mg/L		156.0 mV	12.07 ft	350.00 ml/min
2/24/2020 9:05 AM	05:00	5.15 pH	14.22 °C	823.95 µS/cm	1.60 mg/L	52.00 NTU	136.1 mV	12.20 ft	350.00 ml/min
2/24/2020 9:10 AM	10:00	5.11 pH	13.95 °C	873.69 µS/cm	1.29 mg/L	24.00 NTU	166.4 mV	12.30 ft	350.00 ml/min
2/24/2020 9:15 AM	15:00	5.10 pH	14.38 °C	921.22 µS/cm	1.04 mg/L	17.00 NTU	165.3 mV	12.30 ft	350.00 ml/min
2/24/2020 9:20 AM	20:00	5.07 pH	14.43 °C	955.09 µS/cm	0.89 mg/L	11.00 NTU	123.3 mV	12.30 ft	350.00 ml/min
2/24/2020 9:25 AM	25:00	5.07 pH	14.51 °C	987.90 µS/cm	0.80 mg/L	10.00 NTU	159.6 mV	12.30 ft	350.00 ml/min
2/24/2020 9:29 AM	29:10	5.07 pH	14.79 °C	1,015.0 µS/cm	0.73 mg/L	9.12 NTU	160.6 mV	12.30 ft	350.00 ml/min
2/24/2020 9:34 AM	34:10	5.00 pH	14.97 °C	1,030.5 µS/cm	0.66 mg/L	7.38 NTU	121.9 mV	12.30 ft	350.00 ml/min
2/24/2020 9:36 AM	36:11	5.06 pH	14.86 °C	1,032.7 µS/cm	0.64 mg/L	6.68 NTU	155.9 mV	12.30 ft	350.00 ml/min
2/24/2020 9:41 AM	41:11	5.02 pH	14.85 °C	1,045.6 µS/cm	0.62 mg/L	6.07 NTU	160.5 mV	12.30 ft	350.00 ml/min
2/24/2020 9:46 AM	46:11	5.03 pH	14.82 °C	1,054.9 µS/cm	0.60 mg/L	5.39 NTU	120.2 mV	12.30 ft	350.00 ml/min
2/24/2020 9:51 AM	51:11	5.05 pH	14.80 °C	1,058.4 µS/cm	0.58 mg/L	4.72 NTU	159.2 mV	12.30 ft	350.00 ml/min

2/24/2020 9:56 AM	56:11	5.03 pH	14.80 °C	1,061.4 µS/cm	0.58 mg/L	4.63 NTU	119.6 mV	12.30 ft	350.00 ml/min
2/24/2020 10:01 AM	01:01:11	5.07 pH	15.14 °C	1,061.8 µS/cm	0.57 mg/L	4.35 NTU	118.5 mV	12.30 ft	350.00 ml/min
2/24/2020 10:06 AM	01:06:11	5.02 pH	15.19 °C	1,058.8 µS/cm	0.56 mg/L	4.54 NTU	117.4 mV	12.30 ft	350.00 ml/min
2/24/2020 10:11 AM	01:11:11	5.05 pH	14.98 °C	1,053.0 µS/cm	0.56 mg/L	4.64 NTU	116.8 mV	12.30 ft	350.00 ml/min
2/24/2020 10:11 AM	01:11:35	5.06 pH	14.95 °C	1,053.6 µS/cm	0.56 mg/L	4.64 NTU	145.7 mV	12.30 ft	350.00 ml/min

Samples

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

ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-184504-1
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:
2/29/2020 8:07:11 PM

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

LINKS

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results through
TotalAccess

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.



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Case Narrative

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

Job ID: 400-184504-1

Job ID: 400-184504-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

**Job Narrative
400-184504-1**

Comments

No additional comments.

Receipt

The sample was received on 2/27/2020 9:25 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

Metals

Methods 200.8, 6020, 6020B: The ICV for 400-480013 passed recovery/accuracy criteria which serves the ICV purpose of verifying the calibration standards. The replicate RSD for the elements were outside of the criteria for standards but within the criteria for field samples. Data has therefore been reported and narrated accordingly.

(ICV 400-480013/15)

Method 6020B: The ICV for 400-480057 passed recovery/accuracy criteria which serves the ICV purpose of verifying the calibration standards. The replicate RSD for the elements were outside of the criteria for standards but within the criteria for field samples. Data has therefore been reported and narrated accordingly.

(ICV 400-480057/12)

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



Detection Summary

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

Job ID: 400-184504-1

Client Sample ID: ARAMW-1

Lab Sample ID: 400-184504-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	4.6	J	5.0	1.9	ug/L	5		6020B	Total Recoverable

- 1
- 2
- 3
- 4
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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Sample Summary

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

Job ID: 400-184504-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-184504-1	ARAMW-1	Water	02/26/20 13:40	02/27/20 09:25	

- 1
- 2
- 3
- 4
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- 6
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- 12
- 13
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Client Sample Results

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

Job ID: 400-184504-1

Client Sample ID: ARAMW-1

Lab Sample ID: 400-184504-1

Date Collected: 02/26/20 13:40

Matrix: Water

Date Received: 02/27/20 09:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	4.6	J	5.0	1.9	ug/L		02/28/20 10:17	02/29/20 14:56	5

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Definitions/Glossary

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

Job ID: 400-184504-1

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)

QC Association Summary

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

Job ID: 400-184504-1

Metals

Prep Batch: 479853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-184504-1	ARAMW-1	Total Recoverable	Water	3005A	
MB 400-479853/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-479853/2-A ^5	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 480057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-184504-1	ARAMW-1	Total Recoverable	Water	6020B	479853
MB 400-479853/1-A ^5	Method Blank	Total Recoverable	Water	6020B	479853
LCS 400-479853/2-A ^5	Lab Control Sample	Total Recoverable	Water	6020B	479853

QC Sample Results

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

Job ID: 400-184504-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 400-479853/1-A ^5
Matrix: Water
Analysis Batch: 480057

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479853

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<1.9		5.0	1.9	ug/L		02/28/20 10:17	02/29/20 14:45	5

Lab Sample ID: LCS 400-479853/2-A ^5
Matrix: Water
Analysis Batch: 480057

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479853

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lithium	50.0	48.0		ug/L		96	80 - 120



Lab Chronicle

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

Job ID: 400-184504-1

Client Sample ID: ARAMW-1

Lab Sample ID: 400-184504-1

Date Collected: 02/26/20 13:40

Matrix: Water

Date Received: 02/27/20 09:25

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	479853	02/28/20 10:17	NET	TAL PEN
Total Recoverable	Analysis	6020B		5			480057	02/29/20 14:56	LDC	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-479853/1-A ^5

Date Collected: N/A

Matrix: Water

Date Received: N/A

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	479853	02/28/20 10:17	NET	TAL PEN
Total Recoverable	Analysis	6020B		5			480057	02/29/20 14:45	LDC	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-479853/2-A ^5

Date Collected: N/A

Matrix: Water

Date Received: N/A

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	479853	02/28/20 10:17	NET	TAL PEN
Total Recoverable	Analysis	6020B		5			480057	02/29/20 14:51	LDC	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Method Summary

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

Job ID: 400-184504-1

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

Protocol References:

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

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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Accreditation/Certification Summary

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

Job ID: 400-184504-1

Laboratory: Eurofins TestAmerica, Pensacola

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

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-23-23
Arizona	State	AZ0710	01-13-21
Arkansas DEQ	State	88-0689	09-01-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	004586	10-09-19 *
Illinois	NELAP	004586	10-09-20
Iowa	State	367	08-01-20
Kansas	NELAP	E-10253	08-16-20
Kentucky (UST)	State	53	06-30-20
Kentucky (WW)	State	KY98030	12-31-20
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	State	LA017	12-31-20
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-20
New Jersey	NELAP	FL006	06-30-20
New York	NELAP	12115	04-30-20
New York	NELAP Secondary AB	12115	04-01-20
North Carolina (WW/SW)	State	314	12-31-20
Oklahoma	State	9810-186	08-31-20
Pennsylvania	NELAP	68-00467	01-31-21
Rhode Island	State	LAO00307	12-30-20
South Carolina	State	96026002	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20
West Virginia DEP	State	136	06-30-20

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

Accreditation/Certification Summary

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

Job ID: 400-184504-1

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.



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-184504-1

Login Number: 184504

List Source: Eurofins TestAmerica, Pensacola

List Number: 1

Creator: Hinrichsen, Megan E

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.	N/A	
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	3.6°C IR-8
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").	N/A	
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: 2/26/2020 11:14:59 AM

Project: Plant Arkwright - Ash Pond 2

Operator Name: H. Auld

Location Name: ARAMW-1 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 35 ft Total Depth: 45.33 ft Initial Depth to Water: 8.85 ft	Pump Type: Peristaltic Pump Tubing Type: Poly Pump Intake From TOC: 40 ft Estimated Total Volume Pumped: 68 liter Flow Cell Volume: 90 ml Final Flow Rate: 400 ml/min Final Draw Down: 9 in	Instrument Used: Aqua TROLL 400 Serial Number: 714344
--	--	--

Test Notes:

Sampled at 1340 on 2-26-20. Purged 3 well volumes.

Weather Conditions:

Cloudy, 60s.

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 100	+/- 0.3	
2/26/2020 11:14 AM	00:00	6.31 pH	17.63 °C	461.84 µS/cm	0.80 mg/L		42.3 mV	8.85 ft	400.00 ml/min
2/26/2020 11:19 AM	05:00	6.29 pH	18.16 °C	421.89 µS/cm	0.34 mg/L	3.70 NTU	35.7 mV	9.40 ft	400.00 ml/min
2/26/2020 11:24 AM	10:00	6.28 pH	18.25 °C	420.70 µS/cm	0.26 mg/L	3.80 NTU	32.0 mV	9.40 ft	400.00 ml/min
2/26/2020 11:29 AM	15:00	6.26 pH	18.25 °C	422.51 µS/cm	0.22 mg/L	3.00 NTU	30.0 mV	9.40 ft	400.00 ml/min
2/26/2020 11:34 AM	20:00	6.24 pH	18.30 °C	422.25 µS/cm	0.20 mg/L	3.00 NTU	27.5 mV	9.40 ft	400.00 ml/min
2/26/2020 11:39 AM	25:00	6.20 pH	18.36 °C	419.38 µS/cm	0.21 mg/L	2.10 NTU	25.1 mV	9.50 ft	400.00 ml/min
2/26/2020 11:44 AM	30:00	6.19 pH	18.36 °C	418.62 µS/cm	0.21 mg/L	1.90 NTU	23.8 mV	9.50 ft	400.00 ml/min
2/26/2020 11:49 AM	35:00	6.17 pH	18.41 °C	419.70 µS/cm	0.20 mg/L	1.80 NTU	23.6 mV	9.50 ft	400.00 ml/min
2/26/2020 11:54 AM	40:00	6.16 pH	18.52 °C	421.77 µS/cm	0.20 mg/L	1.50 NTU	24.1 mV	9.50 ft	400.00 ml/min
2/26/2020 11:59 AM	45:00	6.15 pH	18.52 °C	423.39 µS/cm	0.21 mg/L	1.50 NTU	24.7 mV	9.50 ft	400.00 ml/min
2/26/2020 12:04 PM	50:00	6.15 pH	18.54 °C	423.74 µS/cm	0.22 mg/L	1.80 NTU	24.7 mV	9.50 ft	400.00 ml/min
2/26/2020 12:09 PM	55:00	6.14 pH	18.52 °C	424.86 µS/cm	0.24 mg/L	1.60 NTU	25.2 mV	9.50 ft	400.00 ml/min
2/26/2020 12:14 PM	01:00:00	6.13 pH	18.52 °C	426.32 µS/cm	0.25 mg/L	1.30 NTU	25.3 mV	9.50 ft	400.00 ml/min

2/26/2020 12:19 PM	01:05:00	6.13 pH	18.51 °C	426.61 µS/cm	0.26 mg/L	1.30 NTU	25.9 mV	9.50 ft	400.00 ml/min
2/26/2020 12:24 PM	01:10:00	6.13 pH	18.51 °C	425.45 µS/cm	0.28 mg/L	1.40 NTU	28.6 mV	9.50 ft	400.00 ml/min
2/26/2020 12:29 PM	01:15:00	6.13 pH	18.44 °C	428.36 µS/cm	0.29 mg/L	1.40 NTU	26.5 mV	9.50 ft	400.00 ml/min
2/26/2020 12:34 PM	01:20:00	6.13 pH	18.43 °C	430.28 µS/cm	0.31 mg/L	1.20 NTU	26.8 mV	9.50 ft	400.00 ml/min
2/26/2020 12:39 PM	01:25:00	6.13 pH	18.44 °C	429.43 µS/cm	0.32 mg/L	1.10 NTU	26.9 mV	9.50 ft	400.00 ml/min
2/26/2020 12:44 PM	01:30:00	6.13 pH	18.43 °C	430.72 µS/cm	0.33 mg/L	1.00 NTU	27.3 mV	9.50 ft	400.00 ml/min
2/26/2020 12:49 PM	01:35:00	6.12 pH	18.43 °C	430.75 µS/cm	0.35 mg/L	1.00 NTU	27.4 mV	9.50 ft	400.00 ml/min
2/26/2020 12:54 PM	01:40:00	6.13 pH	18.46 °C	432.46 µS/cm	0.36 mg/L	1.10 NTU	28.8 mV	9.50 ft	400.00 ml/min
2/26/2020 12:59 PM	01:45:00	6.13 pH	18.52 °C	431.94 µS/cm	0.38 mg/L	1.10 NTU	28.1 mV	9.50 ft	400.00 ml/min
2/26/2020 1:04 PM	01:50:00	6.13 pH	18.49 °C	432.65 µS/cm	0.40 mg/L	1.10 NTU	28.1 mV	9.50 ft	400.00 ml/min
2/26/2020 1:09 PM	01:55:00	6.13 pH	18.47 °C	434.21 µS/cm	0.41 mg/L	1.00 NTU	28.2 mV	9.60 ft	400.00 ml/min
2/26/2020 1:14 PM	02:00:00	6.14 pH	18.43 °C	434.31 µS/cm	0.42 mg/L	1.00 NTU	28.1 mV	9.60 ft	400.00 ml/min
2/26/2020 1:19 PM	02:05:00	6.14 pH	18.42 °C	434.33 µS/cm	0.43 mg/L	1.00 NTU	28.2 mV	9.60 ft	400.00 ml/min
2/26/2020 1:24 PM	02:10:00	6.14 pH	18.34 °C	437.19 µS/cm	0.45 mg/L	0.90 NTU	28.6 mV	9.60 ft	400.00 ml/min
2/26/2020 1:29 PM	02:15:00	6.14 pH	18.32 °C	436.94 µS/cm	0.47 mg/L	0.90 NTU	28.4 mV	9.60 ft	400.00 ml/min
2/26/2020 1:34 PM	02:20:00	6.15 pH	18.28 °C	436.99 µS/cm	0.48 mg/L	1.00 NTU	28.2 mV	9.60 ft	400.00 ml/min

Samples

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

ANALYTICAL REPORT

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

Laboratory Job ID: 180-104442-1

Client Project/Site: CCR - Plant Arkwright Ash Pond 2
Revision: 2

For:

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

Attn: Joju Abraham



Authorized for release by:
5/11/2020 1:30:49 PM

Veronica Bortot, Senior Project Manager
(412)963-2435

veronica.bortot@testamericainc.com

Designee for

Shali Brown, Project Manager II
(615)301-5031

shali.brown@testamericainc.com

LINKS

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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 2

Job ID: 180-104442-1

Job ID: 180-104442-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

**Job Narrative
180-104442-1**

Comments

050520 Revised report to add 6020 metals; this report replaces the report previously issued on 050420.

Receipt

The samples were received on 4/9/2020 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.4° C, 1.6° C and 1.8° 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 2

Job ID: 180-104442-1

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
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 2

Job ID: 180-104442-1

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 2

Job ID: 180-104442-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-104442-1	ARGWA-19	Water	04/07/20 10:08	04/09/20 08:20	
180-104442-2	ARGWA-20	Water	04/06/20 16:22	04/09/20 08:20	
180-104442-3	ARGWC-21	Water	04/07/20 16:19	04/09/20 08:20	
180-104442-4	EB-2-4-7-20	Water	04/07/20 14:45	04/09/20 08:20	
180-104442-5	FB-2-4-6-20	Water	04/06/20 15:20	04/09/20 08:20	
180-104442-6	DUP-2	Water	04/07/20 00:00	04/09/20 08:20	
180-104442-7	ARGWC-22	Water	04/07/20 14:18	04/09/20 08:20	
180-104442-8	ARGWC-23	Water	04/07/20 12:00	04/09/20 08:20	

Method Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

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

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 2

Job ID: 180-104442-1

Client Sample ID: ARGWA-19

Lab Sample ID: 180-104442-1

Date Collected: 04/07/20 10:08

Matrix: Water

Date Received: 04/09/20 08:20

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			313124	04/17/20 23:21	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312570	04/10/20 08:53	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313140	04/16/20 21:51	WTR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			312629	04/07/20 10:08	FDS	TAL PIT

Client Sample ID: ARGWA-20

Lab Sample ID: 180-104442-2

Date Collected: 04/06/20 16:22

Matrix: Water

Date Received: 04/09/20 08:20

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			313124	04/17/20 23:36	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312570	04/10/20 08:53	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313140	04/16/20 21:54	WTR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			312629	04/06/20 16:22	FDS	TAL PIT

Client Sample ID: ARGWC-21

Lab Sample ID: 180-104442-3

Date Collected: 04/07/20 16:19

Matrix: Water

Date Received: 04/09/20 08:20

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			313124	04/17/20 21:34	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312570	04/10/20 08:53	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313140	04/16/20 21:57	WTR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			312629	04/07/20 16:19	FDS	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

Client Sample ID: EB-2-4-7-20

Lab Sample ID: 180-104442-4

Date Collected: 04/07/20 14:45

Matrix: Water

Date Received: 04/09/20 08:20

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			313124	04/17/20 22:04	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312570	04/10/20 08:53	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313140	04/16/20 22:07	WTR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT

Client Sample ID: FB-2-4-6-20

Lab Sample ID: 180-104442-5

Date Collected: 04/06/20 15:20

Matrix: Water

Date Received: 04/09/20 08:20

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			313124	04/17/20 22:19	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312570	04/10/20 08:53	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313140	04/16/20 22:10	WTR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312562	04/10/20 07:53	AVS	TAL PIT

Client Sample ID: DUP-2

Lab Sample ID: 180-104442-6

Date Collected: 04/07/20 00:00

Matrix: Water

Date Received: 04/09/20 08:20

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			313124	04/17/20 22:35	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312570	04/10/20 08:53	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313140	04/16/20 22:14	WTR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT

Client Sample ID: ARGWC-22

Lab Sample ID: 180-104442-7

Date Collected: 04/07/20 14:18

Matrix: Water

Date Received: 04/09/20 08:20

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			313124	04/18/20 02:24	SAC	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		10			313124	04/18/20 02:39	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	312570	04/10/20 08:53	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			313140	04/16/20 22:17	WTR	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-104442-7

Date Collected: 04/07/20 14:18

Matrix: Water

Date Received: 04/09/20 08:20

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	312559	04/10/20 07:50	AVS	TAL PIT
Total/NA	Analysis	Field Sampling		1			312629	04/07/20 14:18	FDS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-23

Lab Sample ID: 180-104442-8

Date Collected: 04/07/20 12:00

Matrix: Water

Date Received: 04/09/20 08:20

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			313124	04/17/20 21:18	SAC	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	312570	04/10/20 08:53	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			313140	04/16/20 22:20	WTR	TAL PIT
Instrument ID: A										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			312629	04/07/20 12:00	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: Prep

KEM = Kimberly Mahoney

Batch Type: Analysis

AVS = Abbey Smith

FDS = Sampler Field

SAC = Shawn Clemente

WTR = Bill Reinheimer

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

Client Sample ID: ARGWA-19

Lab Sample ID: 180-104442-1

Date Collected: 04/07/20 10:08

Matrix: Water

Date Received: 04/09/20 08:20

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			04/17/20 23:21	1
Fluoride	0.14		0.10	0.026	mg/L			04/17/20 23:21	1
Sulfate	8.4		1.0	0.38	mg/L			04/17/20 23:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00060	J	0.0010	0.00031	mg/L		04/10/20 08:53	04/16/20 21:51	1
Barium	0.047		0.010	0.0016	mg/L		04/10/20 08:53	04/16/20 21:51	1
Boron	0.072	J	0.080	0.039	mg/L		04/10/20 08:53	04/16/20 21:51	1
Cadmium	0.00034	J	0.0025	0.00022	mg/L		04/10/20 08:53	04/16/20 21:51	1
Calcium	14		0.50	0.13	mg/L		04/10/20 08:53	04/16/20 21:51	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/10/20 08:53	04/16/20 21:51	1
Cobalt	0.00038	J	0.0025	0.00013	mg/L		04/10/20 08:53	04/16/20 21:51	1
Lead	0.00037	J	0.0010	0.00013	mg/L		04/10/20 08:53	04/16/20 21:51	1
Lithium	0.0053		0.0050	0.0034	mg/L		04/10/20 08:53	04/16/20 21:51	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/10/20 08:53	04/16/20 21:51	1
Silver	0.00018	J	0.0010	0.00018	mg/L		04/10/20 08:53	04/16/20 21:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	120		10	10	mg/L			04/10/20 07:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.72				SU			04/07/20 10:08	1

Client Sample ID: ARGWA-20

Lab Sample ID: 180-104442-2

Date Collected: 04/06/20 16:22

Matrix: Water

Date Received: 04/09/20 08:20

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			04/17/20 23:36	1
Fluoride	0.059	J	0.10	0.026	mg/L			04/17/20 23:36	1
Sulfate	15		1.0	0.38	mg/L			04/17/20 23:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00042	J	0.0010	0.00031	mg/L		04/10/20 08:53	04/16/20 21:54	1
Barium	0.075		0.010	0.0016	mg/L		04/10/20 08:53	04/16/20 21:54	1
Boron	0.063	J	0.080	0.039	mg/L		04/10/20 08:53	04/16/20 21:54	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		04/10/20 08:53	04/16/20 21:54	1
Calcium	9.5		0.50	0.13	mg/L		04/10/20 08:53	04/16/20 21:54	1
Chromium	0.0057		0.0020	0.0015	mg/L		04/10/20 08:53	04/16/20 21:54	1
Cobalt	0.00039	J	0.00050	0.00013	mg/L		04/10/20 08:53	04/16/20 21:54	1
Lead	0.00033	J	0.0010	0.00013	mg/L		04/10/20 08:53	04/16/20 21:54	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/10/20 08:53	04/16/20 21:54	1
Selenium	0.0017	J	0.0050	0.0015	mg/L		04/10/20 08:53	04/16/20 21:54	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/10/20 08:53	04/16/20 21:54	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

Client Sample ID: ARGWA-20

Lab Sample ID: 180-104442-2

Date Collected: 04/06/20 16:22

Matrix: Water

Date Received: 04/09/20 08:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	90		10	10	mg/L			04/10/20 07:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.53				SU			04/06/20 16:22	1

Client Sample ID: ARGWC-21

Lab Sample ID: 180-104442-3

Date Collected: 04/07/20 16:19

Matrix: Water

Date Received: 04/09/20 08:20

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			04/17/20 21:34	1
Fluoride	0.12		0.10	0.026	mg/L			04/17/20 21:34	1
Sulfate	180		1.0	0.38	mg/L			04/17/20 21:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00054	J	0.0010	0.00031	mg/L		04/10/20 08:53	04/16/20 21:57	1
Barium	0.050		0.010	0.0016	mg/L		04/10/20 08:53	04/16/20 21:57	1
Boron	0.74		0.080	0.039	mg/L		04/10/20 08:53	04/16/20 21:57	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		04/10/20 08:53	04/16/20 21:57	1
Calcium	69		0.50	0.13	mg/L		04/10/20 08:53	04/16/20 21:57	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/10/20 08:53	04/16/20 21:57	1
Cobalt	0.00087		0.00050	0.00013	mg/L		04/10/20 08:53	04/16/20 21:57	1
Lead	0.00026	J	0.0010	0.00013	mg/L		04/10/20 08:53	04/16/20 21:57	1
Lithium	0.011		0.0050	0.0034	mg/L		04/10/20 08:53	04/16/20 21:57	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/10/20 08:53	04/16/20 21:57	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/10/20 08:53	04/16/20 21:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	460		10	10	mg/L			04/10/20 07:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.96				SU			04/07/20 16:19	1

Client Sample ID: EB-2-4-7-20

Lab Sample ID: 180-104442-4

Date Collected: 04/07/20 14:45

Matrix: Water

Date Received: 04/09/20 08:20

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			04/17/20 22:04	1
Fluoride	0.053	J	0.10	0.026	mg/L			04/17/20 22:04	1
Sulfate	<0.38		1.0	0.38	mg/L			04/17/20 22:04	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		04/10/20 08:53	04/16/20 22:07	1
Barium	<0.0016		0.010	0.0016	mg/L		04/10/20 08:53	04/16/20 22:07	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

Client Sample ID: EB-2-4-7-20

Lab Sample ID: 180-104442-4

Date Collected: 04/07/20 14:45

Matrix: Water

Date Received: 04/09/20 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		04/10/20 08:53	04/16/20 22:07	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		04/10/20 08:53	04/16/20 22:07	1
Calcium	0.16	J	0.50	0.13	mg/L		04/10/20 08:53	04/16/20 22:07	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/10/20 08:53	04/16/20 22:07	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		04/10/20 08:53	04/16/20 22:07	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/10/20 08:53	04/16/20 22:07	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/10/20 08:53	04/16/20 22:07	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/10/20 08:53	04/16/20 22:07	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/10/20 08:53	04/16/20 22:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			04/10/20 07:50	1

Client Sample ID: FB-2-4-6-20

Lab Sample ID: 180-104442-5

Date Collected: 04/06/20 15:20

Matrix: Water

Date Received: 04/09/20 08:20

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			04/17/20 22:19	1
Fluoride	0.048	J	0.10	0.026	mg/L			04/17/20 22:19	1
Sulfate	<0.38		1.0	0.38	mg/L			04/17/20 22:19	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		04/10/20 08:53	04/16/20 22:10	1
Barium	<0.0016		0.010	0.0016	mg/L		04/10/20 08:53	04/16/20 22:10	1
Boron	<0.039		0.080	0.039	mg/L		04/10/20 08:53	04/16/20 22:10	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		04/10/20 08:53	04/16/20 22:10	1
Calcium	0.16	J	0.50	0.13	mg/L		04/10/20 08:53	04/16/20 22:10	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/10/20 08:53	04/16/20 22:10	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		04/10/20 08:53	04/16/20 22:10	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/10/20 08:53	04/16/20 22:10	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/10/20 08:53	04/16/20 22:10	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/10/20 08:53	04/16/20 22:10	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/10/20 08:53	04/16/20 22:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			04/10/20 07:53	1

Client Sample ID: DUP-2

Lab Sample ID: 180-104442-6

Date Collected: 04/07/20 00:00

Matrix: Water

Date Received: 04/09/20 08:20

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			04/17/20 22:35	1
Fluoride	0.065	J	0.10	0.026	mg/L			04/17/20 22:35	1
Sulfate	8.1		1.0	0.38	mg/L			04/17/20 22:35	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

Client Sample ID: DUP-2

Lab Sample ID: 180-104442-6

Date Collected: 04/07/20 00:00

Matrix: Water

Date Received: 04/09/20 08:20

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		04/10/20 08:53	04/16/20 22:14	1
Barium	0.044		0.010	0.0016	mg/L		04/10/20 08:53	04/16/20 22:14	1
Boron	<0.039		0.080	0.039	mg/L		04/10/20 08:53	04/16/20 22:14	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		04/10/20 08:53	04/16/20 22:14	1
Calcium	14		0.50	0.13	mg/L		04/10/20 08:53	04/16/20 22:14	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/10/20 08:53	04/16/20 22:14	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		04/10/20 08:53	04/16/20 22:14	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/10/20 08:53	04/16/20 22:14	1
Lithium	0.0041	J	0.0050	0.0034	mg/L		04/10/20 08:53	04/16/20 22:14	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/10/20 08:53	04/16/20 22:14	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/10/20 08:53	04/16/20 22:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	130		10	10	mg/L			04/10/20 07:50	1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-104442-7

Date Collected: 04/07/20 14:18

Matrix: Water

Date Received: 04/09/20 08:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.1		1.0	0.32	mg/L			04/18/20 02:24	1
Fluoride	0.068	J	0.10	0.026	mg/L			04/18/20 02:24	1
Sulfate	710		10	3.8	mg/L			04/18/20 02:39	10

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		04/10/20 08:53	04/16/20 22:17	1
Barium	0.040		0.010	0.0016	mg/L		04/10/20 08:53	04/16/20 22:17	1
Boron	2.6		0.080	0.039	mg/L		04/10/20 08:53	04/16/20 22:17	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		04/10/20 08:53	04/16/20 22:17	1
Calcium	190		0.50	0.13	mg/L		04/10/20 08:53	04/16/20 22:17	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/10/20 08:53	04/16/20 22:17	1
Cobalt	0.0090		0.00050	0.00013	mg/L		04/10/20 08:53	04/16/20 22:17	1
Lead	0.00014	J	0.0010	0.00013	mg/L		04/10/20 08:53	04/16/20 22:17	1
Lithium	0.012		0.0050	0.0034	mg/L		04/10/20 08:53	04/16/20 22:17	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/10/20 08:53	04/16/20 22:17	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/10/20 08:53	04/16/20 22:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10	10	mg/L			04/10/20 07:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.84				SU			04/07/20 14:18	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-104442-8

Date Collected: 04/07/20 12:00

Matrix: Water

Date Received: 04/09/20 08:20

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			04/17/20 21:18	1
Fluoride	0.18		0.10	0.026	mg/L			04/17/20 21:18	1
Sulfate	58		1.0	0.38	mg/L			04/17/20 21:18	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		04/10/20 08:53	04/16/20 22:20	1
Barium	0.16		0.010	0.0016	mg/L		04/10/20 08:53	04/16/20 22:20	1
Boron	0.44		0.080	0.039	mg/L		04/10/20 08:53	04/16/20 22:20	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		04/10/20 08:53	04/16/20 22:20	1
Calcium	65		0.50	0.13	mg/L		04/10/20 08:53	04/16/20 22:20	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/10/20 08:53	04/16/20 22:20	1
Cobalt	0.0016		0.00050	0.00013	mg/L		04/10/20 08:53	04/16/20 22:20	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/10/20 08:53	04/16/20 22:20	1
Lithium	0.032		0.0050	0.0034	mg/L		04/10/20 08:53	04/16/20 22:20	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/10/20 08:53	04/16/20 22:20	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/10/20 08:53	04/16/20 22:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	290		10	10	mg/L			04/10/20 07:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.40				SU			04/07/20 12:00	1

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

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

Lab Sample ID: MB 180-313124/39
Matrix: Water
Analysis Batch: 313124

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			04/17/20 15:27	1
Fluoride	<0.026		0.10	0.026	mg/L			04/17/20 15:27	1
Sulfate	<0.38		1.0	0.38	mg/L			04/17/20 15:27	1

Lab Sample ID: MB 180-313124/75
Matrix: Water
Analysis Batch: 313124

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 00:37	1
Fluoride	<0.026		0.10	0.026	mg/L			04/18/20 00:37	1
Sulfate	<0.38		1.0	0.38	mg/L			04/18/20 00:37	1

Lab Sample ID: LCS 180-313124/38
Matrix: Water
Analysis Batch: 313124

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	48.8		mg/L		98	90 - 110
Fluoride	2.50	2.51		mg/L		100	90 - 110
Sulfate	50.0	47.7		mg/L		95	90 - 110

Lab Sample ID: LCS 180-313124/74
Matrix: Water
Analysis Batch: 313124

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	47.9		mg/L		96	90 - 110
Fluoride	2.50	2.45		mg/L		98	90 - 110
Sulfate	50.0	47.3		mg/L		95	90 - 110

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

Lab Sample ID: MB 180-312570/1-A
Matrix: Water
Analysis Batch: 313140

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 312570

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		04/10/20 08:53	04/16/20 21:28	1
Barium	<0.0016		0.010	0.0016	mg/L		04/10/20 08:53	04/16/20 21:28	1
Boron	<0.039		0.080	0.039	mg/L		04/10/20 08:53	04/16/20 21:28	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		04/10/20 08:53	04/16/20 21:28	1
Calcium	<0.13		0.50	0.13	mg/L		04/10/20 08:53	04/16/20 21:28	1
Chromium	<0.0015		0.0020	0.0015	mg/L		04/10/20 08:53	04/16/20 21:28	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		04/10/20 08:53	04/16/20 21:28	1
Lead	<0.00013		0.0010	0.00013	mg/L		04/10/20 08:53	04/16/20 21:28	1
Lithium	<0.0034		0.0050	0.0034	mg/L		04/10/20 08:53	04/16/20 21:28	1
Selenium	<0.0015		0.0050	0.0015	mg/L		04/10/20 08:53	04/16/20 21:28	1
Silver	<0.00018		0.0010	0.00018	mg/L		04/10/20 08:53	04/16/20 21:28	1

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QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

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

Lab Sample ID: LCS 180-312570/2-A
Matrix: Water
Analysis Batch: 313140

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 312570

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	0.978		mg/L		98	80 - 120
Boron	1.25	1.16		mg/L		93	80 - 120
Cadmium	0.500	0.508		mg/L		102	80 - 120
Calcium	25.0	27.9		mg/L		112	80 - 120
Chromium	0.500	0.488		mg/L		98	80 - 120
Cobalt	0.500	0.506		mg/L		101	80 - 120
Lead	0.500	0.502		mg/L		100	80 - 120
Lithium	0.500	0.456		mg/L		91	80 - 120
Selenium	1.00	0.946		mg/L		95	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-312559/2
Matrix: Water
Analysis Batch: 312559

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			04/10/20 07:50	1

Lab Sample ID: LCS 180-312559/1
Matrix: Water
Analysis Batch: 312559

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	286		mg/L		118	80 - 120

Lab Sample ID: MB 180-312562/2
Matrix: Water
Analysis Batch: 312562

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			04/10/20 07:53	1

Lab Sample ID: LCS 180-312562/1
Matrix: Water
Analysis Batch: 312562

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	262		mg/L		108	80 - 120

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

HPLC/IC

Analysis Batch: 313124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104442-1	ARGWA-19	Total/NA	Water	EPA 300.0 R2.1	
180-104442-2	ARGWA-20	Total/NA	Water	EPA 300.0 R2.1	
180-104442-3	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
180-104442-4	EB-2-4-7-20	Total/NA	Water	EPA 300.0 R2.1	
180-104442-5	FB-2-4-6-20	Total/NA	Water	EPA 300.0 R2.1	
180-104442-6	DUP-2	Total/NA	Water	EPA 300.0 R2.1	
180-104442-7	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-104442-7	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-104442-8	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
MB 180-313124/39	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
MB 180-313124/75	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-313124/38	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-313124/74	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 312570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104442-1	ARGWA-19	Total Recoverable	Water	3005A	
180-104442-2	ARGWA-20	Total Recoverable	Water	3005A	
180-104442-3	ARGWC-21	Total Recoverable	Water	3005A	
180-104442-4	EB-2-4-7-20	Total Recoverable	Water	3005A	
180-104442-5	FB-2-4-6-20	Total Recoverable	Water	3005A	
180-104442-6	DUP-2	Total Recoverable	Water	3005A	
180-104442-7	ARGWC-22	Total Recoverable	Water	3005A	
180-104442-8	ARGWC-23	Total Recoverable	Water	3005A	
MB 180-312570/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-312570/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 313140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104442-1	ARGWA-19	Total Recoverable	Water	EPA 6020B	312570
180-104442-2	ARGWA-20	Total Recoverable	Water	EPA 6020B	312570
180-104442-3	ARGWC-21	Total Recoverable	Water	EPA 6020B	312570
180-104442-4	EB-2-4-7-20	Total Recoverable	Water	EPA 6020B	312570
180-104442-5	FB-2-4-6-20	Total Recoverable	Water	EPA 6020B	312570
180-104442-6	DUP-2	Total Recoverable	Water	EPA 6020B	312570
180-104442-7	ARGWC-22	Total Recoverable	Water	EPA 6020B	312570
180-104442-8	ARGWC-23	Total Recoverable	Water	EPA 6020B	312570
MB 180-312570/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	312570
LCS 180-312570/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	312570

General Chemistry

Analysis Batch: 312559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104442-1	ARGWA-19	Total/NA	Water	SM 2540C	
180-104442-2	ARGWA-20	Total/NA	Water	SM 2540C	
180-104442-3	ARGWC-21	Total/NA	Water	SM 2540C	
180-104442-4	EB-2-4-7-20	Total/NA	Water	SM 2540C	
180-104442-6	DUP-2	Total/NA	Water	SM 2540C	
180-104442-7	ARGWC-22	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-1

General Chemistry (Continued)

Analysis Batch: 312559 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104442-8	ARGWC-23	Total/NA	Water	SM 2540C	
MB 180-312559/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-312559/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 312562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104442-5	FB-2-4-6-20	Total/NA	Water	SM 2540C	
MB 180-312562/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-312562/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 312629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104442-1	ARGWA-19	Total/NA	Water	Field Sampling	
180-104442-2	ARGWA-20	Total/NA	Water	Field Sampling	
180-104442-3	ARGWC-21	Total/NA	Water	Field Sampling	
180-104442-7	ARGWC-22	Total/NA	Water	Field Sampling	
180-104442-8	ARGWC-23	Total/NA	Water	Field Sampling	

Chain of Custody Record

Client Information Client Contact: Joju Abraham Company: Southern Company Address: PO BOX 2841 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: _____ Email: JAbraham@southernco.com Project Name: CCR Plant Artwright - Ash Pond 2 - 1st 2020 SA GWMM Site: Georgia		Lab PM: Veronica Bartot E-Mail: Veronica.Bartot@southern.com Phone: 770-594-5998		Carrier Tracking Note: Acc to TA CCC No: 400-73521-29028.1 Page: 1 of 1 Job #: _____	
Due Date Requested: _____ TAT Requested (days): _____ PO #: SCS10347656 WO #: _____		Analysis Requested Metals - App III (Boron, Calcium) <input checked="" type="checkbox"/> 300_ORGFM_28D - Chloride, Fluoride & Sulfate, 2540C - <input checked="" type="checkbox"/> State Metals (Arsenic, Barium, Cadmium, Lead, Silver, and Selenium) <input checked="" type="checkbox"/> (SW-846 9315/9320) Detected As: Metals (Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Lithium, Selenium) <input checked="" type="checkbox"/> Total Number of Containers: _____			
Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <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 - D1 Water K - EDTA L - EDA Other: _____ M - Hexane N - None O - AsHClO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)			
Sample Identification Sample Date Sample Time Sample Type (IC=Comp, G=grab) Matrix (W=Water, E=Soil, O=Organic, RT=Residual)		Special Instructions/Note: pH = 5.72 pH = 5.53 pH = 5.96 pH = _____ pH = _____ pH = _____ pH = 5.84 pH = 6.40 pH = _____			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input checked="" type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal Special Instructions/OC Requirements: 180-104442 Chain of Custody			
Deliverable Requested: I, II, III, IV, Other (specify) _____ Empty Kit Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date/Time: 4-8-20 / 1515 Company: ACC Relinquished by: _____ Date/Time: 4-8-20 / 1516 Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____		Method of Shipment: _____ Date/Time: 4-8-20 Date/Time: 4-8-20 Date/Time: _____ Company: _____ Company: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks: _____			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No: _____		Detected APP IV: Arsenic, Barium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Selenium, Barium			



Environment Testing

RT 97

1 15:00
A 3347
04.09

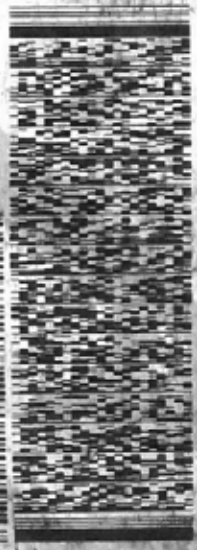
ORIGIN ID: LIVA (678) 966-8954
GEORGE TAYLOR
EUROFINS TESTAMERICA
6500 MCCONOUGH DRIVE
SUITE C110
NORCROSS, GA 30093
UNITED STATES US

SHIP DATE: 08APR20
ACT WT: 54.15 LB
CRD: 859116/CFE3313

BILL RECIPIENT

TO
SAMPLE RECEIVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238

(412) 963-7068
REF: ACC



THU - 09 APR 3:00P
STANDARD OVERNIGHT

1 of 3
TRM# 1516 9323 3347
0201
MASTER

NA AGCA

15238
PA-US
PIT

Uncorrected temp _____ °C
Thermometer ID 17
CF 0 Initials TS
FT-WI-SR-001 effective 11/8/15



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

Environment Testing
TestAmerica

16

04:00
13:00
3:35B
A

SHIP DATE: 08APR20
ACTWT: 54.15 LB
CAD: 859116/CAFE3313

BILL RECIPIENT

ORIGIN ID: L1YA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTAMERICA
8500 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) 963-7068
REF: ACC

FedEx
Express



THU - 09 APR 3:00P
STANDARD OVERNIGHT

2 of 3
MPS# 1516 9323 3358
Mstr# 1516 9323 3347

0201

NA AGCA

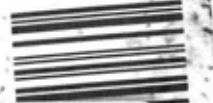
Uncorrected temp
Thermometer ID

1.4 / 17 °C

CF 0 Initials JS

PT-WA-SR-001 effective 11/8/16

15238
PIT
PA-US



eurofins

Environment Testing
TestAmerica

SHIP DATE: 08APR20
ACTWT: 54.15 LB
CAD: 859116/CAFE3313

BILL RECIPIENT

ORIGIN ID: L1YA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTAMERICA
8500 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) 963-7068
REF: ACC

FedEx
Express



THU - 09 APR 3:00
STANDARD OVERNIGHT

3 of 3
MPS# 1516 9323 3369
Mstr# 1516 9323 3347

0201

NA AGCA

Uncorrected temp
Thermometer ID

1.6 / 17 °C

CF Initials JS

PT-WA-SR-001 effective 11/8/16

15238
PIT
PA-US



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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-104442-1

Login Number: 104442

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: 180-104442-2

Client Project/Site: CCR - Plant Arkwright Ash Pond 2

For:

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

Attn: Joju Abraham



Authorized for release by:
5/11/2020 1:47:54 PM

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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 2

Job ID: 180-104442-2

Job ID: 180-104442-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-104442-2

Receipt

The samples were received on 4/9/2020 8:20 AM; the samples arrived in good condition, properly preserved, and where required, on ice. The temperatures of the 3 coolers at receipt time were 1.4°C, 1.6°C and 1.8°C

Department Gas Flow Proportional Counter

Method 9315_Ra226: Radium 226 Prep Batch 160-467807:

Insufficient sample volume was available to perform a sample duplicate for the following samples: ARGWA-19 (180-104442-1), ARGWA-20 (180-104442-2), ARGWC-21 (180-104442-3), EB-2-4-7-20 (180-104442-4), FB-2-4-6-20 (180-104442-5), DUP-2 (180-104442-6), ARGWC-22 (180-104442-7) and ARGWC-23 (180-104442-8). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision

Method 9315_Ra226: Radium-226 Prep Batch 160-467807

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-19 (180-104442-1), ARGWA-20 (180-104442-2), ARGWC-21 (180-104442-3), EB-2-4-7-20 (180-104442-4), FB-2-4-6-20 (180-104442-5), DUP-2 (180-104442-6), ARGWC-22 (180-104442-7), ARGWC-23 (180-104442-8), (LCS 160-467807/1-A), (LCSD 160-467807/2-A) and (MB 160-467807/23-A)

Method 9320_Ra228: Radium 228 Prep Batch 160-467811:

Insufficient sample volume was available to perform a sample duplicate for the following samples: ARGWA-19 (180-104442-1), ARGWA-20 (180-104442-2), ARGWC-21 (180-104442-3), EB-2-4-7-20 (180-104442-4), FB-2-4-6-20 (180-104442-5), DUP-2 (180-104442-6), ARGWC-22 (180-104442-7) and ARGWC-23 (180-104442-8). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision

Method 9320_Ra228: Ra-228 Prep Batch 160-467811

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-19 (180-104442-1), ARGWA-20 (180-104442-2), ARGWC-21 (180-104442-3), EB-2-4-7-20 (180-104442-4), FB-2-4-6-20 (180-104442-5), DUP-2 (180-104442-6), ARGWC-22 (180-104442-7), ARGWC-23 (180-104442-8), (LCS 160-467811/1-A), (LCSD 160-467811/2-A) and (MB 160-467811/23-

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 2

Job ID: 180-104442-2

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 2

Job ID: 180-104442-2

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.



Accreditation/Certification Summary

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

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 2

Job ID: 180-104442-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-104442-1	ARGWA-19	Water	04/07/20 10:08	04/09/20 08:20	
180-104442-2	ARGWA-20	Water	04/06/20 16:22	04/09/20 08:20	
180-104442-3	ARGWC-21	Water	04/07/20 16:19	04/09/20 08:20	
180-104442-4	EB-2-4-7-20	Water	04/07/20 14:45	04/09/20 08:20	
180-104442-5	FB-2-4-6-20	Water	04/06/20 15:20	04/09/20 08:20	
180-104442-6	DUP-2	Water	04/07/20 00:00	04/09/20 08:20	
180-104442-7	ARGWC-22	Water	04/07/20 14:18	04/09/20 08:20	
180-104442-8	ARGWC-23	Water	04/07/20 12:00	04/09/20 08:20	



Method Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

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 2

Job ID: 180-104442-2

Client Sample ID: ARGWA-19

Lab Sample ID: 180-104442-1

Date Collected: 04/07/20 10:08

Matrix: Water

Date Received: 04/09/20 08:20

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			1000.58 mL	1.0 g	467807	04/15/20 06:56	RBR	TAL SL
Total/NA	Analysis	9315		1			469778	05/07/20 04:15	KLS	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.58 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis	9320		1			469238	04/30/20 12:36	KRR	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			469788	05/07/20 09:21	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWA-20

Lab Sample ID: 180-104442-2

Date Collected: 04/06/20 16:22

Matrix: Water

Date Received: 04/09/20 08:20

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			1000.14 mL	1.0 g	467807	04/15/20 06:56	RBR	TAL SL
Total/NA	Analysis	9315		1			469778	05/07/20 04:15	KLS	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.14 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis	9320		1			469238	04/30/20 12:36	KRR	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			469788	05/07/20 09:21	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-21

Lab Sample ID: 180-104442-3

Date Collected: 04/07/20 16:19

Matrix: Water

Date Received: 04/09/20 08:20

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			1000.65 mL	1.0 g	467807	04/15/20 06:56	RBR	TAL SL
Total/NA	Analysis	9315		1			469778	05/07/20 04:15	KLS	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.65 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis	9320		1			469238	04/30/20 12:36	KRR	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			469788	05/07/20 09:21	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: EB-2-4-7-20

Lab Sample ID: 180-104442-4

Date Collected: 04/07/20 14:45

Matrix: Water

Date Received: 04/09/20 08:20

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			1000.14 mL	1.0 g	467807	04/15/20 06:56	RBR	TAL SL
Total/NA	Analysis	9315		1			469778	05/07/20 06:06	KLS	TAL SL
Instrument ID: GFPCRED										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Client Sample ID: EB-2-4-7-20

Lab Sample ID: 180-104442-4

Date Collected: 04/07/20 14:45

Matrix: Water

Date Received: 04/09/20 08:20

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			1000.14 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis	9320		1			469238	04/30/20 12:36	KRR	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			469788	05/07/20 09:21	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: FB-2-4-6-20

Lab Sample ID: 180-104442-5

Date Collected: 04/06/20 15:20

Matrix: Water

Date Received: 04/09/20 08:20

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			1000.23 mL	1.0 g	467807	04/15/20 06:56	RBR	TAL SL
Total/NA	Analysis	9315		1			469778	05/07/20 06:06	KLS	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.23 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis	9320		1			469237	04/30/20 12:31	KRR	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			469788	05/07/20 09:21	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: DUP-2

Lab Sample ID: 180-104442-6

Date Collected: 04/07/20 00:00

Matrix: Water

Date Received: 04/09/20 08:20

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			1000.43 mL	1.0 g	467807	04/15/20 06:56	RBR	TAL SL
Total/NA	Analysis	9315		1			469778	05/07/20 06:06	KLS	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.43 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis	9320		1			469237	04/30/20 12:31	KRR	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			469788	05/07/20 09:21	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-22

Lab Sample ID: 180-104442-7

Date Collected: 04/07/20 14:18

Matrix: Water

Date Received: 04/09/20 08:20

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	467807	04/15/20 06:56	RBR	TAL SL
Total/NA	Analysis	9315		1			469778	05/07/20 06:06	KLS	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.35 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis	9320		1			469237	04/30/20 12:31	KRR	TAL SL
Instrument ID: GFPCORANGE										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Client Sample ID: ARGWC-22

Date Collected: 04/07/20 14:18

Date Received: 04/09/20 08:20

Lab Sample ID: 180-104442-7

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	Ra226_Ra228		1			469788	05/07/20 09:21	SMP	TAL SL

Client Sample ID: ARGWC-23

Date Collected: 04/07/20 12:00

Date Received: 04/09/20 08:20

Lab Sample ID: 180-104442-8

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			1000.88 mL	1.0 g	467807	04/15/20 06:56	RBR	TAL SL
Total/NA	Analysis	9315		1			469778	05/07/20 06:06	KLS	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.88 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis	9320		1			469237	04/30/20 12:32	KRR	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			469788	05/07/20 09:21	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

KLS = Kody Saulters

KRR = Kellene Robbs

SMP = Siobhan Perry

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Client Sample ID: ARGWA-19

Lab Sample ID: 180-104442-1

Date Collected: 04/07/20 10:08

Matrix: Water

Date Received: 04/09/20 08:20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.215		0.0981	0.100	1.00	0.107	pCi/L	04/15/20 06:56	05/07/20 04:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					04/15/20 06:56	05/07/20 04:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.437	U	0.299	0.301	1.00	0.463	pCi/L	04/15/20 08:04	04/30/20 12:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					04/15/20 08:04	04/30/20 12:36	1
Y Carrier	82.6		40 - 110					04/15/20 08:04	04/30/20 12:36	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	0.651		0.315	0.317	2.00	0.463	pCi/L		05/07/20 09:21	1

Client Sample ID: ARGWA-20

Lab Sample ID: 180-104442-2

Date Collected: 04/06/20 16:22

Matrix: Water

Date Received: 04/09/20 08:20

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	0.0765	0.0770	1.00	0.111	pCi/L	04/15/20 06:56	05/07/20 04:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					04/15/20 06:56	05/07/20 04:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0276	U	0.229	0.229	1.00	0.412	pCi/L	04/15/20 08:04	04/30/20 12:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					04/15/20 08:04	04/30/20 12:36	1
Y Carrier	87.1		40 - 110					04/15/20 08:04	04/30/20 12:36	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Client Sample ID: ARGWA-20

Date Collected: 04/06/20 16:22

Date Received: 04/09/20 08:20

Lab Sample ID: 180-104442-2

Matrix: Water

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	0.0720	U	0.241	0.242	2.00	0.412	pCi/L		05/07/20 09:21	1

Client Sample ID: ARGWC-21

Date Collected: 04/07/20 16:19

Date Received: 04/09/20 08:20

Lab Sample ID: 180-104442-3

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	0.0259	U	0.0574	0.0574	1.00	0.106	pCi/L	04/15/20 06:56	05/07/20 04:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		40 - 110					04/15/20 06:56	05/07/20 04:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.407	U	0.330	0.333	1.00	0.525	pCi/L	04/15/20 08:04	04/30/20 12:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		40 - 110					04/15/20 08:04	04/30/20 12:36	1
Y Carrier	74.0		40 - 110					04/15/20 08:04	04/30/20 12:36	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	0.433	U	0.335	0.338	2.00	0.525	pCi/L		05/07/20 09:21	1

Client Sample ID: EB-2-4-7-20

Date Collected: 04/07/20 14:45

Date Received: 04/09/20 08:20

Lab Sample ID: 180-104442-4

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	0.0255	U	0.0475	0.0475	1.00	0.0858	pCi/L	04/15/20 06:56	05/07/20 06:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					04/15/20 06:56	05/07/20 06:06	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Client Sample ID: EB-2-4-7-20

Lab Sample ID: 180-104442-4

Date Collected: 04/07/20 14:45

Matrix: Water

Date Received: 04/09/20 08:20

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.170	U	0.266	0.266	1.00	0.447	pCi/L	04/15/20 08:04	04/30/20 12:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					04/15/20 08:04	04/30/20 12:36	1
Y Carrier	83.4		40 - 110					04/15/20 08:04	04/30/20 12:36	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	0.196	U	0.270	0.270	2.00	0.447	pCi/L		05/07/20 09:21	1

Client Sample ID: FB-2-4-6-20

Lab Sample ID: 180-104442-5

Date Collected: 04/06/20 15:20

Matrix: Water

Date Received: 04/09/20 08:20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.104	U	0.0827	0.0832	1.00	0.123	pCi/L	04/15/20 06:56	05/07/20 06:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					04/15/20 06:56	05/07/20 06:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0661	U	0.207	0.208	1.00	0.363	pCi/L	04/15/20 08:04	04/30/20 12:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					04/15/20 08:04	04/30/20 12:31	1
Y Carrier	83.0		40 - 110					04/15/20 08:04	04/30/20 12:31	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	0.170	U	0.223	0.224	2.00	0.363	pCi/L		05/07/20 09:21	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Client Sample ID: DUP-2

Lab Sample ID: 180-104442-6

Date Collected: 04/07/20 00:00

Matrix: Water

Date Received: 04/09/20 08:20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.104		0.0653	0.0660	1.00	0.0804	pCi/L	04/15/20 06:56	05/07/20 06:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					04/15/20 06:56	05/07/20 06:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.000	U	0.185	0.185	1.00	0.338	pCi/L	04/15/20 08:04	04/30/20 12:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					04/15/20 08:04	04/30/20 12:31	1
Y Carrier	81.9		40 - 110					04/15/20 08:04	04/30/20 12:31	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	0.104	U	0.196	0.196	2.00	0.338	pCi/L		05/07/20 09:21	1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-104442-7

Date Collected: 04/07/20 14:18

Matrix: Water

Date Received: 04/09/20 08:20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.135		0.0763	0.0772	1.00	0.0836	pCi/L	04/15/20 06:56	05/07/20 06:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.1		40 - 110					04/15/20 06:56	05/07/20 06:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.432		0.269	0.272	1.00	0.404	pCi/L	04/15/20 08:04	04/30/20 12:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.1		40 - 110					04/15/20 08:04	04/30/20 12:31	1
Y Carrier	80.4		40 - 110					04/15/20 08:04	04/30/20 12:31	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-104442-7

Date Collected: 04/07/20 14:18

Matrix: Water

Date Received: 04/09/20 08:20

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	0.567		0.280	0.283	2.00	0.404	pCi/L		05/07/20 09:21	1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-104442-8

Date Collected: 04/07/20 12:00

Matrix: Water

Date Received: 04/09/20 08:20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.120		0.0693	0.0702	1.00	0.0810	pCi/L	04/15/20 06:56	05/07/20 06:06	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Ba Carrier</i>	99.1		40 - 110					04/15/20 06:56	05/07/20 06:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.176	U	0.253	0.253	1.00	0.423	pCi/L	04/15/20 08:04	04/30/20 12:32	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Ba Carrier</i>	99.1		40 - 110					04/15/20 08:04	04/30/20 12:32	1
<i>Y Carrier</i>	85.6		40 - 110					04/15/20 08:04	04/30/20 12:32	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	0.296	U	0.262	0.263	2.00	0.423	pCi/L		05/07/20 09:21	1

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-467807/23-A
Matrix: Water
Analysis Batch: 469778

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 467807

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.01854	U	0.0461	0.0461	1.00	0.0875	pCi/L	04/15/20 06:56	05/07/20 06:07	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	97.6		40 - 110			04/15/20 06:56	05/07/20 06:07	1		

Lab Sample ID: LCS 160-467807/1-A
Matrix: Water
Analysis Batch: 469778

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 467807

Analyte	LCS LCS		Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qual	Uncert. (2σ+/-)					
Radium-226			11.3	10.00		1.06	1.00	0.0930	pCi/L	88	75 - 125
Carrier	LCS LCS		Limits					Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier									
Ba Carrier	91.5		40 - 110								

Lab Sample ID: LCSD 160-467807/2-A
Matrix: Water
Analysis Batch: 469778

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 467807

Analyte	LCSD LCSD		Spike Added	LCSD	LCSD	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
	Result	Qualifier		Result	Qual	Uncert. (2σ+/-)							
Radium-226			11.3	9.993		1.06	1.00	0.128	pCi/L	88	75 - 125	0.01	1
Carrier	LCSD LCSD		Limits					Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier											
Ba Carrier	95.1		40 - 110										

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-467811/23-A
Matrix: Water
Analysis Batch: 469237

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 467811

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.03821	U	0.223	0.223	1.00	0.395	pCi/L	04/15/20 08:04	04/30/20 12:32	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	97.6		40 - 110			04/15/20 08:04	04/30/20 12:32	1		
Y Carrier	78.5		40 - 110			04/15/20 08:04	04/30/20 12:32	1		

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-467811/1-A
Matrix: Water
Analysis Batch: 469238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 467811

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.88	9.602		1.16	1.00	0.552	pCi/L	108	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	91.5		40 - 110
Y Carrier	82.2		40 - 110

Lab Sample ID: LCSD 160-467811/2-A
Matrix: Water
Analysis Batch: 469238

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 467811

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	8.88	9.120		1.10	1.00	0.457	pCi/L	103	75 - 125	0.21	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	95.1		40 - 110
Y Carrier	82.6		40 - 110

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-104442-2

Rad

Prep Batch: 467807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104442-1	ARGWA-19	Total/NA	Water	PrecSep-21	
180-104442-2	ARGWA-20	Total/NA	Water	PrecSep-21	
180-104442-3	ARGWC-21	Total/NA	Water	PrecSep-21	
180-104442-4	EB-2-4-7-20	Total/NA	Water	PrecSep-21	
180-104442-5	FB-2-4-6-20	Total/NA	Water	PrecSep-21	
180-104442-6	DUP-2	Total/NA	Water	PrecSep-21	
180-104442-7	ARGWC-22	Total/NA	Water	PrecSep-21	
180-104442-8	ARGWC-23	Total/NA	Water	PrecSep-21	
MB 160-467807/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-467807/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-467807/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 467811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-104442-1	ARGWA-19	Total/NA	Water	PrecSep_0	
180-104442-2	ARGWA-20	Total/NA	Water	PrecSep_0	
180-104442-3	ARGWC-21	Total/NA	Water	PrecSep_0	
180-104442-4	EB-2-4-7-20	Total/NA	Water	PrecSep_0	
180-104442-5	FB-2-4-6-20	Total/NA	Water	PrecSep_0	
180-104442-6	DUP-2	Total/NA	Water	PrecSep_0	
180-104442-7	ARGWC-22	Total/NA	Water	PrecSep_0	
180-104442-8	ARGWC-23	Total/NA	Water	PrecSep_0	
MB 160-467811/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-467811/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-467811/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Chain of Custody Record

Client Information Client Contact: Joju Abraham Company: Southern Company Address: PO BOX 2841 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: _____ Email: JAbraham@southernco.com Project Name: CCR Plant Artwright - Ash Pond 2 - 1st 2020 SA GWMM Site: Georgia		Lab PM: Veronica Bartot E-Mail: Veronica.Bartot@SouthernCompany.com Phone: 770-594-5998		Carrier Tracking Note: Acc to TA CCC No: 400-73521-29028.1 Page: 1 of 1 Job #: _____	
Due Date Requested: _____ TAT Requested (days): _____ PO #: SCS10347656 WO #: _____		Analysis Requested Metals - App III (Boron, Calcium) <input checked="" type="checkbox"/> 300_ORGFM_28D - Chloride, Fluoride & Sulfate, 2540C - <input checked="" type="checkbox"/> State Metals (Arsenic, Barium, Cadmium, Lead, Silver, and Selenium) <input checked="" type="checkbox"/> (SW-846 9315/9320) Detected As: Metals (Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Lithium, Selenium) <input checked="" type="checkbox"/> Total Number of Containers: _____			
Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <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 - D1 Water K - EDTA L - EDA Other: _____ M - Hexane N - None O - AsHClO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)			
Sample Identification Sample Date Sample Time Sample Type (IC=Comp, G=grab) <input checked="" type="checkbox"/> Matrix (W=Water, E=Soil, O=Residual, RT=Residual Only)		Special Instructions/Note: pH = 5.72 pH = 5.53 pH = 5.96 pH = _____ pH = _____ pH = _____ pH = 5.84 pH = 6.40 pH = _____			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input checked="" type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal Special Instructions/OC Requirements: 180-104442 Chain of Custody			
Deliverable Requested: I, II, III, IV, Other (specify) _____		Empty Kit Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date/Time: 4-8-20 / 1515 Company: ACC Relinquished by: _____ Date/Time: 4-8-20 / 1516 Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Method of Shipment: _____ Received by: _____ Date/Time: 4-9-20 Company: 1515 Received by: _____ Date/Time: 4/9/20 820 Company: Southern Received by: _____ Date/Time: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks: _____			



Environment Testing

RT 97

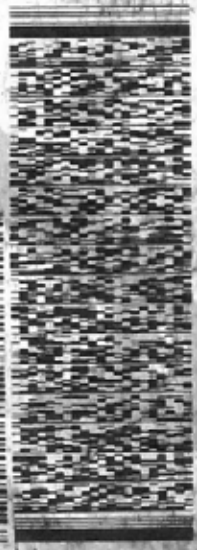
1 A
15:00 3347
04.09

SHIP DATE: 08APR20
ACTWT: 54.15 LB
CRD: 859116/CFE3313

BILL RECIPIENT

ORIGIN ID: LVA (678) 966-8954
GEORGE TAYLOR
EUROFINS TESTAMERICA
6500 MCCONOUGH DRIVE
SUITE C110
NORCROSS, GA 30093
UNITED STATES US

TO
SAMPLE RECEIVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7068
REF: ACC



THU - 09 APR 3:00P
STANDARD OVERNIGHT

1 of 3
TRM# 1516 9323 3347
0201
MASTER

NA AGCA

15238
PA-US PIT

Uncorrected temp 14.6 °C
Thermometer ID 17
CF 0 Initials TS
FT-WI-SR-001 effective 11/8/15



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

Environment Testing
TestAmerica

16

04:00
13:00
3:35B
A

SHIP DATE: 08APR20
ACTWT: 54.15 LB
CAD: 859116/CAFE3313

BILL RECIPIENT

ORIGIN ID: L1YA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTAMERICA
8500 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) 963-7068
REF: ACC

FedEx
Express



THU - 09 APR 3:00P
STANDARD OVERNIGHT

2 of 3
MPS# 1516 9323 3358
Mstr# 1516 9323 3347

0201

NA AGCA

Uncorrected temp
Thermometer ID

1.4

17

CF 0 Initials JS

PT-WA-SR-001 effective 11/8/16

15238
PIT

PA-US



eurofins

Environment Testing
TestAmerica

N ID: L1YA (678) 966-9991

GEORGE TAYLOR
EUROFINS TESTAMERICA
8500 MCDONOUGH DRIVE
SUITE C-10
NORCROSS, GA 30093
UNITED STATES US

BILL RECIPIENT

SAMPLE RECEIVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238

(412) 963-7068
REF: ACC

FedEx
Express



THU - 09 APR 3:00
STANDARD OVERNIGHT

3 of 3
MPS# 1516 9323 3369
Mstr# 1516 9323 3347

0201

NA AGCA

Uncorrected temp
Thermometer ID

1.6

17

Initials JS

CF 0 Initials JS
PT-WA-SR-001 effective 11/8/16

15238
PIT

PA-US



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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-104442-2

Login Number: 104442

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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: 180-104442-2

Login Number: 104442

List Number: 2

Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis

List Creation: 04/14/20 01:45 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.	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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Daily Instrument Calibration Log

SITE: Plant Arkwright
TECHNICIAN: T. Goble

WATER LEVEL: Solinst
WATER LEVEL S/N: 236986

INSTRUMENT S/N: 025476
INSTRUMENT TYPE: Insitu SmarTroll
CAL. SOLUTIONS/ID: PH 4 LOT #: 9GT282 EXP. DATE: 09/21
ID: PH 7 LOT #: 9GK721 EXP. DATE: 11/21
ID: PH 10 LOT #: 9GK672 EXP. DATE: 11/21
ID: Cond LOT #: 9GL170 EXP. DATE: 9/20
ID: ORP 240 LOT #: 9GK142 EXP. DATE: 8/20
ID: _____ LOT #: _____ EXP. DATE: _____
ID: _____ LOT #: _____ EXP. DATE: _____

Calibration Date: 4-6-20
RDO: 100% sat. = 98.5
PH: 4.00 = 4.65 7.00 = 7.53 10.00 = _____
CONDUCTIVITY: 1413 = 1415
ORP (mV) 228 = 177.7

Calibration Date: 4-7-20
RDO: 100% sat. = 101.3
PH: 4.00 = 4.71 7.00 = 7.44 10.00 = 10.28
CONDUCTIVITY: 1413 = 1506
ORP (mV) 233 = 195.1

Calibration Date: 4-8-20
RDO: 100% sat. = 99.2
PH: 4.00 = 4.77 7.00 = 7.44 10.00 = 10.21
CONDUCTIVITY: 1413 = 1544
ORP (mV) 235 = 198.6

Calibration Date: 4-9-20
RDO: 100% sat. = 100.3
PH: 4.00 = 4.74 7.00 = 7.44 10.00 = 10.24
CONDUCTIVITY: 1413 = 1596
ORP (mV) 234 = 196.5

Calibration Date: _____
RDO: 100% sat. = _____
PH: 4.00 = _____ 7.00 = _____ 10.00 = _____
CONDUCTIVITY: _____
ORP (mV) _____

HACH: #16040C049743

10: A8199 Jul 20.

20 A8215 Aug 20

100 A8222

800 A8229

4-6

$$0.0 = 0.37$$

$$10.0 = 9.9$$

$$20.0 = 20.3$$

4-7

$$0.0 = 0.24$$

$$10.0 = 9.8$$

$$20.0 = 20.2$$

4-4

$$0.0 = 0.31$$

$$10.0 = 10.1$$

$$20.0 = 20.3$$

$$4-9$$
$$0.0 = 0.42$$
$$10.0 = 10.2$$
$$20.0 = 20.2$$



Daily Instrument Calibration Log

SITE: Plant Arkwright
TECHNICIAN: Ryan Walker

WATER LEVEL: Heron
WATER LEVEL S/N: 24424

INSTRUMENT S/N: 719243 714293
INSTRUMENT TYPE: Insitu Smartroll Aquatroll
CAL. SOLUTIONS/S: ID: pH4 LOT #: 96L003 EXP. DATE: 12/21
ID: pH7 LOT #: 2808E52 EXP. DATE: 08/20
ID: pH10 LOT #: 96F073 EXP. DATE: 06/21
ID: ORP LOT #: 96L592 EXP. DATE: 09/20
ID: Con LOT #: 96E1018 EXP. DATE: 05/20
ID: _____ LOT #: _____ EXP. DATE: _____
ID: _____ LOT #: _____ EXP. DATE: _____

Calibration Date: 4/6/20
RDO: 100% sat. = 99.40
PH: 4.00 = 4.02 7.00 = 7.02 10.00 = 9.74
CONDUCTIVITY: 1308
ORP (mV) 219.9

Calibration Date: 4/7/20
RDO: 100% sat. = 100.72
PH: 4.00 = 4.01 7.00 = 6.99 10.00 = 10.06
CONDUCTIVITY: 1425
ORP (mV) 234.3

Calibration Date: 4/8/20
RDO: 100% sat. = 99.83
PH: 4.00 = 4.01 7.00 = 7.03 10.00 = 10.05
CONDUCTIVITY: 1472
ORP (mV) 235.0

Calibration Date: 4/9/20
RDO: 100% sat. = 99.90
PH: 4.00 = 3.99 7.00 = 7.01 10.00 = 10.02
CONDUCTIVITY: 1386
ORP (mV) 232.1

Calibration Date: _____
RDO: 100% sat. = _____
PH: 4.00 = _____ 7.00 = _____ 10.00 = _____
CONDUCTIVITY: _____
ORP (mV) _____



Daily Instrument Calibration Log

SITE: Plant Arkwright
 TECHNICIAN: Ryan Walker
 INSTRUMENT S/N: 17120C063767
 INSTRUMENT TYPE: Hach 2100 Q
 CAL. SOLUTION: 0 NTU - LOT # NA EXP. DATE: New DI water
 10 NTU - LOT # A8194 EXP. DATE: 07/20
 20 NTU - LOT # A8215 EXP. DATE: 08/20

Calibration Date: 4/6/20

Calibration Solution	Instrument Reading	
0.0	0.39	NTU
10.0	9.35	NTU
20.0	19.1	NTU

Calibration Date: 4/7/20

Calibration Solution	Instrument Reading	
0.0	0.43	NTU
10.0	9.31	NTU
20.0	21.5	NTU

Calibration Date: 4/8/20

Calibration Solution	Instrument Reading	
0.0	0.39	NTU
10.0	9.06	NTU
20.0	19.8	NTU

Calibration Date: 4/9/20

Calibration Solution	Instrument Reading	
0.0	0.39	NTU
10.0	10.9	NTU
20.0	21.2	NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Product Name: Low-Flow System

Date: 2020-04-07 10:09:46

Project Information:

Operator Name Taylor Goble
Company Name ACC
Project Name Plant Arkwright Ash Pond 2
Site Name Plant Arkwright Ash Pond 2
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 53 ft

Pump placement from TOC 48 ft

Well Information:

Well ID ARGWA-19
Well diameter 2 in
Well Total Depth 52.74 ft
Screen Length 10 ft
Depth to Water 23.80 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.3265614 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 μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	09:48:52	900.00	19.43	5.97	175.78	2.26	23.80	4.32	142.32
Last 5	09:53:52	1200.01	19.63	5.89	173.21	2.35	23.80	4.46	142.11
Last 5	09:58:52	1500.00	19.72	5.76	175.91	2.53	23.80	4.22	140.89
Last 5	10:03:52	1800.00	19.77	5.74	174.31	2.22	23.80	4.36	140.45
Last 5	10:08:52	2099.99	19.70	5.72	176.07	1.88	23.80	4.27	140.12
Variance 0			0.09	-0.13	2.70			-0.24	-1.22
Variance 1			0.04	-0.02	-1.60			0.13	-0.43
Variance 2			-0.07	-0.02	1.76			-0.08	-0.33

Notes

Sampled at 1008. Sunny 69 degrees

Grab Samples

Product Name: Low-Flow System

Date: 2020-04-06 16:23:48

Project Information:

Operator Name Taylor Goble
Company Name ACC
Project Name Plant Arkwright Ash Pond 2
Site Name Plant Arkwright Ash Pond 2
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 38 ft

Pump placement from TOC 33 ft

Well Information:

Well ID ARGWA-20
Well diameter 2 in
Well Total Depth 37.70 ft
Screen Length 10 ft
Depth to Water 11.32 ft

Pumping Information:

Final Pumping Rate 250 mL/min
Total System Volume 0.2596101 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 4 in
Total Volume Pumped 25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	16:02:22	3599.98	18.19	5.50	134.26	6.12	11.73	5.62	164.66
Last 5	16:07:22	3899.98	18.16	5.51	134.35	5.88	11.76	5.61	161.29
Last 5	16:12:22	4199.97	18.21	5.52	134.45	5.30	11.79	5.59	160.86
Last 5	16:17:22	4499.97	18.16	5.52	134.71	5.55	11.82	5.62	160.44
Last 5	16:22:22	4799.97	18.21	5.53	134.71	4.79	11.85	5.60	159.76
Variance 0			0.05	0.00	0.10			-0.01	-0.43
Variance 1			-0.05	0.01	0.26			0.02	-0.42
Variance 2			0.05	0.01	-0.00			-0.02	-0.68

Notes

Sampled at 1622. Partly cloudy 83 degrees

Grab Samples

Product Name: Low-Flow System

Date: 2020-04-07 16:20:25

Project Information:

Operator Name Taylor Goble
Company Name ACC
Project Name Plant Arkwright Ash Pond 2
Site Name Plant Arkwright Ash Pond 2
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 28 ft

Pump placement from TOC 23 ft

Well Information:

Well ID ARGWC-21
Well diameter 2 in
Well Total Depth 27.28 ft
Screen Length 10 ft
Depth to Water 13.46 ft

Pumping Information:

Final Pumping Rate 60 mL/min
Total System Volume 0.2149758 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 10 in
Total Volume Pumped 5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	15:59:53	3299.98	19.38	5.96	612.84	12.20	14.14	0.38	98.56
Last 5	16:04:53	3599.97	19.37	5.96	613.04	10.60	14.14	0.37	98.42
Last 5	16:09:54	3900.97	19.34	5.96	612.81	7.97	14.14	0.34	97.95
Last 5	16:14:54	4200.96	19.32	5.96	613.02	6.30	14.14	0.33	96.90
Last 5	16:19:54	4500.96	19.32	5.96	613.11	4.82	14.15	0.31	96.09
Variance 0			-0.02	-0.00	-0.23			-0.03	-0.47
Variance 1			-0.02	-0.00	0.20			-0.01	-1.04
Variance 2			0.00	-0.00	0.09			-0.01	-0.82

Notes

Sampled at 1619. Partly cloudy 76 degrees

Grab Samples

Product Name: Low-Flow System

Date: 2020-04-07 14:19:26

Project Information:

Operator Name Taylor Goble
Company Name ACC
Project Name Plant Arkwright Ash Pond 2
Site Name Plant Arkwright Ash Pond 2
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 28 ft

Pump placement from TOC 23 ft

Well Information:

Well ID ARGWC-22
Well diameter 2 in
Well Total Depth 27.54 ft
Screen Length 10 ft
Depth to Water 13.88 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.2149758 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 5 in
Total Volume Pumped 5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	13:58:01	900.00	18.74	5.89	1444.49	7.24	14.14	0.16	34.25
Last 5	14:03:01	1200.00	18.74	5.87	1434.63	9.31	14.18	0.16	32.32
Last 5	14:08:01	1499.99	18.74	5.84	1446.31	6.43	14.23	0.16	31.04
Last 5	14:13:01	1799.99	18.70	5.83	1436.08	5.77	14.29	0.15	29.42
Last 5	14:18:01	2099.98	18.55	5.84	1423.01	4.54	14.35	0.15	29.12
Variance 0			-0.00	-0.02	11.69			-0.01	-1.28
Variance 1			-0.05	-0.01	-10.24			-0.01	-1.63
Variance 2			-0.15	0.00	-13.06			0.00	-0.29

Notes

Sampled at 1418. Partly cloudy 78 degrees

Grab Samples

Product Name: Low-Flow System

Date: 2020-04-07 12:01:11

Project Information:

Operator Name Taylor Goble
Company Name ACC
Project Name Plant Arkwright Ash Pond 2
Site Name Plant Arkwright Ash Pond 2
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 28 ft

Pump placement from TOC 23 ft

Well Information:

Well ID ARGWC-23
Well diameter 2 in
Well Total Depth 27.85 ft
Screen Length 10 ft
Depth to Water 11.05 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.2149758 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 13 in
Total Volume Pumped 15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 25
Last 5	11:40:10	2399.99	19.95	6.44	430.40	7.57	12.30	0.24	84.25
Last 5	11:45:10	2699.99	19.90	6.44	431.67	6.90	12.32	0.26	83.55
Last 5	11:50:10	2999.98	19.90	6.43	432.39	6.13	12.35	0.22	82.63
Last 5	11:55:11	3300.98	19.86	6.43	431.32	4.93	12.38	0.20	81.90
Last 5	12:00:11	3600.98	19.88	6.40	432.06	4.66	12.38	0.19	81.22
Variance 0			0.00	-0.01	0.72			-0.04	-0.92
Variance 1			-0.05	-0.01	-1.07			-0.02	-0.73
Variance 2			0.02	-0.03	0.74			-0.01	-0.68

Notes

Sampled at 1200. Sunny 75 degrees

Grab Samples



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	<i>one balland down</i>
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

Site: Plant Arkwright

Page: 2 of 3

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	
ARAMW-23	<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-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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	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Deficient	<input type="checkbox"/> OK <input type="checkbox"/> Deficient	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Deficient	<input type="checkbox"/> OK <input type="checkbox"/> Deficient	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

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	1619	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.				

ANALYTICAL REPORT

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

Laboratory Job ID: 180-106373-2

Client Project/Site: CCR - Plant Arkwright Ash Pond 2

For:

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

Attn: Joju Abraham



Authorized for release by:
6/30/2020 8:05:49 AM

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

LINKS

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results through
TotalAccess

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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



Table of Contents

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Case Narrative

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-2

Job ID: 180-106373-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-106373-2

Comments

No additional comments.

Receipt

The samples were received on 5/29/2020 8:45 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.8° C.

RAD

Methods 903.0, 9315: Ra-226 Prep Batch 160-471996

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-23 (180-106373-1), ARGWC-22 (180-106373-2), DUP (180-106373-3), EB (180-106373-4), (LCS 160-471996/1-A), (MB 160-471996/8-A), (160-38218-D-1-A) and (160-38218-D-1-B DU)

Methods 904.0, 9320: Radium-228 Prep Batch 160-472397

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-23 (180-106373-1), ARGWC-22 (180-106373-2), DUP (180-106373-3), EB (180-106373-4), (LCS 160-472397/1-A), (MB 160-472397/8-A), (160-38218-D-1-C) and (160-38218-D-1-D DU)

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 2

Job ID: 180-106373-2

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 Ash Pond 2

Job ID: 180-106373-2

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	06-26-20
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.



Accreditation/Certification Summary

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-2

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	06-14-21
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 2

Job ID: 180-106373-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-106373-1	ARGWC-23	Water	05/27/20 16:23	05/29/20 08:45	
180-106373-2	ARGWC-22	Water	05/27/20 18:52	05/29/20 08:45	
180-106373-3	DUP	Water	05/27/20 00:00	05/29/20 08:45	
180-106373-4	EB	Water	05/27/20 14:40	05/29/20 08:45	

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Method Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-2

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 2

Job ID: 180-106373-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-106373-1

Date Collected: 05/27/20 16:23

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/NA	Prep	PrecSep-21			1000.22 mL	1.0 g	471996	06/04/20 07:18	RBR	TAL SL
Total/NA	Analysis	9315		1			474575	06/26/20 07:56	AJD	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.22 mL	1.0 g	472397	06/04/20 07:33	RBR	TAL SL
Total/NA	Analysis	9320		1			474543	06/25/20 13:03	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			474653	06/26/20 10:41	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-22

Lab Sample ID: 180-106373-2

Date Collected: 05/27/20 18:52

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/NA	Prep	PrecSep-21			1000.50 mL	1.0 g	471996	06/04/20 07:18	RBR	TAL SL
Total/NA	Analysis	9315		1			474575	06/26/20 07:56	AJD	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.50 mL	1.0 g	472397	06/04/20 07:33	RBR	TAL SL
Total/NA	Analysis	9320		1			474543	06/25/20 13:03	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			474653	06/26/20 10:41	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: DUP

Lab Sample ID: 180-106373-3

Date Collected: 05/27/20 00:00

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/NA	Prep	PrecSep-21			1000.51 mL	1.0 g	471996	06/04/20 07:18	RBR	TAL SL
Total/NA	Analysis	9315		1			474575	06/26/20 07:56	AJD	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.51 mL	1.0 g	472397	06/04/20 07:33	RBR	TAL SL
Total/NA	Analysis	9320		1			474543	06/25/20 13:03	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			474653	06/26/20 10:41	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: EB

Lab Sample ID: 180-106373-4

Date Collected: 05/27/20 14:40

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/NA	Prep	PrecSep-21			1000.69 mL	1.0 g	471996	06/04/20 07:18	RBR	TAL SL
Total/NA	Analysis	9315		1			474575	06/26/20 07:56	AJD	TAL SL
Instrument ID: GFPCRED										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-2

Client Sample ID: EB

Lab Sample ID: 180-106373-4

Date Collected: 05/27/20 14:40

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/NA	Prep	PrecSep_0			1000.69 mL	1.0 g	472397	06/04/20 07:33	RBR	TAL SL
Total/NA	Analysis	9320		1			474543	06/25/20 13:04	KLS	TAL SL
		Instrument ID: GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228		1			474653	06/26/20 10:41	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

AJD = Audra DeMariano

KLS = Kody Saulters

SMP = Siobhan Perry

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-106373-1

Date Collected: 05/27/20 16:23

Matrix: Water

Date Received: 05/29/20 08:45

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.135	U	0.121	0.121	1.00	0.173	pCi/L	06/04/20 07:18	06/26/20 07:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110					06/04/20 07:18	06/26/20 07:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0574	U	0.243	0.243	1.00	0.423	pCi/L	06/04/20 07:33	06/25/20 13:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110					06/04/20 07:33	06/25/20 13:03	1
Y Carrier	86.7		40 - 110					06/04/20 07:33	06/25/20 13:03	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	0.192	U	0.271	0.271	5.00	0.423	pCi/L		06/26/20 10:41	1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-106373-2

Date Collected: 05/27/20 18:52

Matrix: Water

Date Received: 05/29/20 08:45

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.129	U	0.128	0.129	1.00	0.194	pCi/L	06/04/20 07:18	06/26/20 07:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					06/04/20 07:18	06/26/20 07:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0139	U	0.242	0.242	1.00	0.431	pCi/L	06/04/20 07:33	06/25/20 13:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					06/04/20 07:33	06/25/20 13:03	1
Y Carrier	85.2		40 - 110					06/04/20 07:33	06/25/20 13:03	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-106373-2

Date Collected: 05/27/20 18:52

Matrix: Water

Date Received: 05/29/20 08:45

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	0.143	U	0.274	0.274	5.00	0.431	pCi/L		06/26/20 10:41	1

Client Sample ID: DUP

Lab Sample ID: 180-106373-3

Date Collected: 05/27/20 00:00

Matrix: Water

Date Received: 05/29/20 08:45

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.157	U	0.125	0.126	1.00	0.171	pCi/L	06/04/20 07:18	06/26/20 07:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					06/04/20 07:18	06/26/20 07:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.235	U	0.258	0.259	1.00	0.423	pCi/L	06/04/20 07:33	06/25/20 13:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					06/04/20 07:33	06/25/20 13:03	1
Y Carrier	84.9		40 - 110					06/04/20 07:33	06/25/20 13:03	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	0.392	U	0.287	0.288	5.00	0.423	pCi/L		06/26/20 10:41	1

Client Sample ID: EB

Lab Sample ID: 180-106373-4

Date Collected: 05/27/20 14:40

Matrix: Water

Date Received: 05/29/20 08:45

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0310	U	0.0965	0.0966	1.00	0.188	pCi/L	06/04/20 07:18	06/26/20 07:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/04/20 07:18	06/26/20 07:56	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-2

Client Sample ID: EB

Lab Sample ID: 180-106373-4

Date Collected: 05/27/20 14:40

Matrix: Water

Date Received: 05/29/20 08:45

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.433	U	0.200	0.204	1.00	0.426	pCi/L	06/04/20 07:33	06/25/20 13:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/04/20 07:33	06/25/20 13:04	1
Y Carrier	87.1		40 - 110					06/04/20 07:33	06/25/20 13:04	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	-0.402	U	0.222	0.226	5.00	0.426	pCi/L		06/26/20 10:41	1



QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-471996/8-A
Matrix: Water
Analysis Batch: 474575

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 471996

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.06856	U	0.0865	0.0867	1.00	0.229	pCi/L	06/04/20 07:18	06/26/20 07:56	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	102		40 - 110					06/04/20 07:18	06/26/20 07:56	1

Lab Sample ID: LCS 160-471996/1-A
Matrix: Water
Analysis Batch: 474575

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 471996

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	9.482		1.15	1.00	0.184	pCi/L	84	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	102		40 - 110					06/04/20 07:18	06/26/20 07:56

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-472397/8-A
Matrix: Water
Analysis Batch: 474543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 472397

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2104	U	0.242	0.243	1.00	0.398	pCi/L	06/04/20 07:33	06/25/20 13:04	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	102		40 - 110					06/04/20 07:33	06/25/20 13:04	1
Y Carrier	88.2		40 - 110		06/04/20 07:33	06/25/20 13:04	1			

Lab Sample ID: LCS 160-472397/1-A
Matrix: Water
Analysis Batch: 474543

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 472397

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-228	8.72	8.515		1.01	1.00	0.421	pCi/L	98	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	102		40 - 110					06/04/20 07:33	06/25/20 13:04
Y Carrier	86.7		40 - 110		06/04/20 07:33	06/25/20 13:04	1		

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-2

Rad

Prep Batch: 471996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total/NA	Water	PrecSep-21	
180-106373-2	ARGWC-22	Total/NA	Water	PrecSep-21	
180-106373-3	DUP	Total/NA	Water	PrecSep-21	
180-106373-4	EB	Total/NA	Water	PrecSep-21	
MB 160-471996/8-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-471996/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 472397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-106373-1	ARGWC-23	Total/NA	Water	PrecSep_0	
180-106373-2	ARGWC-22	Total/NA	Water	PrecSep_0	
180-106373-3	DUP	Total/NA	Water	PrecSep_0	
180-106373-4	EB	Total/NA	Water	PrecSep_0	
MB 160-472397/8-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-472397/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Chain of Custody Record

681-Atlanta



Environment Testing
 America

Client Information Client Contact: Jolu Abraham Company: Southern Company Address: 241 Ralph McGill Blvd SE B10185 City: Atlanta State: GA Zip: 30308 Phone: SCS10382606 Email: JAbraham@southernco.com Project Name: CCR - Plant Arkwright App III/IV Site: Georgia		Lab PM: Brown, Shali E-Mail: shali.brown@testamericainc.com Camer Tracking No(s): COC No: 180-60862-12387.1 Page: Page 1 of 1 Job #:	
Due Date Requested: Standard TAT Requested (days):		Analysis Requested	
Sample Identification ARGWC-23 ARGWC-22 DUP EB ARGWC-10 Temp Blank	Sample Date 5/27/20 ↓ ↓ ↓	Sample Time 1623 1852 - 1440 1910	Sample Type (C=Comp, G=grab) G G G G G
Matrix (W=Water, S=Solid, O=Wastewater, BT=Tissue, A=Air) W W W W W	Field Filtered Sample (Yes or No) X X X X X	Perform MS/MSD (Yes or No) X X X X X	Total Number of Containers 1
Special Instructions/Note: PH = 6.30 PH = 5.69 PH = 5.98		Special Instructions/Note: 180-106373 Chain of Custody	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by: Daniel K Howard Relinquished by: Daniel K Howard Relinquished by:			
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:			
Date/Time: 5/28/20/1415 Date/Time:		Date/Time: 5-29-20 Date/Time: 845 Date/Time:	
Date: 5/28/20/1415 Date/Time:		Date/Time: 5-29-20 Date/Time: 845 Date/Time:	
Relinquished by: Daniel K Howard Relinquished by:		Relinquished by:	
Custody Seals Intact: A Yes Δ No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



ORIGIN ID:NCQA (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
ACTWT:
CAD: 6994
DIMS: 24x1
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



J201120042401 by

Align Open End of FedEx Couch Here

Howard
PLGPPER 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

EUROFINS Test America, Pittsb

Alpha Drive RIDC Park

State PA ZIP 15238

TRK# 8121 9394 6105
0215

FRI - 29 MAY 10:30A
PRIORITY OVERNIGHT

15238
PA-US PIT



Initials F D B

WI-SR-001 effective 7/26/13



8121 9394 6105

Total Packages Total Weight

Your liability is limited to US\$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-106373-2

Login Number: 106373

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: 180-106373-2

Login Number: 106373

List Number: 2

Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis

List Creation: 06/03/20 02:10 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	



Product Name: Low-Flow System

Date: 2020-05-27 18:54:49

Project Information:

Operator Name Nicholas McMillan
Company Name Wood
Project Name Plant Arkwright Ash Pond 2
Site Name ARGWC-22
Latitude 32° 55' 17.97"
Longitude -83° -42' -10.21"
Sonde SN 601533
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type PINE Peristaltic
Tubing Type HDP
Tubing Diameter 0.17 in
Tubing Length 27.8 ft

Pump placement from TOC 22.8 ft

Well Information:

Well ID ARGWC-22
Well diameter 2 in
Well Total Depth 27.78 ft
Screen Length 10 ft
Depth to Water 13.37 ft

Pumping Information:

Final Pumping Rate 150 mL/min
Total System Volume 0.2140832 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 4.92 in
Total Volume Pumped 15 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	18:31:39	4204.01	18.74	5.69	1.58	7.19	13.78	0.08	54.33
Last 5	18:36:39	4504.01	18.79	5.68	1.59	6.39	13.78	0.08	54.56
Last 5	18:41:39	4804.01	18.88	5.68	1.57	6.34	13.78	0.07	53.94
Last 5	18:46:39	5104.01	18.83	5.69	1.57	4.89	13.78	0.07	53.14
Last 5	18:51:39	5404.01	18.83	5.69	1.57	4.72	13.78	0.07	52.72
Variance 0			0.09	0.00	-0.01			-0.00	-0.62
Variance 1			-0.04	0.01	-0.00			-0.00	-0.80
Variance 2			0.00	0.00	-0.00			-0.00	-0.42

Notes

Sample collected 1852

Grab Samples

Product Name: Low-Flow System

Date: 2020-05-27 16:23:40

Project Information:

Operator Name Nicholas McMillan
Company Name Wood
Project Name Plant Arkwright Ash Pond 2
Site Name ARGWC-23
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 601533
Turbidity Make/Model HACH

Pump Information:

Pump Model/Type PINE Peristaltic Pump
Tubing Type HDP
Tubing Diameter .17 in
Tubing Length 27.2 ft

Pump placement from TOC 22.2 ft

Well Information:

Well ID ARGWC-23
Well diameter 2 in
Well Total Depth 27.21 ft
Screen Length 10 ft
Depth to Water 11.50 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.2114051 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0 in
Total Volume Pumped 4 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	16:00:33	900.03	20.71	6.32	0.50	2.34	14.03	0.16	82.63
Last 5	16:05:33	1200.02	20.61	6.31	0.50	2.01	13.58	0.19	83.05
Last 5	16:10:33	1500.02	20.66	6.31	0.50	1.48	13.71	0.17	82.04
Last 5	16:15:33	1800.02	20.57	6.30	0.50	2.53	13.71	0.15	82.19
Last 5	16:20:35	2102.02	20.48	6.30	0.50	1.59	13.65	0.16	82.10
Variance 0			0.05	-0.00	0.00			-0.02	-1.01
Variance 1			-0.09	-0.01	-0.00			-0.01	0.14
Variance 2			-0.09	0.00	0.00			0.01	-0.09

Notes

Arrived at 1510; DUP-1
Sample collected at 1623; DUP

Grab Samples

ANALYTICAL REPORT

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

Laboratory Job ID: 180-107491-1

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 3:56:14 PM

Shali Brown, Project Manager II
(615)301-5031
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: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

Job ID: 180-107491-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-107491-1

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 3.8° 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: 180-107491-1

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.
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: 180-107491-1

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: 180-107491-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107491-1	ARGWC-22	Water	06/24/20 10:05	06/25/20 09:00	
180-107491-2	DUP#2	Water	06/24/20 00:00	06/25/20 09:00	
180-107491-3	ARAMW-1	Water	06/24/20 12:45	06/25/20 09:00	
180-107491-4	ARAMW-2	Water	06/24/20 16:40	06/25/20 09:00	

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Method Summary

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

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: 180-107491-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-107491-1

Date Collected: 06/24/20 10:05

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	06/26/20 02:36	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		10			319460	06/26/20 02:52	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 08:55	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 08:25	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 07:33	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320796	07/07/20 10:05	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/24/20 10:05	NJD	TAL PIT

Client Sample ID: DUP#2

Lab Sample ID: 180-107491-2

Date Collected: 06/24/20 00:00

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	06/26/20 03:08	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		10			319460	06/26/20 03:23	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 08:58	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 08:28	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 07:34	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320796	07/07/20 10:11	AVS	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

Client Sample ID: ARAMW-1

Lab Sample ID: 180-107491-3

Date Collected: 06/24/20 12:45

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
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			319460	06/26/20 03:39	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		5			319945	06/30/20 10:34	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 09:00	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 08:31	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 07:36	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320519	06/30/20 15:12	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/24/20 12:45	NJD	TAL PIT

Client Sample ID: ARAMW-2

Lab Sample ID: 180-107491-4

Date Collected: 06/24/20 16:40

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	06/26/20 03:55	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		5			319945	06/30/20 10:50	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	319684	06/26/20 08:47	TJO	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: A		1			320376	07/01/20 22:18	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319684	06/26/20 08:47	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			320376	07/01/20 22:21	RSK	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 07:37	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320519	06/30/20 15:19	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/24/20 16:40	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: 180-107491-1

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

RSK = Robert Kurtz

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Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-107491-1

Date Collected: 06/24/20 10:05

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	5.7		1.0	0.32	mg/L			06/26/20 02:36	1
Fluoride	0.048	J	0.10	0.026	mg/L			06/26/20 02:36	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/26/20 02:36	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/26/20 02:36	1
Sulfate	810		10	3.8	mg/L			06/26/20 02:52	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.5		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:25	1
Calcium	180		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:25	1
Cobalt	0.0047		0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:25	1
Lithium	0.023		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:25	1
Magnesium	87		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:25	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:25	1
Potassium	4.6		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:25	1
Sodium	26		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6.2		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 08:55	1
Manganese	16		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 08:55	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 07:33	1
Total Alkalinity as CaCO3 to pH 4.!	96		5.0	5.0	mg/L			07/07/20 10:05	1
Bicarbonate Alkalinity as CaCO3	96		5.0	5.0	mg/L			07/07/20 10:05	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 10:05	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.82				SU			06/24/20 10:05	1

Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

Client Sample ID: DUP#2

Lab Sample ID: 180-107491-2

Date Collected: 06/24/20 00:00

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			06/26/20 03:08	1
Fluoride	0.045	J	0.10	0.026	mg/L			06/26/20 03:08	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/26/20 03:08	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/26/20 03:08	1
Sulfate	830		10	3.8	mg/L			06/26/20 03:23	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.5		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:28	1
Calcium	180		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:28	1
Cobalt	0.0039		0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:28	1
Lithium	0.023		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:28	1
Magnesium	83		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:28	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:28	1
Potassium	4.4		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:28	1
Sodium	25		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6.0		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 08:58	1
Manganese	16		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 08:58	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 07:34	1
Total Alkalinity as CaCO3 to pH 4.!	100		5.0	5.0	mg/L			07/07/20 10:11	1
Bicarbonate Alkalinity as CaCO3	100		5.0	5.0	mg/L			07/07/20 10:11	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			07/07/20 10:11	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

Client Sample ID: ARAMW-1

Lab Sample ID: 180-107491-3

Date Collected: 06/24/20 12:45

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	5.3		1.0	0.32	mg/L			06/26/20 03:39	1
Fluoride	0.21		0.10	0.026	mg/L			06/26/20 03:39	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/26/20 03:39	1
Nitrite as N	0.042	J	0.050	0.029	mg/L			06/26/20 03:39	1
Sulfate	250		5.0	1.9	mg/L			06/30/20 10:34	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.84		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 08:31	1
Calcium	81		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 08:31	1
Cobalt	0.00097	J	0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 08:31	1
Lithium	0.0084		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 08:31	1
Magnesium	34		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 08:31	1
Molybdenum	0.0051	J	0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 08:31	1
Potassium	5.5		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 08:31	1
Sodium	21		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 08:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.42		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 09:00	1
Manganese	0.41		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 09:00	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 07:36	1
Total Alkalinity as CaCO3 to pH 4.!	170		5.0	5.0	mg/L			06/30/20 15:12	1
Bicarbonate Alkalinity as CaCO3	170		5.0	5.0	mg/L			06/30/20 15:12	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 15:12	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.31				SU			06/24/20 12:45	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

Client Sample ID: ARAMW-2

Lab Sample ID: 180-107491-4

Date Collected: 06/24/20 16:40

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	4.3		1.0	0.32	mg/L			06/26/20 03:55	1
Fluoride	0.11		0.10	0.026	mg/L			06/26/20 03:55	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/26/20 03:55	1
Nitrite as N	0.033	J	0.050	0.029	mg/L			06/26/20 03:55	1
Sulfate	290		5.0	1.9	mg/L			06/30/20 10:50	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.89		0.080	0.039	mg/L		06/26/20 08:47	07/01/20 22:21	1
Calcium	89		0.50	0.13	mg/L		06/26/20 08:47	07/01/20 22:21	1
Cobalt	0.0027		0.0025	0.00013	mg/L		06/26/20 08:47	07/01/20 22:21	1
Lithium	0.018		0.0050	0.0034	mg/L		06/26/20 08:47	07/01/20 22:21	1
Magnesium	36		0.50	0.083	mg/L		06/26/20 08:47	07/01/20 22:21	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/26/20 08:47	07/01/20 22:21	1
Potassium	6.9		0.50	0.16	mg/L		06/26/20 08:47	07/01/20 22:21	1
Sodium	20		0.50	0.35	mg/L		06/26/20 08:47	07/01/20 22:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	9.7	B	0.050	0.020	mg/L		06/26/20 08:47	07/01/20 22:18	1
Manganese	1.0		0.0050	0.00087	mg/L		06/26/20 08:47	07/01/20 22:18	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 07:37	1
Total Alkalinity as CaCO3 to pH 4.!	130		5.0	5.0	mg/L			06/30/20 15:19	1
Bicarbonate Alkalinity as CaCO3	130		5.0	5.0	mg/L			06/30/20 15:19	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 15:19	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.19				SU			06/24/20 16:40	1

QC Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

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: 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

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
Boron	<0.039		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 07:40	1
Iron	<0.020		0.050	0.020	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
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
Lithium	<0.0034		0.0050	0.0034	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
Molybdenum	<0.00061		0.015	0.00061	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
Sodium	<0.35		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 07:40	1

Eurofins TestAmerica, Pittsburgh

QC Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

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

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	Limits
Boron	1.25	1.17		mg/L		93	80 - 120
Iron	5.00	5.29		mg/L		106	80 - 120
Calcium	25.0	26.0		mg/L		104	80 - 120
Manganese	1.00	0.983		mg/L		98	80 - 120
Cobalt	1.00	1.03		mg/L		103	80 - 120
Lithium	1.00	1.09		mg/L		109	80 - 120
Magnesium	25.0	26.5		mg/L		106	80 - 120
Molybdenum	1.00	1.04		mg/L		104	80 - 120
Potassium	25.0	25.5		mg/L		102	80 - 120
Sodium	25.0	25.4		mg/L		102	80 - 120

Lab Sample ID: MB 180-319684/1-A
Matrix: Water
Analysis Batch: 320376

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 319684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/26/20 08:47	07/01/20 22:00	1
Iron	0.0422	J	0.050	0.020	mg/L		06/26/20 08:47	07/01/20 22:00	1
Calcium	<0.13		0.50	0.13	mg/L		06/26/20 08:47	07/01/20 22:00	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		06/26/20 08:47	07/01/20 22:00	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/26/20 08:47	07/01/20 22:00	1
Magnesium	<0.083		0.50	0.083	mg/L		06/26/20 08:47	07/01/20 22:00	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		06/26/20 08:47	07/01/20 22:00	1
Potassium	<0.16		0.50	0.16	mg/L		06/26/20 08:47	07/01/20 22:00	1
Sodium	<0.35		0.50	0.35	mg/L		06/26/20 08:47	07/01/20 22:00	1

Lab Sample ID: MB 180-319684/1-A
Matrix: Water
Analysis Batch: 320376

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 319684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	<0.00087		0.0050	0.00087	mg/L		06/26/20 08:47	07/02/20 00:55	1

Lab Sample ID: LCS 180-319684/2-A
Matrix: Water
Analysis Batch: 320456

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 319684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1.25	1.13		mg/L		91	80 - 120
Iron	5.00	5.03		mg/L		101	80 - 120
Calcium	25.0	26.9		mg/L		108	80 - 120
Manganese	0.500	0.524		mg/L		105	80 - 120
Cobalt	0.500	0.504		mg/L		101	80 - 120
Lithium	0.500	0.503		mg/L		101	80 - 120
Magnesium	25.0	25.1		mg/L		101	80 - 120
Molybdenum	0.500	0.530		mg/L		106	80 - 120
Potassium	25.0	24.9		mg/L		100	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: 180-107491-1

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
%Rec. Limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Sulfide	11.9	10.5		mg/L		89	85 - 115

Method: SM2320 B - Alkalinity, Total

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
%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: 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
%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 Association Summary

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

HPLC/IC

Analysis Batch: 319460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107491-1	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-107491-1	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-107491-2	DUP#2	Total/NA	Water	EPA 300.0 R2.1	
180-107491-2	DUP#2	Total/NA	Water	EPA 300.0 R2.1	
180-107491-3	ARAMW-1	Total/NA	Water	EPA 300.0 R2.1	
180-107491-4	ARAMW-2	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	

Analysis Batch: 319945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107491-3	ARAMW-1	Total/NA	Water	EPA 300.0 R2.1	
180-107491-4	ARAMW-2	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
180-107491-1	ARGWC-22	Dissolved	Water	3005A	
180-107491-1	ARGWC-22	Total Recoverable	Water	3005A	
180-107491-2	DUP#2	Dissolved	Water	3005A	
180-107491-2	DUP#2	Total Recoverable	Water	3005A	
180-107491-3	ARAMW-1	Dissolved	Water	3005A	
180-107491-3	ARAMW-1	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	

Prep Batch: 319684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107491-4	ARAMW-2	Dissolved	Water	3005A	
180-107491-4	ARAMW-2	Total Recoverable	Water	3005A	
MB 180-319684/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-319684/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 320364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107491-1	ARGWC-22	Dissolved	Water	EPA 6020B	319682
180-107491-1	ARGWC-22	Total Recoverable	Water	EPA 6020B	319682
180-107491-2	DUP#2	Dissolved	Water	EPA 6020B	319682
180-107491-2	DUP#2	Total Recoverable	Water	EPA 6020B	319682
180-107491-3	ARAMW-1	Dissolved	Water	EPA 6020B	319682
180-107491-3	ARAMW-1	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

Analysis Batch: 320376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107491-4	ARAMW-2	Dissolved	Water	EPA 6020B	319684
180-107491-4	ARAMW-2	Total Recoverable	Water	EPA 6020B	319684

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107491-1

Metals (Continued)

Analysis Batch: 320376 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-319684/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	319684
MB 180-319684/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	319684

Analysis Batch: 320456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-319684/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	319684

General Chemistry

Prep Batch: 320115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107491-1	ARGWC-22	Total/NA	Water	9030B	
180-107491-2	DUP#2	Total/NA	Water	9030B	
180-107491-3	ARAMW-1	Total/NA	Water	9030B	
180-107491-4	ARAMW-2	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	

Analysis Batch: 320175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107491-1	ARGWC-22	Total/NA	Water	EPA 9034	320115
180-107491-2	DUP#2	Total/NA	Water	EPA 9034	320115
180-107491-3	ARAMW-1	Total/NA	Water	EPA 9034	320115
180-107491-4	ARAMW-2	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

Analysis Batch: 320519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107491-3	ARAMW-1	Total/NA	Water	SM2320 B	
180-107491-4	ARAMW-2	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	

Analysis Batch: 320796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107491-1	ARGWC-22	Total/NA	Water	SM2320 B	
180-107491-2	DUP#2	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
180-107491-1	ARGWC-22	Total/NA	Water	Field Sampling	
180-107491-3	ARAMW-1	Total/NA	Water	Field Sampling	
180-107491-4	ARAMW-2	Total/NA	Water	Field Sampling	

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2 or 3 Business Days

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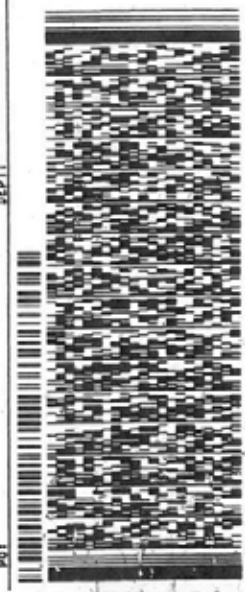
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THU - 25 JUN 10:30A
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DSR AHS
15238
PA-US PIT

TRK# 0121 9394 5771

NA AGCA

Uncorrected temp 3.8 °C
Thermometer ID 14
Initials J



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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-107491-1

Login Number: 107491

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: 180-107562-1

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 1:13:03 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

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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: 180-107562-1

Job ID: 180-107562-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-107562-1

Comments

No additional comments.

Receipt

The samples were received on 6/26/2020 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 4.4° C.

Receipt Exceptions

The containers provided for the following samples did not match the information listed on the Chain-of-Custody (COC): EB#2 (180-107562-1), ARGWC-23 (180-107562-2), ARGWC-21 (180-107562-3), ARGWA-19 (180-107562-4) and ARGWA-20 (180-107562-5). Nitric dissolved containers were provided, though the COC is not marked for filtered metals. The COC lists TDS analysis. however, no containers were provided. The client was contacted, and the lab was instructed to analyze for dissolved metals but that TDS is not required.

GC Semi VOA

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

Metals

Method 6020B: The post digestion spike % recovery for calcium, magnesium, and sodium associated with batch 180-320452 was outside of control limits. The associated sample is: EB#2 (180-107562-1).

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: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

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: 180-107562-1

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: 180-107562-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107562-1	EB#2	Water	06/25/20 09:10	06/26/20 09:00	
180-107562-2	ARGWC-23	Water	06/25/20 11:18	06/26/20 09:00	
180-107562-3	ARGWC-21	Water	06/25/20 13:15	06/26/20 09:00	
180-107562-4	ARGWA-19	Water	06/25/20 10:15	06/26/20 09:00	
180-107562-5	ARGWA-20	Water	06/25/20 12:30	06/26/20 09:00	

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Method Summary

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

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: 180-107562-1

Client Sample ID: EB#2

Date Collected: 06/25/20 09:10

Date Received: 06/26/20 09:00

Lab Sample ID: 180-107562-1

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: CHICS2100B		1			319637	06/26/20 17:29	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	319816	06/27/20 13:54	JL	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/02/20 21:43	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319816	06/27/20 13:54	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/02/20 22:22	RSK	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 07:42	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320519	06/30/20 16:58	AVS	TAL PIT

Client Sample ID: ARGWC-23

Date Collected: 06/25/20 11:18

Date Received: 06/26/20 09:00

Lab Sample ID: 180-107562-2

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: CHICS2100B		1			319637	06/26/20 17:45	MJH	TAL PIT
Dissolved	Prep	3005A			50 mL	50 mL	319816	06/27/20 13:54	JL	TAL PIT
Dissolved	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/02/20 22:01	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319816	06/27/20 13:54	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/02/20 22:25	RSK	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 07:43	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320519	06/30/20 17:05	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/25/20 11:18	NJD	TAL PIT

Client Sample ID: ARGWC-21

Date Collected: 06/25/20 13:15

Date Received: 06/26/20 09:00

Lab Sample ID: 180-107562-3

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		10	1 mL	1.0 mL	320882	07/08/20 20:44	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			319637	06/26/20 16:40	MJH	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

Client Sample ID: ARGWC-21

Date Collected: 06/25/20 13:15

Date Received: 06/26/20 09:00

Lab Sample ID: 180-107562-3

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	319816	06/27/20 13:54	JL	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320452	07/02/20 22:04	RSK	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	319816	06/27/20 13:54	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			320452	07/02/20 22:29	RSK	TAL PIT
Instrument ID: DORY										
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 07:45	CMR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM2320 B		1			320519	06/30/20 17:24	AVS	TAL PIT
Instrument ID: PCTITRATOR										
Total/NA	Analysis	Field Sampling		1			320074	06/25/20 13:15	NJD	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: ARGWA-19

Date Collected: 06/25/20 10:15

Date Received: 06/26/20 09:00

Lab Sample ID: 180-107562-4

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		1			319637	06/26/20 16:56	MJH	TAL PIT
Instrument ID: CHICS2100B										
Dissolved	Prep	3005A			50 mL	50 mL	319816	06/27/20 13:54	JL	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320452	07/02/20 22:08	RSK	TAL PIT
Instrument ID: DORY										
Total Recoverable	Prep	3005A			50 mL	50 mL	319816	06/27/20 13:54	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			320452	07/02/20 22:32	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 13:00	CMR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM2320 B		1			320519	06/30/20 17:36	AVS	TAL PIT
Instrument ID: PCTITRATOR										
Total/NA	Analysis	Field Sampling		1			320074	06/25/20 10:15	NJD	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: ARGWA-20

Date Collected: 06/25/20 12:30

Date Received: 06/26/20 09:00

Lab Sample ID: 180-107562-5

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		1			319637	06/26/20 17:13	MJH	TAL PIT
Instrument ID: CHICS2100B										
Dissolved	Prep	3005A			50 mL	50 mL	319816	06/27/20 13:54	JL	TAL PIT
Dissolved	Analysis	EPA 6020B		1			320452	07/02/20 22:11	RSK	TAL PIT
Instrument ID: DORY										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

Client Sample ID: ARGWA-20

Lab Sample ID: 180-107562-5

Date Collected: 06/25/20 12:30

Matrix: Water

Date Received: 06/26/20 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	319816	06/27/20 13:54	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			320452	07/02/20 22:36	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 13:05	CMR	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			320519	06/30/20 17:43	AVS	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			320074	06/25/20 12:30	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: 180-107562-1

Client Sample ID: EB#2
Date Collected: 06/25/20 09:10
Date Received: 06/26/20 09:00

Lab Sample ID: 180-107562-1
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			06/26/20 17:29	1
Fluoride	<0.026		0.10	0.026	mg/L			06/26/20 17:29	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/26/20 17:29	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/26/20 17:29	1
Sulfate	<0.38		1.0	0.38	mg/L			06/26/20 17:29	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		06/27/20 13:54	07/02/20 22:22	1
Calcium	<0.13		0.50	0.13	mg/L		06/27/20 13:54	07/02/20 22:22	1
Cobalt	0.00033	J	0.0025	0.00013	mg/L		06/27/20 13:54	07/02/20 22:22	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/27/20 13:54	07/02/20 22:22	1
Magnesium	<0.083		0.50	0.083	mg/L		06/27/20 13:54	07/02/20 22:22	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/27/20 13:54	07/02/20 22:22	1
Potassium	<0.16		0.50	0.16	mg/L		06/27/20 13:54	07/02/20 22:22	1
Sodium	<0.35		0.50	0.35	mg/L		06/27/20 13:54	07/02/20 22:22	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		06/27/20 13:54	07/02/20 21:43	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/27/20 13:54	07/02/20 21:43	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 07:42	1
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			06/30/20 16:58	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 16:58	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 16:58	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-107562-2

Date Collected: 06/25/20 11:18

Matrix: Water

Date Received: 06/26/20 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			06/26/20 17:45	1
Fluoride	0.25		0.10	0.026	mg/L			06/26/20 17:45	1
Nitrate as N	1.8		0.10	0.023	mg/L			06/26/20 17:45	1
Nitrite as N	0.11		0.050	0.029	mg/L			06/26/20 17:45	1
Sulfate	77		1.0	0.38	mg/L			06/26/20 17:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.42		0.080	0.039	mg/L		06/27/20 13:54	07/02/20 22:25	1
Calcium	72		0.50	0.13	mg/L		06/27/20 13:54	07/02/20 22:25	1
Cobalt	0.0014	J	0.0025	0.00013	mg/L		06/27/20 13:54	07/02/20 22:25	1
Lithium	0.043		0.0050	0.0034	mg/L		06/27/20 13:54	07/02/20 22:25	1
Magnesium	13		0.50	0.083	mg/L		06/27/20 13:54	07/02/20 22:25	1
Molybdenum	0.055		0.015	0.00061	mg/L		06/27/20 13:54	07/02/20 22:25	1
Potassium	2.4		0.50	0.16	mg/L		06/27/20 13:54	07/02/20 22:25	1
Sodium	14		0.50	0.35	mg/L		06/27/20 13:54	07/02/20 22:25	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		06/27/20 13:54	07/02/20 22:01	1
Manganese	0.62		0.0050	0.00087	mg/L		06/27/20 13:54	07/02/20 22:01	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 07:43	1
Total Alkalinity as CaCO3 to pH 4.!	160		5.0	5.0	mg/L			06/30/20 17:05	1
Bicarbonate Alkalinity as CaCO3	160		5.0	5.0	mg/L			06/30/20 17:05	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 17:05	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.37				SU			06/25/20 11:18	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

Client Sample ID: ARGWC-21

Lab Sample ID: 180-107562-3

Date Collected: 06/25/20 13:15

Matrix: Water

Date Received: 06/26/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.7		1.0	0.32	mg/L			06/26/20 16:40	1
Fluoride	0.041	J	0.10	0.026	mg/L			06/26/20 16:40	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/26/20 16:40	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/26/20 16:40	1
Sulfate	210		10	3.8	mg/L			07/08/20 20:44	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.82		0.080	0.039	mg/L		06/27/20 13:54	07/02/20 22:29	1
Calcium	80		0.50	0.13	mg/L		06/27/20 13:54	07/02/20 22:29	1
Cobalt	0.00097	J	0.0025	0.00013	mg/L		06/27/20 13:54	07/02/20 22:29	1
Lithium	0.013		0.0050	0.0034	mg/L		06/27/20 13:54	07/02/20 22:29	1
Magnesium	37		0.50	0.083	mg/L		06/27/20 13:54	07/02/20 22:29	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/27/20 13:54	07/02/20 22:29	1
Potassium	6.1		0.50	0.16	mg/L		06/27/20 13:54	07/02/20 22:29	1
Sodium	19		0.50	0.35	mg/L		06/27/20 13:54	07/02/20 22:29	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		06/27/20 13:54	07/02/20 22:04	1
Manganese	0.36		0.0050	0.00087	mg/L		06/27/20 13:54	07/02/20 22:04	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 07:45	1
Total Alkalinity as CaCO3 to pH 4.1	140		5.0	5.0	mg/L			06/30/20 17:24	1
Bicarbonate Alkalinity as CaCO3	140		5.0	5.0	mg/L			06/30/20 17:24	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 17:24	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.98				SU			06/25/20 13:15	1

Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

Client Sample ID: ARGWA-19

Lab Sample ID: 180-107562-4

Date Collected: 06/25/20 10:15

Matrix: Water

Date Received: 06/26/20 09:00

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			06/26/20 16:56	1
Fluoride	0.030	J	0.10	0.026	mg/L			06/26/20 16:56	1
Nitrate as N	6.7		0.10	0.023	mg/L			06/26/20 16:56	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/26/20 16:56	1
Sulfate	9.8		1.0	0.38	mg/L			06/26/20 16:56	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		06/27/20 13:54	07/02/20 22:32	1
Calcium	14		0.50	0.13	mg/L		06/27/20 13:54	07/02/20 22:32	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		06/27/20 13:54	07/02/20 22:32	1
Lithium	0.0053		0.0050	0.0034	mg/L		06/27/20 13:54	07/02/20 22:32	1
Magnesium	5.5		0.50	0.083	mg/L		06/27/20 13:54	07/02/20 22:32	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/27/20 13:54	07/02/20 22:32	1
Potassium	2.6		0.50	0.16	mg/L		06/27/20 13:54	07/02/20 22:32	1
Sodium	13		0.50	0.35	mg/L		06/27/20 13:54	07/02/20 22:32	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		06/27/20 13:54	07/02/20 22:08	1
Manganese	0.00089	J	0.0050	0.00087	mg/L		06/27/20 13:54	07/02/20 22:08	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 13:00	1
Total Alkalinity as CaCO3 to pH 4.!	33		5.0	5.0	mg/L			06/30/20 17:36	1
Bicarbonate Alkalinity as CaCO3	33		5.0	5.0	mg/L			06/30/20 17:36	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 17:36	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.80				SU			06/25/20 10:15	1

Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

Client Sample ID: ARGWA-20

Lab Sample ID: 180-107562-5

Date Collected: 06/25/20 12:30

Matrix: Water

Date Received: 06/26/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.1		1.0	0.32	mg/L			06/26/20 17:13	1
Fluoride	<0.026		0.10	0.026	mg/L			06/26/20 17:13	1
Nitrate as N	0.46		0.10	0.023	mg/L			06/26/20 17:13	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/26/20 17:13	1
Sulfate	16		1.0	0.38	mg/L			06/26/20 17:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.081		0.080	0.039	mg/L		06/27/20 13:54	07/02/20 22:36	1
Calcium	9.6		0.50	0.13	mg/L		06/27/20 13:54	07/02/20 22:36	1
Cobalt	0.00015	J	0.0025	0.00013	mg/L		06/27/20 13:54	07/02/20 22:36	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/27/20 13:54	07/02/20 22:36	1
Magnesium	4.9		0.50	0.083	mg/L		06/27/20 13:54	07/02/20 22:36	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		06/27/20 13:54	07/02/20 22:36	1
Potassium	1.5		0.50	0.16	mg/L		06/27/20 13:54	07/02/20 22:36	1
Sodium	9.7		0.50	0.35	mg/L		06/27/20 13:54	07/02/20 22:36	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		06/27/20 13:54	07/02/20 22:11	1
Manganese	0.0028	J	0.0050	0.00087	mg/L		06/27/20 13:54	07/02/20 22:11	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 13:05	1
Total Alkalinity as CaCO3 to pH 4.!	39		5.0	5.0	mg/L			06/30/20 17:43	1
Bicarbonate Alkalinity as CaCO3	39		5.0	5.0	mg/L			06/30/20 17:43	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			06/30/20 17:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.61				SU			06/25/20 12:30	1

QC Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

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

Lab Sample ID: MB 180-319637/6
Matrix: Water
Analysis Batch: 319637

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			06/26/20 07:33	1
Fluoride	<0.026		0.10	0.026	mg/L			06/26/20 07:33	1
Nitrate as N	<0.023		0.10	0.023	mg/L			06/26/20 07:33	1
Nitrite as N	<0.029		0.050	0.029	mg/L			06/26/20 07:33	1
Sulfate	<0.38		1.0	0.38	mg/L			06/26/20 07:33	1

Lab Sample ID: LCS 180-319637/5
Matrix: Water
Analysis Batch: 319637

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	49.9		mg/L		100	90 - 110
Fluoride	2.50	2.37		mg/L		95	90 - 110
Nitrate as N	2.50	2.41		mg/L		97	90 - 110
Nitrite as N	2.50	2.42		mg/L		97	90 - 110
Sulfate	50.0	50.3		mg/L		101	90 - 110

Lab Sample ID: MB 180-320882/6
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			07/08/20 13:49	1

Lab Sample ID: LCS 180-320882/5
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	50.3		mg/L		101	90 - 110

Lab Sample ID: 180-107562-3 MS
Matrix: Water
Analysis Batch: 320882

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
Sulfate	210		500	709		mg/L		101	90 - 110

Lab Sample ID: 180-107562-3 MSD
Matrix: Water
Analysis Batch: 320882

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	Limit
Sulfate	210		500	713		mg/L		101	90 - 110	1	20

QC Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

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

Lab Sample ID: MB 180-319816/1-A
Matrix: Water
Analysis Batch: 320452

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 319816

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		06/27/20 13:54	07/02/20 21:26	1
Iron	<0.020		0.050	0.020	mg/L		06/27/20 13:54	07/02/20 21:26	1
Calcium	<0.13		0.50	0.13	mg/L		06/27/20 13:54	07/02/20 21:26	1
Manganese	<0.00087		0.0050	0.00087	mg/L		06/27/20 13:54	07/02/20 21:26	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		06/27/20 13:54	07/02/20 21:26	1
Lithium	<0.0034		0.0050	0.0034	mg/L		06/27/20 13:54	07/02/20 21:26	1
Magnesium	<0.083		0.50	0.083	mg/L		06/27/20 13:54	07/02/20 21:26	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		06/27/20 13:54	07/02/20 21:26	1
Potassium	<0.16		0.50	0.16	mg/L		06/27/20 13:54	07/02/20 21:26	1
Sodium	<0.35		0.50	0.35	mg/L		06/27/20 13:54	07/02/20 21:26	1

Lab Sample ID: LCS 180-319816/2-A
Matrix: Water
Analysis Batch: 320452

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 319816

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.25	1.23		mg/L		99	80 - 120
Iron	5.00	5.16		mg/L		103	80 - 120
Calcium	25.0	28.5		mg/L		114	80 - 120
Manganese	0.500	0.507		mg/L		101	80 - 120
Cobalt	0.500	0.527		mg/L		105	80 - 120
Lithium	0.500	0.521		mg/L		104	80 - 120
Magnesium	25.0	25.5		mg/L		102	80 - 120
Molybdenum	0.500	0.535		mg/L		107	80 - 120
Potassium	25.0	25.1		mg/L		101	80 - 120
Sodium	25.0	25.4		mg/L		101	80 - 120

Lab Sample ID: 180-107562-1 MS
Matrix: Water
Analysis Batch: 320452

Client Sample ID: EB#2
Prep Type: Dissolved
Prep Batch: 319816

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.042	J	1.25	1.23		mg/L		95	75 - 125
Iron	<0.020		5.00	5.23		mg/L		105	75 - 125
Calcium	<0.13		25.0	28.4		mg/L		114	75 - 125
Manganese	<0.00087		0.500	0.501		mg/L		100	75 - 125
Cobalt	0.00023	J	0.500	0.521		mg/L		104	75 - 125
Lithium	<0.0034		0.500	0.522		mg/L		104	75 - 125
Magnesium	<0.083		25.0	25.2		mg/L		101	75 - 125
Molybdenum	<0.00061		0.500	0.533		mg/L		107	75 - 125
Potassium	<0.16		25.0	24.8		mg/L		99	75 - 125
Sodium	<0.35		25.0	25.6		mg/L		102	75 - 125

Lab Sample ID: 180-107562-1 MSD
Matrix: Water
Analysis Batch: 320452

Client Sample ID: EB#2
Prep Type: Dissolved
Prep Batch: 319816

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.042	J	1.25	1.27		mg/L		98	75 - 125	3	20

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QC Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

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

Lab Sample ID: 180-107562-1 MSD
Matrix: Water
Analysis Batch: 320452

Client Sample ID: EB#2
Prep Type: Dissolved
Prep Batch: 319816

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	<0.020		5.00	5.00		mg/L		100	75 - 125	5	20
Calcium	<0.13		25.0	27.7		mg/L		111	75 - 125	2	20
Manganese	<0.00087		0.500	0.501		mg/L		100	75 - 125	0	20
Cobalt	0.00023	J	0.500	0.510		mg/L		102	75 - 125	2	20
Lithium	<0.0034		0.500	0.504		mg/L		101	75 - 125	4	20
Magnesium	<0.083		25.0	25.0		mg/L		100	75 - 125	1	20
Molybdenum	<0.00061		0.500	0.516		mg/L		103	75 - 125	3	20
Potassium	<0.16		25.0	24.2		mg/L		97	75 - 125	2	20
Sodium	<0.35		25.0	24.9		mg/L		100	75 - 125	3	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	Limits
Sulfide	11.9	10.5		mg/L		89	85 - 115

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	Limits
Sulfide	11.6	9.95		mg/L		86	85 - 115

Lab Sample ID: 180-107562-4 MS
Matrix: Water
Analysis Batch: 320374

Client Sample ID: ARGWA-19
Prep Type: Total/NA
Prep Batch: 320341

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Sulfide	<2.1		11.6	9.73		mg/L		84	75 - 125

QC Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric) (Continued)

Lab Sample ID: 180-107562-4 MSD
Matrix: Water
Analysis Batch: 320374

Client Sample ID: ARGWA-19
Prep Type: Total/NA
Prep Batch: 320341

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	<2.1		11.6	9.73		mg/L	-	84	75 - 125	0	20

Method: SM2320 B - Alkalinity, Total

Lab Sample ID: MB 180-320519/29
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 16:03	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L	-		06/30/20 16:03	1
Carbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L	-		06/30/20 16:03	1

Lab Sample ID: LCS 180-320519/28
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	230		mg/L	-	92	90 - 110

Lab Sample ID: 180-107562-3 DU
Matrix: Water
Analysis Batch: 320519

Client Sample ID: ARGWC-21
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	140		140		mg/L	-	1	20
Bicarbonate Alkalinity as CaCO3	140		140		mg/L	-	1	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: 180-107562-1

HPLC/IC

Analysis Batch: 319637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107562-1	EB#2	Total/NA	Water	EPA 300.0 R2.1	
180-107562-2	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-107562-3	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
180-107562-4	ARGWA-19	Total/NA	Water	EPA 300.0 R2.1	
180-107562-5	ARGWA-20	Total/NA	Water	EPA 300.0 R2.1	
MB 180-319637/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-319637/5	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
180-107562-3	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
MB 180-320882/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-320882/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-107562-3 MS	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
180-107562-3 MSD	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 319816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107562-1	EB#2	Dissolved	Water	3005A	
180-107562-1	EB#2	Total Recoverable	Water	3005A	
180-107562-2	ARGWC-23	Dissolved	Water	3005A	
180-107562-2	ARGWC-23	Total Recoverable	Water	3005A	
180-107562-3	ARGWC-21	Dissolved	Water	3005A	
180-107562-3	ARGWC-21	Total Recoverable	Water	3005A	
180-107562-4	ARGWA-19	Dissolved	Water	3005A	
180-107562-4	ARGWA-19	Total Recoverable	Water	3005A	
180-107562-5	ARGWA-20	Dissolved	Water	3005A	
180-107562-5	ARGWA-20	Total Recoverable	Water	3005A	
MB 180-319816/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-319816/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-107562-1 MS	EB#2	Dissolved	Water	3005A	
180-107562-1 MSD	EB#2	Dissolved	Water	3005A	

Analysis Batch: 320452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107562-1	EB#2	Dissolved	Water	EPA 6020B	319816
180-107562-1	EB#2	Total Recoverable	Water	EPA 6020B	319816
180-107562-2	ARGWC-23	Dissolved	Water	EPA 6020B	319816
180-107562-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	319816
180-107562-3	ARGWC-21	Dissolved	Water	EPA 6020B	319816
180-107562-3	ARGWC-21	Total Recoverable	Water	EPA 6020B	319816
180-107562-4	ARGWA-19	Dissolved	Water	EPA 6020B	319816
180-107562-4	ARGWA-19	Total Recoverable	Water	EPA 6020B	319816
180-107562-5	ARGWA-20	Dissolved	Water	EPA 6020B	319816
180-107562-5	ARGWA-20	Total Recoverable	Water	EPA 6020B	319816
MB 180-319816/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	319816
LCS 180-319816/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	319816
180-107562-1 MS	EB#2	Dissolved	Water	EPA 6020B	319816
180-107562-1 MSD	EB#2	Dissolved	Water	EPA 6020B	319816

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QC Association Summary

Client: Southern Company
Project/Site: Plant Arkwright AP3 Alternate Source

Job ID: 180-107562-1

General Chemistry

Prep Batch: 320115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107562-1	EB#2	Total/NA	Water	9030B	
180-107562-2	ARGWC-23	Total/NA	Water	9030B	
180-107562-3	ARGWC-21	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	

Analysis Batch: 320175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107562-1	EB#2	Total/NA	Water	EPA 9034	320115
180-107562-2	ARGWC-23	Total/NA	Water	EPA 9034	320115
180-107562-3	ARGWC-21	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

Prep Batch: 320341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107562-4	ARGWA-19	Total/NA	Water	9030B	
180-107562-5	ARGWA-20	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	
180-107562-4 MS	ARGWA-19	Total/NA	Water	9030B	
180-107562-4 MSD	ARGWA-19	Total/NA	Water	9030B	

Analysis Batch: 320374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107562-4	ARGWA-19	Total/NA	Water	EPA 9034	320341
180-107562-5	ARGWA-20	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
180-107562-4 MS	ARGWA-19	Total/NA	Water	EPA 9034	320341
180-107562-4 MSD	ARGWA-19	Total/NA	Water	EPA 9034	320341

Analysis Batch: 320519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107562-1	EB#2	Total/NA	Water	SM2320 B	
180-107562-2	ARGWC-23	Total/NA	Water	SM2320 B	
180-107562-3	ARGWC-21	Total/NA	Water	SM2320 B	
180-107562-4	ARGWA-19	Total/NA	Water	SM2320 B	
180-107562-5	ARGWA-20	Total/NA	Water	SM2320 B	
MB 180-320519/29	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-320519/28	Lab Control Sample	Total/NA	Water	SM2320 B	
180-107562-3 DU	ARGWC-21	Total/NA	Water	SM2320 B	

Field Service / Mobile Lab

Analysis Batch: 320074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107562-2	ARGWC-23	Total/NA	Water	Field Sampling	
180-107562-3	ARGWC-21	Total/NA	Water	Field Sampling	
180-107562-4	ARGWA-19	Total/NA	Water	Field Sampling	
180-107562-5	ARGWA-20	Total/NA	Water	Field Sampling	

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 PITTSBURGH PA 15238

(US) 868-7058 REF1



FRI - 26 JUN 10:30
 PRIORITY OVERNIGHT
 DSR AH
 1523
 PI

8121 9304 5808

MA 1523

Uncorrected temp 4.9 °C
 Thermometer ID 14

CF Initials JB

PT341SR-001 effective 7/25/13



Walmart

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Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-107562-1

Login Number: 107562

List Number: 1

Creator: Say, Thomas C

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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: 2020-06-25 10:13:11

Project Information:

Operator Name Ever Guillen
Company Name Wood
Project Name Plant Arkwright AP2 ASD
Site Name Default Site
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 52.74 ft

Pump placement from TOC 47.74 ft

Well Information:

Well ID ARGWC-19
Well diameter 2 in
Well Total Depth 52.74 ft
Screen Length 10 ft
Depth to Water 24.67 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.7154009 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
			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Stabilization									
Last 5	09:51:41	900.03	19.42	5.79	0.19	1.81	24.77	3.81	99.10
Last 5	09:56:41	1199.92	19.42	5.80	0.19	1.17	24.77	3.75	96.03
Last 5	10:01:41	1499.93	19.31	5.80	0.19	1.31	24.77	3.70	94.35
Last 5	10:06:41	1799.93	19.23	5.80	0.19	1.05	24.77	3.67	93.74
Last 5	10:11:41	2099.93	19.21	5.80	0.19	0.77	24.77	3.63	91.86
Variance 0			-0.10	0.00	-0.00			-0.05	-1.68
Variance 1			-0.08	-0.00	-0.00			-0.03	-0.61
Variance 2			-0.02	-0.00	-0.00			-0.04	-1.88

Notes

Sampled@ 1015

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-25 12:29:18

Project Information:

Operator Name Ever Guillen
Company Name Wood
Project Name Plant Arkwright AP2 ASD
Site Name ARGWA-20
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 37.70 ft

Pump placement from TOC 32.70 ft

Well Information:

Well ID ARGWA-20
Well diameter 2 in
Well Total Depth 37.70 ft
Screen Length 10 ft
Depth to Water 12.07 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.6482711 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
			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Stabilization									
Last 5	12:05:26	899.94	19.91	5.58	0.13	8.46	12.29	5.42	94.08
Last 5	12:10:26	1199.93	19.64	5.58	0.13	6.72	12.29	5.34	91.29
Last 5	12:15:30	1503.93	19.71	5.61	0.13	5.96	12.29	5.41	91.24
Last 5	12:20:30	1803.99	19.93	5.61	0.14	5.40	12.29	5.32	90.80
Last 5	12:25:30	2103.95	19.98	5.61	0.13	3.37	12.29	5.23	90.20
Variance 0			0.07	0.03	0.00			0.07	-0.06
Variance 1			0.23	-0.00	0.00			-0.09	-0.44
Variance 2			0.04	-0.00	-0.00			-0.09	-0.60

Notes

SAMPLED @ 1230

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-25 13:18:31

Project Information:

Operator Name Daniel Howard
Company Name Wood
Project Name Plant Arkwright AP2 ASD
Site Name ARGWC-21
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 27 ft

Pump placement from TOC 22 ft

Well Information:

Well ID ARGWC-21
Well diameter 2 in
Well Total Depth 26.98 ft
Screen Length 10 ft
Depth to Water 13.63 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.7406238 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 μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	12:54:58	1500.00	19.96	5.98	600.23	9.11	14.90	0.15	60.75
Last 5	12:59:58	1799.99	20.03	5.98	600.63	7.18	14.90	0.15	60.51
Last 5	13:04:58	2099.99	19.96	5.98	600.65	5.38	14.90	0.14	60.14
Last 5	13:09:58	2399.98	19.98	5.98	601.51	4.97	14.90	0.14	59.80
Last 5	13:14:58	2699.98	20.06	5.98	601.94	4.40	14.90	0.14	59.34
Variance 0			-0.07	-0.00	0.02			-0.01	-0.37
Variance 1			0.02	-0.00	0.86			0.00	-0.34
Variance 2			0.08	-0.00	0.43			0.00	-0.46

Notes

ARGWC-21 sample time 1315

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-24 10:02:17

Project Information:

Operator Name Terrell Parker
Company Name Wood E&IS
Project Name Plant Arkwright AP2 ASD
Site Name ARGWC-22
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369323
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type Peristaltic
Tubing Type HDPE
Tubing Diameter 0.170 in
Tubing Length 30 ft

Pump placement from TOC 22.9 ft

Well Information:

Well ID ARGWC-22
Well diameter 2 in
Well Total Depth 27.87 ft
Screen Length 10 ft
Depth to Water 13.51 ft

Pumping Information:

Final Pumping Rate 125 mL/min
Total System Volume 0.2339027 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 2.28 in
Total Volume Pumped 4.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	09:39:08	1200.02	20.04	5.90	1505.18	5.58	13.68	0.16	83.69
Last 5	09:44:08	1500.02	20.06	5.87	1509.91	3.15	13.68	0.16	82.64
Last 5	09:49:08	1800.02	19.83	5.85	1497.67	3.88	13.70	0.14	80.34
Last 5	09:54:08	2100.03	19.75	5.84	1498.71	2.67	13.70	0.13	80.17
Last 5	09:59:08	2400.03	19.79	5.82	1498.79	2.73	13.70	0.13	79.47
Variance 0			-0.22	-0.02	-12.25			-0.02	-2.30
Variance 1			-0.09	-0.01	1.05			-0.01	-0.17
Variance 2			0.04	-0.02	0.08			0.00	-0.70

Notes

Sample time: 10:05

Grab Samples

ARGWC-22
Groundwater

Product Name: Low-Flow System

Date: 2020-06-25 11:20:12

Project Information:

Operator Name Daniel Howard
Company Name Wood
Project Name Plant Arkwright AP2 ASD
Site Name ARGWC-23
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 646770
Turbidity Make/Model Hatch 2100Q

Pump Information:

Pump Model/Type Masterflex Peristaltic Pump
Tubing Type HDPE
Tubing Diameter 0.17 in
Tubing Length 28 ft

Pump placement from TOC 23 ft

Well Information:

Well ID ARGWC-23
Well diameter 2 in
Well Total Depth 28.08 ft
Screen Length 10 ft
Depth to Water 11.61 ft

Pumping Information:

Final Pumping Rate 150 mL/min
Total System Volume 0.2149758 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.2 in
Total Volume Pumped 5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	10:55:59	600.02	22.21	6.38	432.84	5.41	12.74	0.18	57.30
Last 5	11:00:59	900.00	22.03	6.37	434.46	3.56	12.83	0.15	52.60
Last 5	11:05:59	1200.01	22.29	6.37	435.17	2.26	12.82	0.17	49.21
Last 5	11:10:59	1500.00	22.17	6.37	434.84	2.34	12.82	0.16	47.02
Last 5	11:15:59	1800.00	22.17	6.37	433.63	2.03	12.82	0.15	45.16
Variance 0			0.26	-0.00	0.71			0.01	-3.39
Variance 1			-0.12	-0.00	-0.33			-0.01	-2.18
Variance 2			-0.01	0.00	-1.21			-0.01	-1.86

Notes

ARGWC-23 sample time 1118

Grab Samples

Product Name: Low-Flow System

Date: 2020-06-24 12:39:41

Project Information:

Operator Name Terrell Parker
Company Name Wood E&IS
Project Name Plant Arkwright AP2 ASD
Site Name ARAMW-1
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369323
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type Peristaltic
Tubing Type HDPE
Tubing Diameter 0.170 in
Tubing Length 48 ft

Pump placement from TOC 42.0 ft

Well Information:

Well ID ARAMW-1
Well diameter 2 in
Well Total Depth 45.31 ft
Screen Length 10 ft
Depth to Water 12.93 ft

Pumping Information:

Final Pumping Rate 125 mL/min
Total System Volume 0.3142443 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 2.04 in
Total Volume Pumped 7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	12:13:49	2100.03	21.97	6.34	730.89	6.26	13.10	0.26	57.89
Last 5	12:18:49	2400.02	22.14	6.33	731.25	5.19	13.10	0.26	60.33
Last 5	12:23:49	2700.02	22.14	6.31	729.62	3.92	13.10	0.24	62.35
Last 5	12:28:49	2999.91	22.13	6.31	730.56	4.13	13.10	0.23	62.17
Last 5	12:33:49	3299.91	22.08	6.31	738.10	3.95	13.10	0.24	61.60
Variance 0			-0.01	-0.01	-1.63			-0.02	2.01
Variance 1			-0.01	-0.00	0.94			-0.01	-0.18
Variance 2			-0.04	-0.00	7.54			0.01	-0.58

Notes

Sample time: 12:45

Grab Samples

ARAMW-1
Groundwater

Product Name: Low-Flow System

Date: 2020-06-24 16:38:57

Project Information:

Operator Name Terrell Parker
Company Name Wood E&IS
Project Name Plant Arkwright AP2 ASD
Site Name ARAMW-2
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369323
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type Peristaltic
Tubing Type HDPE
Tubing Diameter 0.170 in
Tubing Length 25 ft

Pump placement from TOC 20 ft

Well Information:

Well ID ARAMW-2
Well diameter 2 in
Well Total Depth 24.85 ft
Screen Length 10 ft
Depth to Water 13.12 ft

Pumping Information:

Final Pumping Rate 150 mL/min
Total System Volume 0.2115856 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.24 in
Total Volume Pumped 22 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	16:15:18	6900.18	21.70	6.18	712.84	6.10	13.14	0.08	35.98
Last 5	16:20:18	7200.18	21.67	6.19	700.41	5.24	13.14	0.08	36.50
Last 5	16:25:18	7500.18	21.79	6.19	710.15	4.70	13.14	0.09	33.32
Last 5	16:30:18	7800.18	21.62	6.19	719.21	4.69	13.14	0.09	33.11
Last 5	16:35:18	8100.18	21.66	6.19	718.48	4.90	13.14	0.09	32.36
Variance 0			0.12	-0.00	9.74			0.01	-3.17
Variance 1			-0.18	0.00	9.06			0.00	-0.22
Variance 2			0.04	0.00	-0.73			-0.01	-0.75

Notes

Sample time: 16:40

Grab Samples

ARAMW-2
Groundwater

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

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

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

Job ID: 180-109846-1 (Continued)

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 Instrument ID: CHIC2100A		1			327077	08/26/20 13:02	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:01	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			329135	09/10/20 01:55	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 10:05	RJR	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			327279	08/20/20 14:45	FDS	TAL PIT

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 Instrument ID: CHIC2100A		1			327077	08/26/20 11:11	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:04	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			329135	09/10/20 02:12	DSH	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328515	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			328649	09/05/20 09:50	RJR	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			327279	08/20/20 11:45	FDS	TAL PIT

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 Instrument ID: CHICS2000		1			327578	08/28/20 15:07	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328065	09/01/20 16:08	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			328773	09/04/20 22:07	RJR	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328636	09/05/20 06:15	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			328684	09/07/20 08:48	RJR	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			327279	08/21/20 09:45	FDS	TAL PIT

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
Barium	0.045		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
Chromium	0.0021		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
Selenium	0.0029 J		0.0050	0.0015	mg/L		08/28/20 15:02	09/17/20 21:36	1
Thallium	0.00027 J		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	5.24				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
Barium	0.025		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
Lithium	0.0042	J	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
Selenium	0.019		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	6.15				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
Barium	0.062		0.010	0.0016	mg/L		08/28/20 15:02	09/17/20 21:50	1
Beryllium	0.00039 J		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
Cobalt	0.030		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	5.07				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
Barium	0.034		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
Chromium	0.0049		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 21:54	1
Cobalt	0.00015 J		0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 21:54	1
Lead	0.00013 J		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	7.06				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
Date Collected: 08/19/20 00:00
Date Received: 08/20/20 09:30

Lab Sample ID: 180-109848-2
Matrix: Water

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
Barium	0.034		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
Chromium	0.0051		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 22:06	1
Cobalt	0.00020	J	0.0025	0.00013	mg/L		08/28/20 15:02	09/17/20 22:06	1
Lead	0.00016	J	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	7.06				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
Barium	0.046		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
Chromium	0.0080		0.0020	0.0015	mg/L		08/28/20 15:02	09/17/20 22:10	1
Cobalt	0.00013 J		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	^	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
pH	7.21				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
Barium	0.031		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
Lead	0.00013	J	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
Thallium	0.00021	J	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
pH	6.18				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
Barium	0.021		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
Chromium	0.0027		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 18:14	1
Cobalt	0.00022	J	0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 18:14	1
Lead	0.00019	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
Thallium	0.00036	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
Barium	0.044		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
Chromium	0.0031		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	6.70				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
Thallium	0.00015	J	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
Barium	0.044		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
Lithium	0.0038	J	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	6.25				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
Barium	0.085		0.010	0.0016	mg/L		08/28/20 15:10	09/17/20 18:36	1
Beryllium	0.00022	J	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
Chromium	0.0063		0.0020	0.0015	mg/L		08/28/20 15:10	09/17/20 18:36	1
Cobalt	0.00064	J	0.0025	0.00013	mg/L		08/28/20 15:10	09/17/20 18:36	1
Lead	0.00039	J	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
Selenium	0.0015	J	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	6.16				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
Boron	0.056	J ^	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
Arsenic	0.084		0.0010	0.00031	mg/L		09/01/20 16:00	09/10/20 01:30	1
Barium	0.14		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
Cobalt	0.0022	J	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
Lithium	0.036		0.0050	0.0034	mg/L		09/01/20 16:00	09/10/20 01:30	1
Molybdenum	0.0013	J	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	5.99				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
Barium	0.041		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
Cobalt	0.0015	J	0.0025	0.00013	mg/L		09/01/20 16:00	09/10/20 01:37	1
Lead	0.00028	J	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
Barium	0.037		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
Cobalt	0.0013	J	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
pH	6.43				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
Barium	0.093		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
Cobalt	0.00056	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
Molybdenum	0.0029	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	6.24				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
Arsenic	0.00034	J	0.0010	0.00031	mg/L		09/01/20 16:04	09/10/20 02:12	1
Barium	0.053		0.010	0.0016	mg/L		09/01/20 16:04	09/10/20 02:12	1
Beryllium	<0.00018	[^]	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
Cobalt	0.0050		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
Lithium	0.012		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
Thallium	0.00022	J	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
pH	5.77				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

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 180-328062/1-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

Eurofins TestAmerica, Pittsburgh

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	

Eurofins TestAmerica, Pittsburgh

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	

Eurofins TestAmerica, Pittsburgh

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	

Eurofins TestAmerica, Pittsburgh

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

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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

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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	

301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: (412) 963-7058 Fax (412) 963-2458

Client Information Client Contact: ES. Iko ASherida SCS Contacts: Shelli Brown Company: ES. Iko ASherida GA Power Address: 241 Ralph McGill Blvd SE City: Atlanta State/Zip: GA, 30308 Phone: 404-508-7116 (Tel) SCS Contacts Project Name: CCR - Plant Arkwright CCR - Plant Arkwright Site: Georgia		Lab/FM: Brown, Shelli E-Mail: Shelli.brown@eurofins.com Carrier Tracking File(s): Job #:	CQC No: Page: Job #:
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: 18020201 SSO #: Sample Identification: ARGWA-14 ARGWC-15 ARGWC-16	Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> Analysis Requested: App II metals (Co, Cr, Pb, Ni, Mn, Cu, Zn, Cd, Hg) (7-170A) Radium 226/228 (9315/9320) Fluoride (300)	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 F - MeOH G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate U - Acetone V - NCA J - DI Water K - EDTA L - EDA W - pH 4.5 Z - other (specify) Other: Special Instructions/Note: 3 pH = 6.62 3 pH = 6.47 3 pH = 5.24	
Sample Date: 8/19/20 Sample Time: 1355 Matrix: W Sample Type (C=Comp, G=grab): G Preservation Code: W Sample Date: ↓ Sample Time: 1005 Matrix: W Sample Type: G Preservation Code: W Sample Date: ↓ Sample Time: 1205 Matrix: W Sample Type: G Preservation Code: W	Total Number of Containers: 3 Total Number of Containers: 3 Total Number of Containers: 3	Barcode: 180-109846 Chain of Custody	
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 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 Special Instructions/QC Requirements:	Method of Shipment: Received by: Daniel Howard Date/Time: 8/19/20 1815 Received by: Shelli Brown Date/Time: 8-20-20 Received by: ES. Iko ASherida Date/Time: 9:30	
Empty Kit Relinquished by: Daniel Howard Relinquished by: Relinquished by: Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	Company: Company: Company:	

Client Information Client Contact: D Howard, E Gullik, A Sherrod SCS Contacts: Shelli.brown@eurofins.com Company: GA Power		Lab PM: Brown, Shelli E-Mail: Shelli.brown@eurofins.com		Carrier Tracking No(s): Page: 1 of 1 Job #:	
Address: 241 Ralph McGill Blvd SE City: Atlanta State, Zip: GA, 30308 Phone: 404-506-7116(Tel) Email:		Due Date Requested: TAT Requested (days): Standard		Analysis Requested: 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 - AshNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Project Name: CCR - Plant Arkwright Site: Georgia		Project #: 18020201 SSO#: Perform MS/MSD (Yes or No):		Total Number of Containers:	
Sample Identification: FB#1 ARGWA-12 ARGWA-13 ARGWC-17		Sample Date: 8/18/20 Sample Time: 1100 1300 1450 1445		Field Filtered Sample (Yes or No): Preservation Code: G G G G	
Matrix: W Sample Type (G=comp, G=grab): G		Special Instructions/Note: pH = 6.48 pH = 6.15 pH = 5.07		Special Instructions/Note:  180-109847 Chain of Custody	
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		Months:	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:		Method of Shipment:	
Empty Kit Relinquished by: D Howard		Date/Time: 8/18/20 1730		Received by: Debbie Abbott	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	

Chain of Custody Record

244-ATLANTA


Client Information Client Contact: D Howard, EG Willey, Ashworth SCS Contacts: Shelli Brown Company: Brown, Shelli Address: 241 Ralph McGill Blvd SE City: Atlanta State/Zip: GA, 30308 Phone: 404-506-7116 (Tel) Email: shelli.brown@eurofins.com		Lab PM: Brown, Shelli E-Mail: shelli.brown@eurofins.com		COC No: Page: Job #:	
Due Date Requested: TAT Requested (day): PO #: WO #: Project #: SCS Contacts: CCR - Plant Arkwright Site: Georgia		Analysis Requested Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): Total Number of Containers:		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: Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - Me2A W - pH 4.5 X - EDA Z - other (specify)	
Sample Identification # AGGW ARGWC-10 DUP-1 ARGWC-9		Sample Date: 8/19/20 Sample Time: 1135 Sample Type (C=comp, G=grab): G Matrix (Water, Swab, Overhaul, Airborne Acid): W		Special Instructions/Note: PH = 7.06 PH = 7.06 PH = 7.21	
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		Barcode: 180-109848 Chain of Custody	
Empty Kit Relinquished by: Daniel Howard		Date/Time Relinquished: 8/19/20/1815		Date/Time Received: 9:30	
Relinquished by: Daniel Howard		Date/Time Received: 8/20/20		Date/Time Received: 9:30	
Custody Seal Intact: A Yes A No		Cooler Temperature(s) °C and Other Remarks:		Company: ETA Company: Company:	

Chain of Custody Record

244-ATLANTA

Client Information Client Contact: SCS Contacts Company: Woodward GA Power Address: 241 Ralph McGill Blvd SE City: Atlanta State: GA, Zip: 30308 Phone: 404-506-7116 (Tel) Email: SCS Contacts Project Name: CCR - Plant Arkwright Site: Georgia		Sample: DHoward, Egwille, Ashworth Lab FM: Brown, Shall E-Mail: shall.brown@eurofins.com		Center Tracking (to/s): COC No: Page: 1 of 1 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 matrix (62028) + H ₂ 7970H Fluorick 300-ORGM-28D Radium 226/228 (9315/9320)			
Sample Identification ARGWA-5 ARGWA-3 ARGWC-7		Sample Date 8/18/20 ↓ 1525	Sample Time 1135 1320 1525	Sample Type (C=Comp, G=Grab) G G G	Matrix (W=Water, S=Soils, O=Other) W W W
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) Empty Kit Relinquished by: D Howard		Special Instructions/QC Requirements: 180-109850 Chain of Custody			
Relinquished by: D Howard Relinquished by:		Date/Time: 8/18/20 / 1730 Date/Time:		Method of Shipment: Received by: William Watson Date/Time: 8-20-20 Received by: William Watson Date/Time: 9/13/20	
Relinquished by:		Date/Time:		Company: Wood EHS Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			



Client Information		Sampler: D Howard, E Swilko, A Sherred		Lab FM: Brown, Shall		COC No:	
Client Contact: SCS Contacts		Phone: 404-506-7116(Tel)		E-Mail: shall.brown@eurofins.com		Page:	
Company: GA Power		Address: 241 Ralph McGill Blvd SE		City: Atlanta		Job #:	
State: GA		Phone: 404-506-7116(Tel)		State: GA		Analysis Requested:	
Email: SCS Contacts		Project Name: CCR - Plant Artwright		Site: Georgia		Preservation Codes:	
Project #: 18020201		SOW#: EB#2		Due Date Requested:		M - Hexane	
SOW#: ARGWA-19		Sample Date:		TAT Requested (days):		N - Hexa	
SOW#: ARGWA-20		Sample Time:		FO #:		O - Acetate	
SOW#: ARGWC-22		Sample Time:		WO #:		P - Na2O4S	
Sample Identification		Sample Date		Project #		Q - Na2SO3	
		8/19/20 0915		18020201		R - Na2S2O3	
		1056		SSOW#		S - H2SO4	
		1344				T - TSP Dodecahydrate	
		1532				U - Acetone	
						V - MeOH	
						W - pH 4-5	
						X - Other (specify)	
						Z - Other (specify)	
						Other:	
						Special Instructions/Note:	
						Total Number of containers: 3	
						3 pH = 6.25	
						3 pH = 6.16	
						3 pH = 6.21	
						Barcode: 	
						180-109851 Chain of Custody	
Possible Hazard Identification		Disposal By Lab		Archive For		Months	
<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological			
<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B			
Deliverable Requested I, II, III, IV, Other (specify)		Time:		Method of Shipment:			
Empty Kit Relinquished by:		Date:		Received by:		Date/Time	
Relinquished by: Daniel Howard		8/19/20/1815		Received by: Daniel Howard		8-20-20	
Relinquished by:		Date/Time		Received by:		Date/Time	
Relinquished by:		Date/Time		Received by:		Date/Time	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			
A Yes A No							

Chain of Custody Record

EUROFINS
 244-ATLANTA

Client Information Client Contact: David Howard SCS Contacts: Shelli Brown Email: shelli.brown@eurofins.com		Lab PM: Brown, Shelli E-Mail: shelli.brown@eurofins.com		Carrier Tracking No(s): COC No: Page: Job #:			
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: SCS Contacts: Project Name: GCR - Plant Arkwright Site: Georgia		Analysis Requested 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 - AsHAcO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - Me2AA W - pH 4.5 X - Other (specify)					
Sample Identification: FB#2 ARGWC-23 DWP-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 (A=Air, B=Soil, C=Water, D=Other) W W W W W	Field Filtered Sample (Yes or No) Pre-Form Meq/MSD (Yes or No) Analysis Requested App. II Metals (6025B) + Hg (1470A) Radium 226/228 (335/320) Chloride, Sulfate, Fluoride (300) TDS 2540G HF fluoride (300)	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		Deliverable Requested: I, II, III, IV, Other (specify)					
Empty Kit Relinquished by: David Howard		Date/Time: 8/20/20 1840		Date/Time: 8-21-20		Date/Time: 1/15	
Relinquished by: Relinquished by: Relinquished by:		Company: Wood		Company: Deline Western		Company: EXHAH	
Custody Seal No.: A. Yes A. No		Cooler Temperature(s) °C and/or Remarks:					



180-109918 Chain of Custody

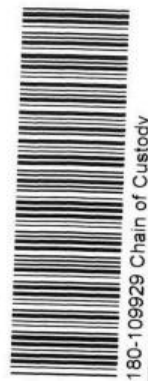
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For: _____ Months

Special Instructions/QC Requirements:

Method of Shipment:

Time:

Client Information Company: Evergreen, A Shredco Client Contact: Lab PM Brown, Shail SCS Contacts: shail.brown@eurofins.net Phone: 404-506-7116(Tel)		Carrier Tracking No(s): COC No: Page: Job #:	
Address: 241 Ralph McGill Blvd SE City: Atlanta State/Zip: GA, 30308 Phone: 404-506-7116(Tel) Email: shail.brown@eurofins.net		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 - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)	
Due Date Requested: TAT Requested (days): PO #: 18020201 WO #: SSOW#		Analysis Requested Total Number of Containers: 3 Special Instructions (Note): PH = 6.34 PH = 6.43	
Sample Identification: ARGWC-8 ARGWC-18		Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> Sample Date: 8/20/20 Sample Time: 1035 Matrix: W Sample Type: G Preservation Code: W	
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: Paul & Howard		Method of Shipment:	
Relinquished by: Paul & Howard		Date/Time: 8-21-20	
Relinquished by: Paul & Howard		Date/Time: 8-21-20	
Relinquished by: Paul & Howard		Date/Time: 8-21-20	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:	



Chain of Custody Record

244-ATLANTA

Client Information Client Contact: Ever Guillen SCS Contact: Andrew Shields Company: Ever Guillen Andrew Shields Lab #/W: Brown, Shall E-Mail: shall.brown@eurofins.com		COC No: _____ Page: _____ Job #: _____	
Due Date Requested: _____ TAT Requested (days): _____ PO #: _____ WO #: _____ Project #: 18020201 SCSW#: _____		Analysis Requested: _____ Total Number of Containers: _____	
Address: 241 Ralph McGill Blvd SE City: Atlanta State Zip: GA 30308 Phone: 404-506-7116(Tel) Email: _____ SCS Contacts: _____ Project Name: CCR - Plant Arkwright Site: Georgia		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 - Rona O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecalhydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)	
Sample Identification: EB# 1 ARAMW-3 ARAMW-4		Special Instructions/Note: pH = 6.24 pH = 5.77	
Sample Date: 8/20/20 Sample Time: 0930 1445 1145		Matrix: W W W	
Sample Type (C=Comp, G=Grab): G G G		Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> Yes Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> Yes	
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: _____ Relinquished by: David L Howard Relinquished by: _____ Relinquished by: _____ Custody Seals Intact: _____ A Yes A No		Method of Shipment: _____ Date/Time: 8/20/20 / 1840 Date/Time: _____ Date/Time: _____ Received by: Wood Company: Wood Received by: _____ Company: _____ Received by: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks: _____	



Client Information Client Contact: SCS Contacts 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 Arknwright Site: Georgia		Lab #/1 Brown, Shall E-Mail: shall.brown@eurofinset.com		Corner Tracking No(s) Page: 1 of 1 Job #		COC No.	
Due Date Requested: TAT Requested (days): Standard		Analysis Requested		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:		Total Number of Containers: 3 Special Instructions/Note: 3 pH = 6.32 3 pH = 5.89	
Sample Identification A R A M W - 6 A R G W C - 21		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) App II metals THg (6020A/170A) Radium 226/228(9315/9320) Fluoride (300)		Matrix (Weak, Strong, Other) Preservation Code: W W		Barcode 180-109970 Chain of Custody	
Sample Date: 8/21/2014 Sample Time: 1036 Sample Type (C=Comp, G=grab): G Preservation Code: W		Sample Date: 8/21/2014 Sample Time: 1036 Sample Type (C=Comp, G=grab): G Preservation Code: W		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	
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		Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements		Method of Shipment	
Empty Kit Relinquished by: Daniel L Howard Date: 8/21/2014 Time: 1315		Relinquished by: Daniel L Howard Date/Time: 8/21/2014 10:00 Company:		Relinquished by: J. J. Watson Date/Time: 8/22/2014 10:00 Company:		Relinquished by: Date/Time: Company:	
Custody Seals Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Ver: 01/16/2019		1 2 3 4 5 6 7 8 9 10 11 12 13	

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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

TO SAMPLE RECIEVIN
EUROEINS TEST A
301 ALPHA DR

PITTSBURGH PA

(412) 968-7868
PH: PG:

edk
Expr
E

AG 10:30A
ERNIGHT
DSR
15238
PIT

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.

1 AGC

Uncorrected temp 27
Thermometer ID 14

CF 0 Initials J

PT-WI-SR-001 effective 11/8/18



180-109846 Waybill

Environm
TestAmet

8850

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Recipient's

Express Package Service * To most locations.

Packages up to 100 lbs.
For packages over 100 lbs.,
FedEx Express Freight is required.

Next Business Day

2 or 3 Business Days

FedEx First Overnight
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

FedEx 2Day A.M.
Second business morning. Saturday Delivery NOT available.

FedEx Priority Overnight
Second business morning. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

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: 18 AUG 20
ACTWT: 58.00 LB
CAD: 6994493/SSFE2110
DIMS: 24x14x10 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING**
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

(412) 983-7068
TNU:
PO:

REF:
DEPT:



TRK# 8121 9394 5820
0215

WED - 19 AUG 10:30A
PRIORITY OVERNIGHT

NA AGCA

15238
PA-US PIT

Uncorrected temp _____
Thermometer ID _____
CF Initials JS



PT-WI-SR-001 effective 11/8/18

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MURS
Form ID No. **0215** Recipient's U

Express Package Service *To most locations. Packages up to 150 lb. For packages over 150 lb., use the FedEx Express Freight US Airbill.

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: THU: PG: DEPT:



A
5360
08.20

TRK# **8121 9394 5360**
0215

THU - 20 AUG 10:30A
PRIORITY OVERNIGHT
DSR
15238
PIT
PA-US

NA AGCA

Uncorrected temp
Thermometer ID 11
14
CF 0 Initials B

PT-WI-SR-001 effective 1/18/18



INS Env Top 05884

ORIGIN ID:MCNA (770) 421-3400
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

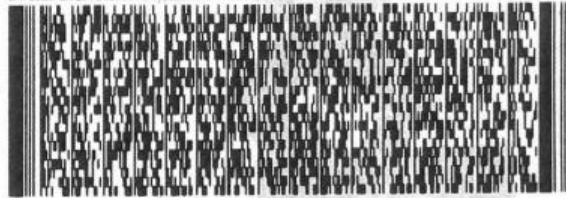
Part # 156927/95/16/27/19/5/EXP 07/21

TO **SAMPLE RECEIVING**
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

(412) 969-7068
INV:
PO:

REF:

DEPT:



FedEx
Express



10101/002020Z

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

FedEx
FT 97
FZ

1 10:30 A
5841
08.20



ORIGIN ID:MCNA (770) 421-3400
DANIEL HOWARD
AMES (WOOD E+IS)
1075 BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 19AUG20
ACTWGT: 57.45 LB
CAD: 6994493/SSFE2110
DIMS: 24x13x14 IN
BILL THIRD PARTY

Part # 1562984950403355P 07/21

TO **SAMPLE RECIEVING**
EUROFINS TEST AMERICA
301 ALPHA DR

PITTSBURGH PA 15238

(412) 963-7068
REF: PO:



TRK# 8121 9394 5841
0215

THU - 20 AUG 10:30A
PRIORITY OVERNIGHT
DSR
15238
PIT
PA-US

NA AGCA

Uncorrected temp Thermometer ID
CF 0 Initials B
PT-WI-SR-001 effective 11/8/18

FRI - 21 AUG 10:30A
PRIORITY OVERNIGHT
DSR
15238
PA-US P11

NA AGCA

TRK# 8121 9394 5326



PITTSBURGH PA 15238
RDC PARK
301 ALPHA DR

SAMPLE RECEIVING

SHIP DATE: 20AUG20
ACTWGT: 61.15 LB
CAD#: 6994493/5SFE2110
DIMS: 24x14x13 IN
BILL THIRD PARTY

ORIGIN ID: MCNA (770) 421-3400
DANIEL HOWARD
AMEC (WOOD #18)
1075 BIG SHANTY RD NM 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 ID No. 0215

Uncorrected temp
Thermometer ID
Initials
CF
PT-WI-SR-001 effective 11/8/18



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FedEx Tracking Number 8121 9394 5337

Form ID No 0215

Recipient's Copy

4 Express Package Service * To most locations.

Packages up to 150 lbs. For packages over 150 lbs., use the FedEx Express Freight US Airmail.

Next Business Day

FedEx First Overnight

ORIGIN ID: MCNA (770) 421-340
DANIEL HOWARD
AMEC (WOOD E+IS)
1075 BIG SHANTY RD NW STE 1
KENNESAW, GA 30144
UNITED STATES US

70 SAMPLE RECEIVING
SAMPLE RECEIVING
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15220

(412) 968-
INVT
PO:



180-109929 Waybill

FedEx Express



AN 101-100200202

FRI - 21 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 8121 9394 5337
0215

NA AGCA

15238
PIT

Uncorrected temp
Thermometer ID
CF 0 Initials TB

PT-WI-SR-001 effective 11/01/18



Phone 770 421-3349
SHANTY RD NW STE 100
State GA ZIP 30144-3652
6122 201429 2002
Phone 412 963-7058
Ft. Simpson State PA ZIP 15238

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.

0128826458



8121 9394 5337

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PT-MI-SR-001 effective 1/18/18
CF
Uncorrected temp
Thermometer ID
Initials
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(4)

TRK# 8121 9394 5315
0215
NA AGCA

FR PRIORITY OVERNIGHT
1 - 21 AUG 10:30A
DSR
15238
PIT
A-US



PITTSBURGH PA 15238
RIDL & PARK
301 ALPHA DR

SAMPLE RECEIVING
SAMPLE RECEIVING
UNITED STATES US
KENNESAW, GA 30144
1075 BIG SHANTY RD
RMEC (WOOD E+19)
DANIEL HOWARD
ORIGIN ID: MCHA
(770) 421-3400

RT 67

10:30

BIL 12.80
5135
DIM5: 24x13x14 IN
CAD: 6994493/SSFE2110
ACTWGT: 54.65 LB
SHIP DATE: 20R0620

Special Handling and Delivery Signature Options

2 or 3 Business Days
 FedEx 2Day A.M.
 Second business morning
 Standard Delivery NOT available

FedEx 2Day
 Second business morning - Thursday option
 Will be delivered on Monday unless Saturday
 Delivery is selected

FedEx Express Saver
 Third business day
 Saturday Delivery NOT available

5 Packaging
 FedEx Envelope
 FedEx Pak
 Box
 Tube
 Other

6
 FedEx Standard Overnight
 Next business morning
 Saturday Delivery NOT available

FedEx Priority Overnight
 Next business morning - FedEx employees will be
 delivered on Monday unless Saturday Delivery
 is selected

FedEx First Overnight
 Monday through Saturday Delivery is required
 Saturday Delivery NOT available

Next Business Day
 Saturday Delivery NOT available

Express Package Service
 To meet location
 Packages up to 150 lbs.
 For Express from US Airmail



180-109930 Waybill

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FD 84105 21AUG20 MCNA 56BC2/7709/05A2

PT-WI-SR-001 effective 11/8/18

CF Initials

Thermometer ID

Uncorrected temp

X0 AGCA

15238 PA-US PIT

DSR

SATURDAY 12:00P

PRIORITY OVERNIGHT

FedEx

8121 9394 5348

FedEx Express

#170020202P



REF: 6122201429.2008

(412) 968-7068

PITTSBURGH PA 15238

301 ALPHA DR

EUROFINS TEST AMERICA

10 **EUROFINS TEST AMERICA**

SHIP DATE: 21AUG20

ACTMGT: 54.00 LB

CAD: 6994493/55FE2110

DIMS: 24x15x15 IN

BILL THIRD PARTY

UNITED STATES US

KENESAM, GA 30144

1078 BIG SHANTY RD NW STE 100

MEC, HOOD E&IS

HWEL, HOWARD

7D:MCNA (770) 421-3400

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 \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 <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 \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: 180-109846-1

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: 180-109846-1

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 \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 <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: 109929

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 <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: 109930

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: 180-109846-1

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	



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
(615)301-5031
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

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										

Eurofins TestAmerica, Pittsburgh

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										

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

Date Collected: 08/20/20 11:45

Date Received: 08/21/20 09:45

Lab Sample ID: 180-109930-3

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	Ra226_Ra228		1			484496	10/02/20 17:52	CMM	TAL SL

Client Sample ID: ARAMW-6

Date Collected: 08/21/20 09:45

Date Received: 08/22/20 10:00

Lab Sample ID: 180-109970-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	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

Date Collected: 08/21/20 10:36

Date Received: 08/22/20 10:00

Lab Sample ID: 180-109970-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	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
Radium-228	0.533		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
Combined Radium 226 + 228	0.543		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
Combined Radium 226 + 228	0.587		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
Combined Radium 226 + 228	0.423		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
Combined Radium 226 + 228	0.527		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
Radium-226	0.516		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
Radium-228	3.61		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
Combined Radium 226 + 228	4.13		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
Radium-228	0.461		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
Combined Radium 226 + 228	0.472		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

Eurofins TestAmerica, Pittsburgh

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

<i>Analyte</i>	<i>MB MB</i>		<i>Count</i>	<i>Total</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>Result</i>	<i>Qualifier</i>	<i>Uncert. (2σ+/-)</i>	<i>Uncert. (2σ+/-)</i>						
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>Carrier</i>	<i>MB</i>	<i>MB</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Yield</i>	<i>Qualifier</i>				
Ba Carrier	93.6		40 - 110	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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qual</i>	<i>Total</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
				<i>Uncert. (2σ+/-)</i>					
Radium-226	11.3	9.948		1.12	1.00	0.128	pCi/L	88	75 - 125

<i>Carrier</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Yield</i>	<i>Qualifier</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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qual</i>	<i>Total</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RER</i>	<i>RER Limit</i>
				<i>Uncert. (2σ+/-)</i>							
Radium-226	11.3	10.11		1.14	1.00	0.151	pCi/L	89	75 - 125	0.07	1

<i>Carrier</i>	<i>LCSD</i>	<i>LCSD</i>	<i>Limits</i>
	<i>%Yield</i>	<i>Qualifier</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

<i>Analyte</i>	<i>MB MB</i>		<i>Count</i>	<i>Total</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>Result</i>	<i>Qualifier</i>	<i>Uncert. (2σ+/-)</i>	<i>Uncert. (2σ+/-)</i>						
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>Carrier</i>	<i>MB</i>	<i>MB</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Yield</i>	<i>Qualifier</i>				
Ba Carrier	94.8		40 - 110	08/31/20 13:50	09/22/20 11:59	1

Eurofins TestAmerica, Pittsburgh

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		
									75 - 125		
Radium-226	15.1	13.59		1.42	1.00	0.121	pCi/L	90	75 - 125		
Carrier	%Yield	LCS Qualifier	Limits								
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
Radium-228	0.01611	U	0.232	0.232	1.00	0.414	pCi/L	08/24/20 18:23	09/10/20 12:22	1
Carrier	%Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.1		40 - 110					08/24/20 18:23	09/10/20 12:22	1
Y Carrier	85.2		40 - 110					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		
									75 - 125		
Radium-228	7.82	8.153		1.08	1.00	0.560	pCi/L	104	75 - 125		
Carrier	%Yield	LCS Qualifier	Limits								
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
Radium-228	-0.03910	U	0.226	0.226	1.00	0.418	pCi/L	08/25/20 12:41	09/09/20 13:26	1
Carrier	%Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					08/25/20 12:41	09/09/20 13:26	1
Y Carrier	86.0		40 - 110					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	
Radium-228	7.82	10.69	*	1.30	1.00	0.596	pCi/L	137	75 - 125	
Carrier										
	%Yield	Qualifier	Limits							
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	RER Limit
Radium-228	7.82	9.539		1.19	1.00	0.634	pCi/L	122	75 - 125	0.46	1	
Carrier												
	%Yield	Qualifier	Limits									
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
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	12:00	1	
Carrier												
	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac		
Ba Carrier	93.6		40 - 110					08/28/20 17:17	09/18/20 12:00	12:00	1	
Y Carrier	88.6		40 - 110					08/28/20 17:17	09/18/20 12:00	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	
Radium-228	7.80	8.379		1.05	1.00	0.503	pCi/L	107	75 - 125	
Carrier										
	%Yield	Qualifier	Limits							
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	RER Limit
									75 - 125	0.47	1	
Radium-228	7.80	7.434		0.978	1.00	0.518	pCi/L	95	75 - 125	0.47		1
Carrier		LCS	LCS									
	%Yield	Qualifier	Limits									
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
Carrier		MB								
	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.8		40 - 110					08/31/20 14:14	09/09/20 13:16	1
Y Carrier	84.5		40 - 110					08/31/20 14:14	09/09/20 13:16	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	
Carrier		LCS	LCS							
	%Yield	Qualifier	Limits							
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
Carrier		MB								
	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.5		40 - 110					09/14/20 10:14	09/21/20 11:53	1
Y Carrier	81.5		40 - 110					09/14/20 10:14	09/21/20 11:53	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
LCS LCS										
Carrier	%Yield	Qualifier	Limits							
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
LCSD LCSD												
Carrier	%Yield	Qualifier	Limits									
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
MB MB												
Carrier	%Yield	Qualifier	Limits		Prepared		Analyzed		Dil Fac			
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
LCS LCS										
Carrier	%Yield	Qualifier	Limits							
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	

Eurofins TestAmerica, Pittsburgh

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	

Client Information Client Contact: ES Wilson ASheredits SCS Contacts: Sheredits, ES Wilson Company: ES Wilson ASheredits 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 Arkwright Site: Georgia		Lab PM: Brown, Shari E-Mail: shari.brown@eurofins.com Sample: DHWard, ES Wilson ASheredits Phone: Lab PM: Brown, Shari E-Mail: shari.brown@eurofins.com		CQC No: Page: Job #:	
Due Date Requested: TAT Requested (days): PO #: 10020201 WO #: SSOAF		Analysis Requested: Perform M/MSD (Yes or No): <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> Total Number of Containers: 3		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - HNO3SO4 F - MeOH G - Anchor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsH2O2 P - NaCO3S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP/Dodecylbenzene U - Acetic Acid V - NCA5 W - pH 4.5 Z - other (specify)	
Sample Identification: ARGWA-14 ARGWC-15 ARGWC-16		Sample Date: 8/19/20 Sample Time: 1355 Matrix: W		Special Instructions/Note: pH = 6.62 pH = 6.47 pH = 5.24	
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 Deliberate 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 Special Instructions/OC Requirements:		Barcode: 160-109846 Chain of Custody	
Empty Kit Relinquished by: Daniel Howard		Date/Time: 8/19/20 1815		Date/Time: 8-20-20	
Relinquished by: Daniel Howard		Date/Time:		Date/Time: 9:30	
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 Celsius Remarks:	

Client Information 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 PO #: WO #: Project #: 18020201 SSO #/#:		Analysis Requested: 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 Identification: FB#1 ARGWA-12 ARGWA-13 ARGWC-17		Total Number of Containers: 3 3 3 3 Special Instructions/Note: pH = 6.48 pH = 6.15 pH = 5.07	
Sample Date: 8/18/20 Sample Time: 1100 Sample Type (C=comp, G=grab): G Matrix (W=water, S=solid, O=soil, B=biological): W		Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): App II mdaK 60208 + H ₂ 7470A Fluo:ide 300-ORGF-M-230 ReLim 226/228(9315/9320)	
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: 180-106847 Chain of Custody	
Empty Kit Relinquished by: Relinquished by: Dennis R Howard Relinquished by:		Method of Shipment: Received by: Debra Abbott Date/Time: 8/18/20 1730 Date/Time: 8/30/20 Date/Time: 930	
Custody Seals Intact: A. Yes A. No		Cooler Temperature(s) °C and Other Remarks:	



Client Information Client Contact: D Howard, E G Willey, S Hersh SCS Contacts: Brown, Shall Company: Shall, brown@eurofins.com		Lab PM: Brown, Shall E-Mail: shall.brown@eurofins.com		Carrier Tracking (lot): DOC No: Page: Job #	
Address: 241 Ralph McGill Blvd SE City: Atlanta State: GA Zip: 30308 Phone: 404-505-7116 (Tel) Email:		Date Date Requested: TAT Requested (days): PO #: WO #: Project #: SCS Contacts: Plant Arkwright CCR #: 18020201 Site: SSO/WF Georgia		Analysis Requested Total Number of Containers: 3 Special Instructions/Note: 3 PH = 7.06 3 PH = 7.06 3 PH = 7.21	
Sample Identification: AGGW ARGWC-10 DUP-1 ARGWC-9		Sample Date: 8/19/20 Sample Time: 1135 Sample Type (C=Comp, G=Grab): G Preservation Code: W		Method of Shipment: Date/Time: 8/19/20/1815 Date/Time: Date/Time: Cooler Temperature: °C and Cool: Remarks	
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 Special Instructions/QC Requirements:		Barcode: 180-109848 Chain of Custody	
Empty Kit Requisitioned by: D Howard		Requisitioned by: D Howard		Company: FAA	
Requisitioned by: D Howard		Received by: D Howard		Company: FAA	
Requisitioned by: D Howard		Received by: D Howard		Company: FAA	
Requisitioned by: D Howard		Received by: D Howard		Company: FAA	

Chain of Custody Record

244-ATLANTA

Client Information Client Contact: D Howard Egwillen, Ashcroft SCS Contacts: Brown, Shall Company: shell.brown@eurofins.com		Lab PM: Brown, Shall E-Mail: shell.brown@eurofins.com		COC No: _____ Page: 1 of 1 Job #: _____	
Due Date Requested: _____ TAT Requested (days): _____		Analysis Requested:			
PO #: _____ WO #: _____ Project #: 18020201 CCR - Plant Arkwright Site: Georgia		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>	
Sample Identification: ARGWA-5 ARGWA-3 ARGWC-7		Sample Date: 8/18/20 ↓ 1525	Sample Time: 1135 1320 1525	Sample Type (C-comp, G-grab): G G G	Matrix (Aqueous, Solid, Overlook, etc.): W W W
Sample Date: _____ Sample Time: _____ Sample Type: _____ Matrix: _____		Total Number of Containers: 3 3 3		Special Instructions/Note: pH = 6.18 pH = 6.17 pH = 6.70	
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: _____			
Empty Kit Requisitioned by: D Howard Egwillen		Method of Shipment: _____			
Requisitioned by: D Howard Egwillen		Date/Time: 8/18/20 / 1730		Date/Time: 8-20-20	
Requisitioned by: _____		Date/Time: _____		Date/Time: _____	
Requisitioned by: _____		Date/Time: _____		Date/Time: _____	
Custody Seal Intact: A Yes A No		Cooler Temperature(s) °C and Other Remarks: _____			



Chain of Custody Record

Eurofins
 244-ATLANTA

Client Information Client Contact: D Howard SCS Contacts: shall.brown@eurofins.com Phone: 404-506-7116(Tel)		Lab PM: Brown, Shall E-Mail: shall.brown@eurofins.com		COC No: Page: Job #:	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: CCR - Plant Assignment: Site:		Analysis Requested App IR in vials (6025B) + Hg (TH70A) App IR in vials (535/B320) Chloride, sulfate, fluoride (300) TDS 2540C 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 Z - other (specify)	
Sample Identification FB#2 ARGWC-23 DWP-2 ARAMW-1 ARAMW-2		Sample Date Sample Time Sample Type (C=Comp, G=Grab) Matrix (Prep, Brand, Overpack, etc.) Preservation Code		Total Number of Containers 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		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	
Empty Kit Relinquished by: David Howard		Date/Time: 8/20/20 1840		Method of Shipment: Date/Time: 8-21-20 Date/Time: 1145 Date/Time:	
Relinquished by: David Howard		Date/Time: 8/20/20 1840		Company: Wood	
Relinquished by: David Howard		Date/Time: 8/20/20 1840		Company: Wood	
Relinquished by: David Howard		Date/Time: 8/20/20 1840		Company: Wood	
Custody Seals Intact A. Yes A. No		Custody Seal No.:		Cooler Temperature (°C) and Other Remarks:	



Client Information Company: EverGillen, Asher & Co. Client Contact: Leo Pitt SCS Contacts: E-Mail: epitt@eurofinsintl.com Phone:		COC No: Page: Job #:	
Due Date Requested: TAT Requested (days): PO #:		Analysis Requested: Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No):	
Address: 241 Ralph McGill Blvd SE City: Atlanta State/Zip: GA, 30308 Phone: 404-506-7116(Tel) Email: SCS Contacts: Project Name: CCR - Plant Arkwright Site: Georgia		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: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhyd rate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Sample Identification: ARGWC-8 ARGWC-18		Total Number of Containers: 3 pH = 6.34 4 pH = 6.43	
Sample Date: 8/20/20 Sample Time: 1035 Sample Type: G W Matrix: (Wet/Dry, Swab, On-surface, etc.) Preservation Code: W		Special Instructions/Note: 180-109929 Chain of Custody	
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: Relinquished by: Paul & Howard Relinquished by:		Method of Shipment: Received by: Blue Water Date/Time: 8-21-20 Company: ETAA Received by: GYS Date/Time: Company:	
Custody Seals Intact: Yes <input type="checkbox"/> No <input type="checkbox"/>		Cooler Temperature(s): Custody Seal No.:	



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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

TO SAMPLE RECIEVIN
EUROEINS TEST A
301 ALPHA DR

PITTSBURGH PA

(412) 968-7868
INVT
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AG 10:30A
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15238
-US PIT

Phone 770 421-3242

STE 100

Dept./Floor/Suite/Room

GA ZIP 30144-3659

01429,2002

Phone 412 963-7058

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

1 AGC

Uncorrected temp
Thermometer ID

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PT-WI-SR-001 effective 11/8/18



Environm
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 Package

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

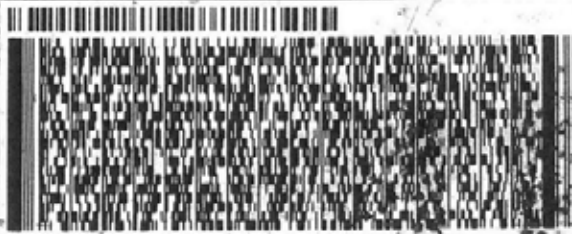
SHIP DATE: 18AUG20
ACTWT: 58.00 LB
CAD: 8994493/SSFE2110
DIMS: 24x14x10 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING**
EUROFINS TEST-AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

(412) 983-7068

REF:

DEPT:



TRK# 8121 9394 5820
0215

WED - 19 AUG 10:30A
PRIORITY OVERNIGHT

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 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
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

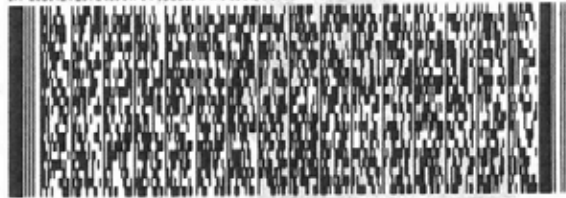
TO **SAMPLE RECEIVING**
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

(412) 863-7068

REF:

INVT:

DEPT:



FedEx
Express



151811/01020202/

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



REF: (412) 969-7068
DEPT: PITTSBURGH PA 15238

SAMPLE RECEIVING
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

SHIP DATE: 20HUG20
ACTG: 81.15 LB
CAD: 6994493/85FE2110
DIM: 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 100 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 TB

PT-WI-SR-001 effective 11/01/18



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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FID: 84105 21A0520 MCNA 558C2/7709/05A2
 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


Chain of Custody Record



Environment Testing
 America



Client Information (Sub Contract Lab)		Lab PIA: Brown, Shall	Carrier Tracking No(s):	COG No: 180-408215.1
Client Contact: TestAmerica Laboratories, Inc.		E-Mail: Shall.Brown@Eurofins.com	State of Origin: Georgia	Page: Page 1 of 1
Address: 13715 Ridler Trail North, Earth City, MO, 63045		Phone: 314-298-8566(Tel) 314-298-8757(Fax)	Accreditations Required (See note):	Job #: 180-109846-2
Due Date Requested: 9/23/2020		Analysis Requested		
TAT Requested (days):		Total Number of Containers		
PO #:		9315_R4226/PreSep_21 Radium 226		
WO #:		9320_R4226/PreSep_0 Radium 226		
Project #: 18020201		R4226R226_GFP		
SSOW#:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		
Project Name: CCR - Plant Arkwright		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>		
Site: Arkwright		Matrix (W=Water, S=Soil, O=Organic, BT=Trace, A=Air)		
Sample Identification - Client ID (Lab ID)		Sample Date		
ARGWA-14 (180-109846-1)	8/19/20	13:55 Eastern	Water	X
ARGWC-15 (180-109846-2)	8/19/20	10:05 Eastern	Water	X
ARGWC-16 (180-109846-3)	8/19/20	12:05 Eastern	Water	X
Special Instructions/Note:		Special Instructions/Note:		
Other:		Other:		
M - Hexane		M - Hexane		
N - None		N - None		
O - AsNaO2		O - AsNaO2		
P - Na2O4S		P - Na2O4S		
Q - Na2SO3		Q - Na2SO3		
R - Na2S2O3		R - Na2S2O3		
S - H2SO4		S - H2SO4		
T - TSP Dodecahydrate		T - TSP Dodecahydrate		
U - Acetone		U - Acetone		
V - MCAA		V - MCAA		
W - PH 4.5		W - PH 4.5		
X - EDTA		X - EDTA		
Y - EDA		Y - EDA		
Z - other (specify)		Z - other (specify)		

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/test/matrix 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.

Possible Hazard Identification
 Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For Months

Empty Kit Relinquished by: [Signature] Date: 8/22/20 Time: 17:00
 Relinquished by: [Signature] Date: 8/22/20 Time: 08:30
 Relinquished by: [Signature] Date: 8/22/20 Time: 08:30

Received by: [Signature] Date: 8/22/20 Time: 08:30
 Received by: [Signature] Date: 8/22/20 Time: 08:30
 Received by: [Signature] Date: 8/22/20 Time: 08:30

Custody Seal No.: [Blank] Cooler Temperature(s) °C and Other Remarks:

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 </= 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: 109847

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 <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 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: 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 \leq 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: 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 \leq 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: 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 <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: 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 \leq 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: 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 </= 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: 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 \leq 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: 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: 180-109846-2

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 \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 <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: 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: 2020-08-20 14:37:52

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR
Site Name ARAMW-1
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369555
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 45.5 ft

Pump placement from TOC 40.3 ft

Well Information:

Well ID ARAMW-1
Well diameter 2 in
Well Total Depth 45.31 ft
Screen Length 10 ft
Depth to Water 13.13 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.6830857 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.01 in
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	14:14:22	600.03	23.37	6.11	785.29	2.57	13.34	0.19	21.81
Last 5	14:19:22	900.03	23.32	6.10	785.35	2.98	13.34	0.18	22.35
Last 5	14:24:22	1200.03	23.41	6.09	788.89	3.37	13.34	0.18	21.63
Last 5	14:29:22	1500.03	22.83	6.09	787.43	3.24	13.34	0.18	22.70
Last 5	14:34:22	1800.03	22.79	6.09	786.44	2.46	13.34	0.18	23.32
Variance 0			0.09	-0.01	3.54			0.01	-0.72
Variance 1			-0.58	-0.00	-1.46			-0.00	1.07
Variance 2			-0.04	-0.00	-0.99			-0.00	0.62

Notes

ARAMW-1 sample time 1436.

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-20 16:35:26

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR
Site Name ARAMW-2
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369555
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 25 ft

Pump placement from TOC 20 ft

Well Information:

Well ID ARAMW-2
Well diameter 2 in
Well Total Depth 24.85 ft
Screen Length 10 ft
Depth to Water 13.31 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.5915856 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 μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	16:12:18	1500.03	21.09	5.98	1122.56	1.49	12.79	0.10	-28.39
Last 5	16:17:18	1800.09	21.09	5.98	1147.05	1.30	12.79	0.10	-29.15
Last 5	16:22:18	2100.05	21.09	5.98	1222.17	1.17	12.79	0.10	-29.67
Last 5	16:27:18	2400.03	21.26	5.97	1218.61	1.29	12.79	0.09	-31.08
Last 5	16:32:18	2700.03	21.29	5.99	1208.81	1.24	12.79	0.09	-29.18
Variance 0			0.00	0.00	75.12			-0.00	-0.52
Variance 1			0.17	-0.00	-3.56			-0.00	-1.41
Variance 2			0.04	0.02	-9.80			-0.00	1.90

Notes

ARAMW-2 sample time 1635.

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-19 10:58:43

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR
Site Name ARGWA-19
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 52.7 ft

Pump placement from TOC 47.74 ft

Well Information:

Well ID ARGWA-19
Well diameter 2 in
Well Total Depth 52.74 ft
Screen Length 10 ft
Depth to Water 26.39 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.988699 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.01 in
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	10:34:03	600.03	22.00	6.34	172.55	1.09	26.41	3.28	110.15
Last 5	10:39:03	900.03	21.92	6.30	172.10	1.01	26.41	3.24	119.92
Last 5	10:44:03	1200.03	22.08	6.27	171.73	0.71	26.41	3.20	143.34
Last 5	10:49:03	1500.03	22.31	6.25	171.71	0.79	26.41	3.20	175.87
Last 5	10:54:03	1800.03	22.26	6.25	171.19	0.62	26.41	3.21	203.88
Variance 0			0.17	-0.04	-0.36			-0.03	23.42
Variance 1			0.23	-0.02	-0.03			-0.00	32.53
Variance 2			-0.05	0.00	-0.52			0.01	28.01

Notes

ARGWA-19 sample time 1056.

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-19 13:46:03

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR
Site Name ARGWA-20
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 37.7 ft

Pump placement from TOC 32.7 ft

Well Information:

Well ID ARGWA-20
Well diameter 2 in
Well Total Depth 37.7 ft
Screen Length 10 ft
Depth to Water 13.73 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.843908 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.02 in
Total Volume Pumped 15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	13:21:57	3299.99	19.39	6.03	132.62	7.85	13.86	5.39	106.74
Last 5	13:27:05	3607.99	19.48	6.22	132.79	6.90	13.86	5.38	106.95
Last 5	13:32:05	3907.99	19.41	6.21	133.73	5.21	13.86	5.39	107.10
Last 5	13:37:05	4207.99	19.37	6.19	133.96	4.95	13.86	5.41	107.82
Last 5	13:42:05	4507.99	19.50	6.16	134.36	4.84	13.86	5.43	108.18
Variance 0			-0.06	-0.01	0.94			0.01	0.15
Variance 1			-0.04	-0.01	0.23			0.01	0.72
Variance 2			0.13	-0.04	0.40			0.02	0.35

Notes

ARGWA-20 sample time 1344

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-21 10:42:13

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR
Site Name ARGWC-21
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369555
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Micropurgededicated
Tubing Type HDPE
Tubing Diameter .25 in
Tubing Length 27 ft

Pump placement from TOC 22 ft

Well Information:

Well ID ARGWC-21
Well diameter 2 in
Well Total Depth 26.98 ft
Screen Length 10 ft
Depth to Water 13.88 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.7406238 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.05 in
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	10:14:12	1200.03	20.81	5.89	702.49	8.46	14.75	0.28	62.96
Last 5	10:19:12	1500.03	20.91	5.89	702.48	6.42	14.75	0.25	63.23
Last 5	10:24:12	1800.03	20.78	5.89	702.04	5.63	14.75	0.23	64.58
Last 5	10:29:12	2100.03	20.82	5.89	701.45	4.33	14.75	0.22	65.22
Last 5	10:34:12	2400.03	20.75	5.89	701.44	4.17	14.76	0.21	64.34
Variance 0			-0.13	0.00	-0.44			-0.02	1.35
Variance 1			0.04	0.00	-0.59			-0.00	0.64
Variance 2			-0.07	-0.00	-0.01			-0.02	-0.89

Notes

ARGWC-21 sample time 1036

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-19 15:33:34

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR
Site Name ARGWC-22
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 407447
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 27.9 ft

Pump placement from TOC 22.9 ft

Well Information:

Well ID ARGWC-22
Well diameter 2 in
Well Total Depth 27.87 ft
Screen Length 10 ft
Depth to Water 13.77 ft

Pumping Information:

Final Pumping Rate 150 mL/min
Total System Volume 0.6045295 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 μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:09:39	900.03	22.17	6.19	1586.36	0.87	14.09	0.18	19.60
Last 5	15:14:40	1201.03	21.98	6.20	1577.37	1.00	14.09	0.17	17.45
Last 5	15:19:41	1502.03	21.91	6.22	1559.51	0.99	14.09	0.15	17.05
Last 5	15:24:41	1802.03	21.91	6.22	1553.10	1.17	14.09	0.16	16.03
Last 5	15:29:43	2104.03	21.90	6.21	1559.32	1.37	14.09	0.18	15.60
Variance 0			-0.06	0.02	-17.87			-0.01	-0.40
Variance 1			-0.00	0.00	-6.40			0.00	-1.02
Variance 2			-0.01	-0.01	6.22			0.02	-0.43

Notes

ARGWC-22 sample time 1532

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-20 12:18:54

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR
Site Name ARGWC-23
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369555
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 28 ft

Pump placement from TOC 23 ft

Well Information:

Well ID ARGWC-23
Well diameter 2 in
Well Total Depth 28.08 ft
Screen Length 10 ft
Depth to Water 12.1 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.6049758 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.04 in
Total Volume Pumped 3.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	11:53:17	900.03	23.48	6.32	484.35	1.86	13.38	0.18	101.97
Last 5	11:58:17	1200.03	23.70	6.32	486.34	1.77	13.35	0.18	100.92
Last 5	12:03:16	1500.01	23.69	6.32	483.04	1.52	13.35	0.17	99.70
Last 5	12:08:16	1800.01	23.77	6.32	487.86	1.07	13.34	0.18	99.45
Last 5	12:13:16	2100.01	23.50	6.33	483.22	1.01	13.34	0.16	98.30
Variance 0			-0.01	0.00	-3.30			-0.01	-1.22
Variance 1			0.08	-0.00	4.82			0.01	-0.25
Variance 2			-0.27	0.01	-4.64			-0.02	-1.15

Notes

ARGWC-23 sample time 1215. Also collected DUP-2.

Grab Samples

ANALYTICAL REPORT

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

Laboratory Job ID: 180-108353-1
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:
8/4/2020 4:32:41 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

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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: 180-108353-1

Job ID: 180-108353-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-108353-1

Comments

No additional comments.

Receipt

The samples were received on 7/16/2020 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 3.8° C.

GC Semi VOA

Method 300.0: The matrix spike and matrix spike duplicate (MS/MSD) recoveries for analytical batch 180-322643 were outside control limits for Sulfate. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Metals

Methods 6020B: The low level continuing calibration verification (CCVL) associated with batch 180-323680 recovered above the upper control limit for boron. The samples associated with this CCVL were 10X the RL for the affected analytes; 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

Job ID: 180-108353-1

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: CCR - Plant Arkwright

Job ID: 180-108353-1

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	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	07-31-20
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: CCR - Plant Arkwright

Job ID: 180-108353-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-108353-1	ARGWC-22	Water	07/15/20 13:10	07/16/20 09:00	
180-108353-2	ARGWC-23	Water	07/15/20 15:20	07/16/20 09:00	
180-108353-3	DUP	Water	07/15/20 00:00	07/16/20 09:00	
180-108353-4	EB	Water	07/15/20 11:00	07/16/20 09:00	

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Method Summary

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

Job ID: 180-108353-1

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

Job ID: 180-108353-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-108353-1

Date Collected: 07/15/20 13:10

Matrix: Water

Date Received: 07/16/20 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: CHICS2100B		1			322643	07/23/20 12:28	EPS	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		10			322643	07/23/20 12:45	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	322507	07/22/20 07:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			323514	07/29/20 00:48	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	322507	07/22/20 07:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			323680	07/29/20 22:55	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	322267	07/21/20 05:50	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			322432	07/21/20 12:05	RJR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	322055	07/17/20 11:08	A1G	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			322113	07/15/20 13:10	FDS	TAL PIT

Client Sample ID: ARGWC-23

Lab Sample ID: 180-108353-2

Date Collected: 07/15/20 15:20

Matrix: Water

Date Received: 07/16/20 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: CHICS2100B		1			322643	07/23/20 11:39	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	322507	07/22/20 07:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			323514	07/29/20 00:51	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	322507	07/22/20 07:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			323680	07/29/20 22:58	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	322267	07/21/20 05:50	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			322432	07/21/20 12:06	RJR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	322055	07/17/20 09:30	A1G	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			322113	07/15/20 15:20	FDS	TAL PIT

Lab Chronicle

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

Job ID: 180-108353-1

Client Sample ID: DUP

Lab Sample ID: 180-108353-3

Date Collected: 07/15/20 00:00

Matrix: Water

Date Received: 07/16/20 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: CHICS2100B		1			322643	07/23/20 13:01	EPS	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		10			322643	07/23/20 13:17	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	322507	07/22/20 07:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			323514	07/29/20 00:55	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	322507	07/22/20 07:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			323680	07/29/20 23:02	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	322267	07/21/20 05:50	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			322432	07/21/20 12:07	RJR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	322055	07/17/20 11:01	A1G	TAL PIT

Client Sample ID: EB

Lab Sample ID: 180-108353-4

Date Collected: 07/15/20 11:00

Matrix: Water

Date Received: 07/16/20 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: CHICS2100B		1			322643	07/23/20 13:34	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	322507	07/22/20 07:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			323514	07/29/20 00:58	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	322507	07/22/20 07:58	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: DORY		1			323900	07/31/20 21:31	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	322267	07/21/20 05:50	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			322432	07/21/20 12:08	RJR	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	322055	07/17/20 09:44	A1G	TAL PIT

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: 180-108353-1

Analyst References:

Lab: TAL PIT

Batch Type: Prep

RJR = Ron Rosenbaum

TJO = Tyler Oliver

Batch Type: Analysis

A1G = Aritra Ghosh

EPS = Evan Scheuer

FDS = Sampler Field

RJR = Ron Rosenbaum

RSK = Robert Kurtz

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Client Sample Results

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

Job ID: 180-108353-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-108353-1

Date Collected: 07/15/20 13:10

Matrix: Water

Date Received: 07/16/20 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			07/23/20 12:28	1
Fluoride	0.040	J	0.10	0.026	mg/L			07/23/20 12:28	1
Sulfate	820		10	3.8	mg/L			07/23/20 12:45	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		07/22/20 07:58	07/29/20 00:48	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		07/22/20 07:58	07/29/20 00:48	1
Barium	0.043		0.010	0.0016	mg/L		07/22/20 07:58	07/29/20 00:48	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		07/22/20 07:58	07/29/20 00:48	1
Boron	2.6		0.080	0.039	mg/L		07/22/20 07:58	07/29/20 22:55	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		07/22/20 07:58	07/29/20 00:48	1
Calcium	190		0.50	0.13	mg/L		07/22/20 07:58	07/29/20 00:48	1
Chromium	<0.0015		0.0020	0.0015	mg/L		07/22/20 07:58	07/29/20 00:48	1
Cobalt	0.0027		0.0025	0.00013	mg/L		07/22/20 07:58	07/29/20 00:48	1
Lead	<0.00013		0.0010	0.00013	mg/L		07/22/20 07:58	07/29/20 00:48	1
Lithium	0.021		0.0050	0.0034	mg/L		07/22/20 07:58	07/29/20 00:48	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		07/22/20 07:58	07/29/20 00:48	1
Selenium	<0.0015		0.0050	0.0015	mg/L		07/22/20 07:58	07/29/20 00:48	1
Thallium	<0.00015		0.0010	0.00015	mg/L		07/22/20 07:58	07/29/20 00:48	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		07/21/20 05:50	07/21/20 12:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1400		10	10	mg/L			07/17/20 11:08	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.58				SU			07/15/20 13:10	1

Client Sample Results

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

Job ID: 180-108353-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-108353-2

Date Collected: 07/15/20 15:20

Matrix: Water

Date Received: 07/16/20 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			07/23/20 11:39	1
Fluoride	0.28		0.10	0.026	mg/L			07/23/20 11:39	1
Sulfate	78	F1	1.0	0.38	mg/L			07/23/20 11:39	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		07/22/20 07:58	07/29/20 00:51	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		07/22/20 07:58	07/29/20 00:51	1
Barium	0.16		0.010	0.0016	mg/L		07/22/20 07:58	07/29/20 00:51	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		07/22/20 07:58	07/29/20 00:51	1
Boron	0.49		0.080	0.039	mg/L		07/22/20 07:58	07/29/20 22:58	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		07/22/20 07:58	07/29/20 00:51	1
Calcium	68		0.50	0.13	mg/L		07/22/20 07:58	07/29/20 00:51	1
Chromium	<0.0015		0.0020	0.0015	mg/L		07/22/20 07:58	07/29/20 00:51	1
Cobalt	0.0017	J	0.0025	0.00013	mg/L		07/22/20 07:58	07/29/20 00:51	1
Lead	<0.00013		0.0010	0.00013	mg/L		07/22/20 07:58	07/29/20 00:51	1
Lithium	0.042		0.0050	0.0034	mg/L		07/22/20 07:58	07/29/20 00:51	1
Molybdenum	0.055		0.015	0.00061	mg/L		07/22/20 07:58	07/29/20 00:51	1
Selenium	<0.0015		0.0050	0.0015	mg/L		07/22/20 07:58	07/29/20 00:51	1
Thallium	<0.00015		0.0010	0.00015	mg/L		07/22/20 07:58	07/29/20 00:51	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		07/21/20 05:50	07/21/20 12:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		10	10	mg/L			07/17/20 09:30	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.36				SU			07/15/20 15:20	1

Client Sample Results

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

Job ID: 180-108353-1

Client Sample ID: DUP

Lab Sample ID: 180-108353-3

Date Collected: 07/15/20 00:00

Matrix: Water

Date Received: 07/16/20 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			07/23/20 13:01	1
Fluoride	0.033	J	0.10	0.026	mg/L			07/23/20 13:01	1
Sulfate	810		10	3.8	mg/L			07/23/20 13:17	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		07/22/20 07:58	07/29/20 00:55	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		07/22/20 07:58	07/29/20 00:55	1
Barium	0.042		0.010	0.0016	mg/L		07/22/20 07:58	07/29/20 00:55	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		07/22/20 07:58	07/29/20 00:55	1
Boron	2.5		0.080	0.039	mg/L		07/22/20 07:58	07/29/20 23:02	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		07/22/20 07:58	07/29/20 00:55	1
Calcium	190		0.50	0.13	mg/L		07/22/20 07:58	07/29/20 00:55	1
Chromium	<0.0015		0.0020	0.0015	mg/L		07/22/20 07:58	07/29/20 00:55	1
Cobalt	0.0025		0.0025	0.00013	mg/L		07/22/20 07:58	07/29/20 00:55	1
Lead	<0.00013		0.0010	0.00013	mg/L		07/22/20 07:58	07/29/20 00:55	1
Lithium	0.020		0.0050	0.0034	mg/L		07/22/20 07:58	07/29/20 00:55	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		07/22/20 07:58	07/29/20 00:55	1
Selenium	<0.0015		0.0050	0.0015	mg/L		07/22/20 07:58	07/29/20 00:55	1
Thallium	<0.00015		0.0010	0.00015	mg/L		07/22/20 07:58	07/29/20 00:55	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		07/21/20 05:50	07/21/20 12:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1400		10	10	mg/L			07/17/20 11:01	1

Client Sample Results

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

Job ID: 180-108353-1

Client Sample ID: EB

Lab Sample ID: 180-108353-4

Date Collected: 07/15/20 11:00

Matrix: Water

Date Received: 07/16/20 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			07/23/20 13:34	1
Fluoride	<0.026		0.10	0.026	mg/L			07/23/20 13:34	1
Sulfate	<0.38		1.0	0.38	mg/L			07/23/20 13:34	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		07/22/20 07:58	07/29/20 00:58	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		07/22/20 07:58	07/29/20 00:58	1
Barium	<0.0016		0.010	0.0016	mg/L		07/22/20 07:58	07/29/20 00:58	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		07/22/20 07:58	07/29/20 00:58	1
Boron	<0.039		0.080	0.039	mg/L		07/22/20 07:58	07/31/20 21:31	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		07/22/20 07:58	07/29/20 00:58	1
Calcium	<0.13		0.50	0.13	mg/L		07/22/20 07:58	07/29/20 00:58	1
Chromium	<0.0015		0.0020	0.0015	mg/L		07/22/20 07:58	07/29/20 00:58	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		07/22/20 07:58	07/29/20 00:58	1
Lead	<0.00013		0.0010	0.00013	mg/L		07/22/20 07:58	07/29/20 00:58	1
Lithium	<0.0034		0.0050	0.0034	mg/L		07/22/20 07:58	07/29/20 00:58	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		07/22/20 07:58	07/29/20 00:58	1
Selenium	<0.0015		0.0050	0.0015	mg/L		07/22/20 07:58	07/29/20 00:58	1
Thallium	<0.00015		0.0010	0.00015	mg/L		07/22/20 07:58	07/29/20 00:58	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		07/21/20 05:50	07/21/20 12:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			07/17/20 09:44	1

QC Sample Results

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

Job ID: 180-108353-1

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

Lab Sample ID: MB 180-322643/6
Matrix: Water
Analysis Batch: 322643

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			07/23/20 05:23	1
Fluoride	<0.026		0.10	0.026	mg/L			07/23/20 05:23	1
Sulfate	<0.38		1.0	0.38	mg/L			07/23/20 05:23	1

Lab Sample ID: LCS 180-322643/5
Matrix: Water
Analysis Batch: 322643

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	51.4		mg/L		103	90 - 110
Fluoride	2.50	2.72		mg/L		109	90 - 110
Sulfate	50.0	49.5		mg/L		99	90 - 110

Lab Sample ID: 180-108353-2 MS
Matrix: Water
Analysis Batch: 322643

Client Sample ID: ARGWC-23
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	51.2		mg/L		95	90 - 110
Fluoride	0.28		2.50	2.72		mg/L		98	90 - 110
Sulfate	78	F1	50.0	120	F1	mg/L		83	90 - 110

Lab Sample ID: 180-108353-2 MSD
Matrix: Water
Analysis Batch: 322643

Client Sample ID: ARGWC-23
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	51.0		mg/L		94	90 - 110	0	20
Fluoride	0.28		2.50	2.69		mg/L		96	90 - 110	1	20
Sulfate	78	F1	50.0	118	F1	mg/L		80	90 - 110	2	20

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

Lab Sample ID: MB 180-322507/1-A
Matrix: Water
Analysis Batch: 323514

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 322507

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		07/22/20 07:58	07/29/20 06:02	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		07/22/20 07:58	07/29/20 06:02	1
Barium	<0.0016		0.010	0.0016	mg/L		07/22/20 07:58	07/29/20 06:02	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		07/22/20 07:58	07/29/20 06:02	1
Boron	<0.039		0.080	0.039	mg/L		07/22/20 07:58	07/29/20 06:02	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		07/22/20 07:58	07/29/20 06:02	1
Calcium	<0.13		0.50	0.13	mg/L		07/22/20 07:58	07/29/20 06:02	1
Chromium	<0.0015		0.0020	0.0015	mg/L		07/22/20 07:58	07/29/20 06:02	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		07/22/20 07:58	07/29/20 06:02	1
Lead	<0.00013		0.0010	0.00013	mg/L		07/22/20 07:58	07/29/20 06:02	1
Lithium	<0.0034		0.0050	0.0034	mg/L		07/22/20 07:58	07/29/20 06:02	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		07/22/20 07:58	07/29/20 06:02	1

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-108353-1

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

Lab Sample ID: MB 180-322507/1-A
Matrix: Water
Analysis Batch: 323514

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 322507

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.0015		0.0050	0.0015	mg/L		07/22/20 07:58	07/29/20 06:02	1
Thallium	<0.00015		0.0010	0.00015	mg/L		07/22/20 07:58	07/29/20 06:02	1

Lab Sample ID: LCS 180-322507/2-A
Matrix: Water
Analysis Batch: 323514

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 322507

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.250	0.255		mg/L		102	80 - 120
Arsenic	1.00	0.964		mg/L		96	80 - 120
Barium	1.00	1.00		mg/L		100	80 - 120
Beryllium	0.500	0.486		mg/L		97	80 - 120
Boron	1.25	1.17		mg/L		94	80 - 120
Cadmium	0.500	0.502		mg/L		100	80 - 120
Calcium	25.0	28.1		mg/L		112	80 - 120
Chromium	0.500	0.504		mg/L		101	80 - 120
Cobalt	0.500	0.493		mg/L		99	80 - 120
Lead	0.500	0.498		mg/L		100	80 - 120
Lithium	0.500	0.480		mg/L		96	80 - 120
Molybdenum	0.500	0.505		mg/L		101	80 - 120
Selenium	1.00	1.02		mg/L		102	80 - 120
Thallium	1.00	1.05		mg/L		105	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-322267/1-A
Matrix: Water
Analysis Batch: 322432

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322267

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		07/21/20 05:50	07/21/20 11:46	1

Lab Sample ID: LCS 180-322267/2-A
Matrix: Water
Analysis Batch: 322432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322267

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00248		mg/L		99	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-322055/2
Matrix: Water
Analysis Batch: 322055

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			07/17/20 09:23	1

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-108353-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 180-322055/1
Matrix: Water
Analysis Batch: 322055

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	512		mg/L	-	90	80 - 120

Lab Sample ID: 180-108353-2 DU
Matrix: Water
Analysis Batch: 322055

Client Sample ID: ARGWC-23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	310		311		mg/L	-	0.3	10

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QC Association Summary

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

Job ID: 180-108353-1

HPLC/IC

Analysis Batch: 322643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-108353-1	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-108353-2	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-108353-3	DUP	Total/NA	Water	EPA 300.0 R2.1	
180-108353-3	DUP	Total/NA	Water	EPA 300.0 R2.1	
180-108353-4	EB	Total/NA	Water	EPA 300.0 R2.1	
MB 180-322643/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-322643/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-108353-2 MS	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-108353-2 MSD	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 322267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total/NA	Water	7470A	
180-108353-2	ARGWC-23	Total/NA	Water	7470A	
180-108353-3	DUP	Total/NA	Water	7470A	
180-108353-4	EB	Total/NA	Water	7470A	
MB 180-322267/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-322267/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 322432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total/NA	Water	EPA 7470A	322267
180-108353-2	ARGWC-23	Total/NA	Water	EPA 7470A	322267
180-108353-3	DUP	Total/NA	Water	EPA 7470A	322267
180-108353-4	EB	Total/NA	Water	EPA 7470A	322267
MB 180-322267/1-A	Method Blank	Total/NA	Water	EPA 7470A	322267
LCS 180-322267/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	322267

Prep Batch: 322507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total Recoverable	Water	3005A	
180-108353-2	ARGWC-23	Total Recoverable	Water	3005A	
180-108353-3	DUP	Total Recoverable	Water	3005A	
180-108353-4	EB	Total Recoverable	Water	3005A	
MB 180-322507/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-322507/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 323514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total Recoverable	Water	EPA 6020B	322507
180-108353-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	322507
180-108353-3	DUP	Total Recoverable	Water	EPA 6020B	322507
180-108353-4	EB	Total Recoverable	Water	EPA 6020B	322507
MB 180-322507/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	322507
LCS 180-322507/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	322507

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-108353-1

Metals

Analysis Batch: 323680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total Recoverable	Water	EPA 6020B	322507
180-108353-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	322507
180-108353-3	DUP	Total Recoverable	Water	EPA 6020B	322507

Analysis Batch: 323900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-4	EB	Total Recoverable	Water	EPA 6020B	322507

General Chemistry

Analysis Batch: 322055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total/NA	Water	SM 2540C	
180-108353-2	ARGWC-23	Total/NA	Water	SM 2540C	
180-108353-3	DUP	Total/NA	Water	SM 2540C	
180-108353-4	EB	Total/NA	Water	SM 2540C	
MB 180-322055/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-322055/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-108353-2 DU	ARGWC-23	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 322113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total/NA	Water	Field Sampling	
180-108353-2	ARGWC-23	Total/NA	Water	Field Sampling	

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180-108353 Waybill



999 999 9999
 BIG SHANTY RD NW STE. 100
 KENNESAW GA 30144
 UNITED STATES US

SHIP DATE: 15JUL20
 ACTWGT: 57.05 LB
 CAD: 8984493/SSEE2110
 DIMS: 24x13x14 IN

TO
 ATTN: SHALI BROWN
 EUROFINS TESTAMERICA
 301 ALPHA DR

PITTSBURGH PA 15238
 (412) 963-7068
 INVT
 PO1

BILL THIRD PARTY



TRK#
 0201 3948 7417 1527

THU - 16 JUL 10:30A
 PRIORITY OVERNIGHT

NA AGCA

15238
 PA-US PIT

Uncorrected temp 38 °C
 Thermometer ID 14

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-108353-1

Login Number: 108353

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 <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	

ANALYTICAL REPORT

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

Laboratory Job ID: 180-108353-2
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:
8/20/2020 5:55:48 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

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results through
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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: 180-108353-2

Job ID: 180-108353-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-108353-2

Comments

No additional comments.

Receipt

The samples were received on 7/16/2020 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 3.8° C.

RAD

Methods 903.0, 9315: Radium-226 Prep Batch 160-476816:

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-22 (180-108353-1), ARGWC-23 (180-108353-2), DUP (180-108353-3), EB (180-108353-4), (LCS 160-476816/1-A), (LCSD 160-476816/2-A) and (MB 160-476816/20-A)

Methods 904.0, 9320: Radium-228 Prep Batch 160-478065:

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-22 (180-108353-1), ARGWC-23 (180-108353-2), DUP (180-108353-3) and EB (180-108353-4)

Method PrecSep_0: Radium 228 Prep Batch 160-478065:

The following samples were prepared at a reduced aliquot to insure sufficient volume remains if needed for analysis: ARGWC-22 (180-108353-1), ARGWC-23 (180-108353-2), DUP (180-108353-3) and EB (180-108353-4).

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: 180-108353-2

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
CFI	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: 180-108353-2

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	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	07-01-21
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
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	08-31-20
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
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

Sample Summary

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

Job ID: 180-108353-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-108353-1	ARGWC-22	Water	07/15/20 13:10	07/16/20 09:00	
180-108353-2	ARGWC-23	Water	07/15/20 15:20	07/16/20 09:00	
180-108353-3	DUP	Water	07/15/20 00:00	07/16/20 09:00	
180-108353-4	EB	Water	07/15/20 11:00	07/16/20 09:00	

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Method Summary

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

Job ID: 180-108353-2

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: 180-108353-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-108353-1

Date Collected: 07/15/20 13:10

Matrix: Water

Date Received: 07/16/20 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			1000.31 mL	1.0 g	476816	07/21/20 09:32	RBR	TAL SL
Total/NA	Analysis	9315		1			479320	08/13/20 11:05	CMM	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			749.71 mL	1.0 g	478065	07/30/20 16:30	MNH	TAL SL
Total/NA	Analysis	9320		1			478895	08/07/20 11:07	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			479510	08/14/20 09:10	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-23

Lab Sample ID: 180-108353-2

Date Collected: 07/15/20 15:20

Matrix: Water

Date Received: 07/16/20 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			1000.91 mL	1.0 g	476816	07/21/20 09:32	RBR	TAL SL
Total/NA	Analysis	9315		1			479320	08/13/20 14:25	CMM	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			750.23 mL	1.0 g	478065	07/30/20 16:30	MNH	TAL SL
Total/NA	Analysis	9320		1			478895	08/07/20 11:07	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			479510	08/14/20 09:10	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: DUP

Lab Sample ID: 180-108353-3

Date Collected: 07/15/20 00:00

Matrix: Water

Date Received: 07/16/20 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			1000.15 mL	1.0 g	476816	07/21/20 09:32	RBR	TAL SL
Total/NA	Analysis	9315		1			479320	08/13/20 14:25	CMM	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			750.02 mL	1.0 g	478065	07/30/20 16:30	MNH	TAL SL
Total/NA	Analysis	9320		1			478895	08/07/20 11:07	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			479510	08/14/20 09:10	SMP	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: EB

Lab Sample ID: 180-108353-4

Date Collected: 07/15/20 11:00

Matrix: Water

Date Received: 07/16/20 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			1000.33 mL	1.0 g	476816	07/21/20 09:32	RBR	TAL SL
Total/NA	Analysis	9315		1			479320	08/13/20 14:25	CMM	TAL SL
Instrument ID: GFPCRED										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-108353-2

Client Sample ID: EB

Lab Sample ID: 180-108353-4

Date Collected: 07/15/20 11:00

Matrix: Water

Date Received: 07/16/20 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			750.69 mL	1.0 g	478065	07/30/20 16:30	MNH	TAL SL
Total/NA	Analysis	9320		1			478894	08/07/20 11:08	SCB	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			479510	08/14/20 09:10	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

MNH = Molly Howard

RBR = Rachael Ratcliff

Batch Type: Analysis

CMM = Chelsea Mazariegos

SCB = Sarah Bernsen

SMP = Siobhan Perry

Client Sample Results

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

Job ID: 180-108353-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-108353-1

Date Collected: 07/15/20 13:10

Matrix: Water

Date Received: 07/16/20 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	0.101		0.0657	0.0663	1.00	0.0875	pCi/L	07/21/20 09:32	08/13/20 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					07/21/20 09:32	08/13/20 11:05	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.870		0.331	0.340	1.00	0.440	pCi/L	07/30/20 16:30	08/07/20 11:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					07/30/20 16:30	08/07/20 11:07	1
Y Carrier	82.2		40 - 110					07/30/20 16:30	08/07/20 11:07	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	0.970		0.337	0.346	5.00	0.440	pCi/L		08/14/20 09:10	1

Client Sample Results

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

Job ID: 180-108353-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-108353-2

Date Collected: 07/15/20 15:20

Matrix: Water

Date Received: 07/16/20 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	0.108		0.0626	0.0634	1.00	0.0768	pCi/L	07/21/20 09:32	08/13/20 14:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.8		40 - 110					07/21/20 09:32	08/13/20 14:25	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.171	U	0.272	0.272	1.00	0.459	pCi/L	07/30/20 16:30	08/07/20 11:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					07/30/20 16:30	08/07/20 11:07	1
Y Carrier	84.9		40 - 110					07/30/20 16:30	08/07/20 11:07	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	0.279	U	0.279	0.279	5.00	0.459	pCi/L		08/14/20 09:10	1

Client Sample Results

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

Job ID: 180-108353-2

Client Sample ID: DUP

Lab Sample ID: 180-108353-3

Date Collected: 07/15/20 00:00

Matrix: Water

Date Received: 07/16/20 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	0.0804	U	0.0591	0.0595	1.00	0.0811	pCi/L	07/21/20 09:32	08/13/20 14:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					07/21/20 09:32	08/13/20 14:25	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.370	U	0.335	0.337	1.00	0.540	pCi/L	07/30/20 16:30	08/07/20 11:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					07/30/20 16:30	08/07/20 11:07	1
Y Carrier	82.2		40 - 110					07/30/20 16:30	08/07/20 11:07	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	0.450	U	0.340	0.342	5.00	0.540	pCi/L		08/14/20 09:10	1

Client Sample Results

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

Job ID: 180-108353-2

Client Sample ID: EB

Lab Sample ID: 180-108353-4

Date Collected: 07/15/20 11:00

Matrix: Water

Date Received: 07/16/20 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	-0.00997	U	0.0560	0.0560	1.00	0.116	pCi/L	07/21/20 09:32	08/13/20 14:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.4		40 - 110					07/21/20 09:32	08/13/20 14:25	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.451	U	0.343	0.345	1.00	0.539	pCi/L	07/30/20 16:30	08/07/20 11:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110					07/30/20 16:30	08/07/20 11:08	1
Y Carrier	75.9		40 - 110					07/30/20 16:30	08/07/20 11:08	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	0.441	U	0.348	0.350	5.00	0.539	pCi/L		08/14/20 09:10	1

QC Sample Results

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

Job ID: 180-108353-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-476816/20-A
Matrix: Water
Analysis Batch: 479320

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 476816

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.02039	U	0.0511	0.0511	1.00	0.120	pCi/L	07/21/20 09:32	08/13/20 14:25	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	91.4		40 - 110			07/21/20 09:32	08/13/20 14:25	1		

Lab Sample ID: LCS 160-476816/1-A
Matrix: Water
Analysis Batch: 479320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 476816

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	15.1	12.87		1.34	1.00	0.0987	pCi/L	85	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	90.2		40 - 110						

Lab Sample ID: LCSD 160-476816/2-A
Matrix: Water
Analysis Batch: 479320

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 476816

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium-226	15.1	13.28		1.37	1.00	0.104	pCi/L	88	75 - 125	0.15	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	92.6		40 - 110								

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-478065/15-A
Matrix: Water
Analysis Batch: 478894

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 478065

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.4445	U	0.335	0.337	1.00	0.524	pCi/L	07/30/20 16:30	08/07/20 11:09	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	89.4		40 - 110			07/30/20 16:30	08/07/20 11:09	1		
Y Carrier	81.5		40 - 110			07/30/20 16:30	08/07/20 11:09	1		

QC Sample Results

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

Job ID: 180-108353-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-478065/1-A
Matrix: Water
Analysis Batch: 478895

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 478065

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	10.5	12.64		1.50	1.00	0.683	pCi/L	120	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.8		40 - 110
Y Carrier	77.4		40 - 110

Lab Sample ID: LCSD 160-478065/2-A
Matrix: Water
Analysis Batch: 478895

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 478065

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	10.5	11.61		1.37	1.00	0.518	pCi/L	110	75 - 125	0.36	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	104		40 - 110
Y Carrier	78.5		40 - 110

QC Association Summary

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

Job ID: 180-108353-2

Rad

Prep Batch: 476816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total/NA	Water	PrecSep-21	
180-108353-2	ARGWC-23	Total/NA	Water	PrecSep-21	
180-108353-3	DUP	Total/NA	Water	PrecSep-21	
180-108353-4	EB	Total/NA	Water	PrecSep-21	
MB 160-476816/20-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-476816/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-476816/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 478065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-108353-1	ARGWC-22	Total/NA	Water	PrecSep_0	
180-108353-2	ARGWC-23	Total/NA	Water	PrecSep_0	
180-108353-3	DUP	Total/NA	Water	PrecSep_0	
180-108353-4	EB	Total/NA	Water	PrecSep_0	
MB 160-478065/15-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-478065/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-478065/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

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

180-108353 Waybill



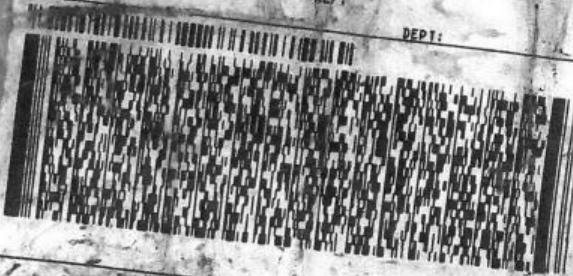
999 999 9999
 BIG SHANTY RD NW STE. 100
 KENNESAW GA 30144
 UNITED STATES US

SHIP DATE: 15JUL20
 ACTWGT: 57.05 LB
 CAD: 8984493/SSFE2110
 DIMS: 24x13x14 IN

TO
 ATTN: SHALI BROWN
 EUROFINS TESTAMERICA
 301 ALPHA DR

PITTSBURGH PA 15238
 (412) 963-7068
 INVT PO1

BILL THIRD PARTY



TRK# 0201 3948 7417 1527

THU - 16 JUL 10:30A
 PRIORITY OVERNIGHT

NA AGCA

15238
 PA-US PIT

Uncorrected temp 38 °C
 Thermometer ID 14

Chain of Custody Record



Environment
Air/Water



Client Information (Sub Contract Lab)		Sampler:	Lab PIN:	Carrier Tracking No(s):	COC No:				
Client Contact: Shipping/Receiving		Phone:	Brown, Shall	State of Origin:	180-403247.1				
Company: TestAmerica Laboratories, Inc.		E-Mail:	Shall.Brown@Eurofinset.com	Page:	Page 1 of 1				
Address: 13715 Rider Trail North.		Accreditations Required (See note):		Job #:	180-108353-2				
City: Earth City	State, Zip: MO, 63045	Due Date Requested: 8/18/2020	Analysis Requested						
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:	TAT Requested (days):	Total Number of Containers						
Email:	WO #:		Preservation Codes: A - HCL M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA L - EDA Z - other (specify) Other:						
Project Name: CCR - Plant Arkwright	Project #: 18020201		Special Instructions/Note:						
Site: Arkwright	SSOW#:								
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/soil, BT=Trace, AA=)	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)	9315 Ra226/PreSep_21 Radium 226	9320 Ra228/PreSep_0 Radium 228	Ra228Ra228_GFPc
ARGWC-22 (180-108353-1)	7/15/20	13:10 Eastern	Water	Water	X	X	X	X	X
ARGWC-23 (180-108353-2)	7/15/20	15:20 Eastern	Water	Water	X	X	X	X	X
DUP (180-108353-3)	7/15/20	Eastern	Water	Water	X	X	X	X	X
EB (180-108353-4)	7/15/20	11:00 Eastern	Water	Water	X	X	X	X	X
<p>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/test/matrix 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.</p>									
<p>Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2</p>									
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:</p>									
Empty Kit Relinquished by:		Date:	Method of Shipment:						
Relinquished by: <i>Paul White</i>		07/17/2020	Company: <i>ETA-Pitt</i>						
Relinquished by: <i>FE</i>		1700	Received by: <i>FE</i>						
Relinquished by:			Received by: <i>Jan Bond</i>						
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No			Received by: <i>ETA STI</i>						
Custody Seal No.:			Date/Time: <i>7/18/20 09:25</i>						
			Date/Time: <i>09:25</i>						
			Company: _____						
			Company: _____						
			Cooler Temperature(s) °C and Other Remarks:						

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-108353-2

Login Number: 108353

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: 180-108353-2

Login Number: 108353

List Number: 2

Creator: Boyd, Jacob C

List Source: Eurofins TestAmerica, St. Louis

List Creation: 07/18/20 10:23 AM

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: 2020-07-15 13:33:09

Project Information:

Operator Name Andreas Shoredits
Company Name Wood
Project Name AP2 Background #7
Site Name Plant Arkwright
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369323
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type HDPE
Tubing Diameter 0.17 in
Tubing Length 31 ft

Pump placement from TOC 23 ft

Well Information:

Well ID ARGWC-22
Well diameter 2.00 in
Well Total Depth 27.87 ft
Screen Length 10 ft
Depth to Water 13.83 ft

Pumping Information:

Final Pumping Rate 150 mL/min
Total System Volume 0.3483661 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.36 in
Total Volume Pumped 3.7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 3%	+/- 5		+/- 0.1	+/- 10
Last 5	12:44:55	300.12	23.43	5.93	1575.25	2.34	14.04	0.44	96.52
Last 5	12:49:55	600.02	22.17	5.62	1604.50	1.76	14.07	0.20	97.06
Last 5	12:54:55	900.02	22.09	5.58	1599.62	2.45	14.09	0.14	93.64
Last 5	12:59:55	1200.02	21.53	5.57	1595.34	1.73	14.10	0.13	91.44
Last 5	13:04:55	1500.02	21.35	5.58	1569.94	2.85	14.11	0.11	83.85
Variance 0			-0.08	-0.04	-4.89			-0.05	-3.42
Variance 1			-0.56	-0.01	-4.28			-0.02	-2.20
Variance 2			-0.18	0.01	-25.40			-0.01	-7.59

Notes

Start purging well @ 12:40, stop @ 13:05 (1500 secs); Initial purge rate of 140 mL/min was increased to 150 mL/min @ 12:51; Collected sample @ 13:10; Weather is sunny 33 degrees C

Grab Samples

ARGWC-22

Groundwater sample

DUP

Duplicate groundwater sample

Product Name: Low-Flow System

Date: 2020-07-15 15:43:38

Project Information:

Operator Name Andreas Shoredits
Company Name Wood
Project Name AP2 Background #7
Site Name Plant Arkwright
Latitude 32° 55' 13.35"
Longitude -83° -42' -16.16"
Sonde SN 369323
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type HDPE
Tubing Diameter 0.17 in
Tubing Length 31 ft

Pump placement from TOC 23 ft

Well Information:

Well ID ARGWC-23
Well diameter 2.00 in
Well Total Depth 28.08 ft
Screen Length 10 ft
Depth to Water 11.9 ft

Pumping Information:

Final Pumping Rate 149 mL/min
Total System Volume 0.3483661 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 19.2 in
Total Volume Pumped 4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 3%	+/- 5		+/- 0.1	+/- 10
Last 5	14:55:14	600.69	24.41	6.34	492.53	2.14	13.05	0.18	123.05
Last 5	15:00:16	902.69	24.22	6.36	489.39	2.66	13.29	0.15	124.93
Last 5	15:05:23	1209.69	23.68	6.36	487.09	2.42	13.44	0.13	123.99
Last 5	15:10:23	1509.69	23.88	6.35	492.56	2.01	13.49	0.13	122.64
Last 5	15:15:43	1829.69	24.01	6.36	490.43	1.62	13.50	0.14	121.73
Variance 0			-0.54	0.00	-2.30			-0.02	-0.94
Variance 1			0.20	-0.01	5.46			-0.00	-1.35
Variance 2			0.13	0.00	-2.12			0.01	-0.91

Notes

Start purging well @ 14:45, stop @ 15:15; Initial purge rate of 155 mL/min was reduced to 150 mL/min @ 14:56 and to 140 mL/min @ 15:06; Drawdown decreased after purging around 3.8 L and when purge rate was lowered; Sample collected @ 15:20; Weather is sunny 35 degrees C

Grab Samples

ARGWC-23
Groundwater sample

ANALYTICAL REPORT

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

Laboratory Job ID: 180-111426-1

Client Project/Site: Plant Arkwright Background Wells 22 23

For:

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

Attn: Joju Abraham



Authorized for release by:
10/12/2020 7:05:21 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

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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 Background Wells 22 23

Job ID: 180-111426-1

Job ID: 180-111426-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-111426-1

Comments

No additional comments.

Receipt

The samples were received on 9/24/2020 9:15 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.1° 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 Background Wells 22 23

Job ID: 180-111426-1

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.
▫	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 Background Wells 22 23

Job ID: 180-111426-1

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: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111426-1	EB-01	Water	09/22/20 14:00	09/24/20 09:15	
180-111426-2	ARGWC-22	Water	09/22/20 15:52	09/24/20 09:15	
180-111426-3	ARGWC-23	Water	09/22/20 17:22	09/24/20 09:15	
180-111426-4	DUP-01	Water	09/22/20 00:00	09/24/20 09:15	

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Method Summary

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

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: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

Client Sample ID: EB-01

Lab Sample ID: 180-111426-1

Date Collected: 09/22/20 14:00

Matrix: Water

Date Received: 09/24/20 09:15

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		1			332195	10/03/20 22:54	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	332470	10/06/20 13:44	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			332836	10/08/20 16:46	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	332506	10/07/20 18:42	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			332827	10/08/20 18:40	KEM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331364	09/26/20 06:51	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-22

Lab Sample ID: 180-111426-2

Date Collected: 09/22/20 15:52

Matrix: Water

Date Received: 09/24/20 09:15

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		1			332195	10/03/20 21:10	MJH	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 300.0 R2.1		10			332195	10/03/20 21:31	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	332470	10/06/20 13:44	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			332836	10/08/20 16:49	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	332506	10/07/20 18:42	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			332827	10/08/20 18:42	KEM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331364	09/26/20 06:51	AVS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333009	09/22/20 15:52	AGJ	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111426-3

Date Collected: 09/22/20 17:22

Matrix: Water

Date Received: 09/24/20 09:15

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		1			332195	10/03/20 18:44	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	332470	10/06/20 13:44	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			332836	10/08/20 16:51	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	332506	10/07/20 18:42	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			332827	10/08/20 18:43	KEM	TAL PIT
Instrument ID: HGZ										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111426-3

Date Collected: 09/22/20 17:22

Matrix: Water

Date Received: 09/24/20 09:15

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	331364	09/26/20 06:51	AVS	TAL PIT
Total/NA	Analysis	Field Sampling		1			333009	09/22/20 17:22	AGJ	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: DUP-01

Lab Sample ID: 180-111426-4

Date Collected: 09/22/20 00:00

Matrix: Water

Date Received: 09/24/20 09:15

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		1			332195	10/03/20 21:52	MJH	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	332470	10/06/20 13:44	TJO	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			332836	10/08/20 16:54	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	332506	10/07/20 18:42	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			332827	10/08/20 18:44	KEM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	331364	09/26/20 06:51	AVS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	Field Sampling		1			333009	09/22/20 00:00	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: Prep

MM1 = Mary Beth Miller

TJO = Tyler Oliver

Batch Type: Analysis

AGJ = Andy Johnson

AVS = Abbey Smith

KEM = Kimberly Mahoney

MJH = Matthew Hartman

RSK = Robert Kurtz

Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

Client Sample ID: EB-01

Lab Sample ID: 180-111426-1

Date Collected: 09/22/20 14:00

Matrix: Water

Date Received: 09/24/20 09:15

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			10/03/20 22:54	1
Fluoride	<0.026		0.10	0.026	mg/L			10/03/20 22:54	1
Sulfate	<0.38		1.0	0.38	mg/L			10/03/20 22:54	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		10/06/20 13:44	10/08/20 16:46	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/06/20 13:44	10/08/20 16:46	1
Barium	<0.0016		0.010	0.0016	mg/L		10/06/20 13:44	10/08/20 16:46	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		10/06/20 13:44	10/08/20 16:46	1
Boron	0.045 J		0.080	0.039	mg/L		10/06/20 13:44	10/08/20 16:46	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		10/06/20 13:44	10/08/20 16:46	1
Calcium	<0.13		0.50	0.13	mg/L		10/06/20 13:44	10/08/20 16:46	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/06/20 13:44	10/08/20 16:46	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		10/06/20 13:44	10/08/20 16:46	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/06/20 13:44	10/08/20 16:46	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/06/20 13:44	10/08/20 16:46	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		10/06/20 13:44	10/08/20 16:46	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/06/20 13:44	10/08/20 16:46	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/06/20 13:44	10/08/20 16:46	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		10/07/20 18:42	10/08/20 18:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			09/26/20 06:51	1

Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-111426-2

Date Collected: 09/22/20 15:52

Matrix: Water

Date Received: 09/24/20 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.1		1.0	0.32	mg/L			10/03/20 21:10	1
Fluoride	0.049	J	0.10	0.026	mg/L			10/03/20 21:10	1
Sulfate	720		10	3.8	mg/L			10/03/20 21:31	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		10/06/20 13:44	10/08/20 16:49	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/06/20 13:44	10/08/20 16:49	1
Barium	0.038		0.010	0.0016	mg/L		10/06/20 13:44	10/08/20 16:49	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		10/06/20 13:44	10/08/20 16:49	1
Boron	2.8		0.080	0.039	mg/L		10/06/20 13:44	10/08/20 16:49	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		10/06/20 13:44	10/08/20 16:49	1
Calcium	190		0.50	0.13	mg/L		10/06/20 13:44	10/08/20 16:49	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/06/20 13:44	10/08/20 16:49	1
Cobalt	0.0085		0.00050	0.00013	mg/L		10/06/20 13:44	10/08/20 16:49	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/06/20 13:44	10/08/20 16:49	1
Lithium	0.014		0.0050	0.0034	mg/L		10/06/20 13:44	10/08/20 16:49	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		10/06/20 13:44	10/08/20 16:49	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/06/20 13:44	10/08/20 16:49	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/06/20 13:44	10/08/20 16:49	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		10/07/20 18:42	10/08/20 18:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10	10	mg/L			09/26/20 06:51	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.77				SU			09/22/20 15:52	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111426-3

Date Collected: 09/22/20 17:22

Matrix: Water

Date Received: 09/24/20 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.6		1.0	0.32	mg/L			10/03/20 18:44	1
Fluoride	0.33		0.10	0.026	mg/L			10/03/20 18:44	1
Sulfate	68	F1	1.0	0.38	mg/L			10/03/20 18:44	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		10/06/20 13:44	10/08/20 16:51	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/06/20 13:44	10/08/20 16:51	1
Barium	0.16		0.010	0.0016	mg/L		10/06/20 13:44	10/08/20 16:51	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		10/06/20 13:44	10/08/20 16:51	1
Boron	0.50		0.080	0.039	mg/L		10/06/20 13:44	10/08/20 16:51	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		10/06/20 13:44	10/08/20 16:51	1
Calcium	66		0.50	0.13	mg/L		10/06/20 13:44	10/08/20 16:51	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/06/20 13:44	10/08/20 16:51	1
Cobalt	0.0036		0.00050	0.00013	mg/L		10/06/20 13:44	10/08/20 16:51	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/06/20 13:44	10/08/20 16:51	1
Lithium	0.039		0.0050	0.0034	mg/L		10/06/20 13:44	10/08/20 16:51	1
Molybdenum	0.053		0.0050	0.00061	mg/L		10/06/20 13:44	10/08/20 16:51	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/06/20 13:44	10/08/20 16:51	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/06/20 13:44	10/08/20 16:51	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		10/07/20 18:42	10/08/20 18:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		10	10	mg/L			09/26/20 06:51	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.29				SU			09/22/20 17:22	1

Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

Client Sample ID: DUP-01

Lab Sample ID: 180-111426-4

Date Collected: 09/22/20 00:00

Matrix: Water

Date Received: 09/24/20 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.6		1.0	0.32	mg/L			10/03/20 21:52	1
Fluoride	0.32		0.10	0.026	mg/L			10/03/20 21:52	1
Sulfate	67		1.0	0.38	mg/L			10/03/20 21:52	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		10/06/20 13:44	10/08/20 16:54	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/06/20 13:44	10/08/20 16:54	1
Barium	0.16		0.010	0.0016	mg/L		10/06/20 13:44	10/08/20 16:54	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		10/06/20 13:44	10/08/20 16:54	1
Boron	0.48		0.080	0.039	mg/L		10/06/20 13:44	10/08/20 16:54	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		10/06/20 13:44	10/08/20 16:54	1
Calcium	67		0.50	0.13	mg/L		10/06/20 13:44	10/08/20 16:54	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/06/20 13:44	10/08/20 16:54	1
Cobalt	0.0037		0.00050	0.00013	mg/L		10/06/20 13:44	10/08/20 16:54	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/06/20 13:44	10/08/20 16:54	1
Lithium	0.039		0.0050	0.0034	mg/L		10/06/20 13:44	10/08/20 16:54	1
Molybdenum	0.055		0.0050	0.00061	mg/L		10/06/20 13:44	10/08/20 16:54	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/06/20 13:44	10/08/20 16:54	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/06/20 13:44	10/08/20 16:54	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		10/07/20 18:42	10/08/20 18:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	300		10	10	mg/L			09/26/20 06:51	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.29				SU			09/22/20 00:00	1

QC Sample Results

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

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

Lab Sample ID: MB 180-332195/6
Matrix: Water
Analysis Batch: 332195

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			10/03/20 06:50	1
Fluoride	<0.026		0.10	0.026	mg/L			10/03/20 06:50	1
Sulfate	<0.38		1.0	0.38	mg/L			10/03/20 06:50	1

Lab Sample ID: LCS 180-332195/5
Matrix: Water
Analysis Batch: 332195

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	49.3		mg/L		99	90 - 110
Fluoride	2.50	2.40		mg/L		96	90 - 110
Sulfate	50.0	47.6		mg/L		95	90 - 110

Lab Sample ID: 180-111426-3 MS
Matrix: Water
Analysis Batch: 332195

Client Sample ID: ARGWC-23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.6		50.0	52.0		mg/L		97	90 - 110
Fluoride	0.33		2.50	2.70		mg/L		95	90 - 110
Sulfate	68	F1	50.0	112	F1	mg/L		87	90 - 110

Lab Sample ID: 180-111426-3 MSD
Matrix: Water
Analysis Batch: 332195

Client Sample ID: ARGWC-23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.6		50.0	51.1		mg/L		95	90 - 110	2	20
Fluoride	0.33		2.50	2.65		mg/L		93	90 - 110	2	20
Sulfate	68	F1	50.0	109	F1	mg/L		82	90 - 110	2	20

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

Lab Sample ID: MB 180-332470/1-A
Matrix: Water
Analysis Batch: 332836

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 332470

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		10/06/20 13:44	10/08/20 15:50	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/06/20 13:44	10/08/20 15:50	1
Barium	<0.0016		0.010	0.0016	mg/L		10/06/20 13:44	10/08/20 15:50	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		10/06/20 13:44	10/08/20 15:50	1
Boron	<0.039		0.080	0.039	mg/L		10/06/20 13:44	10/08/20 15:50	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		10/06/20 13:44	10/08/20 15:50	1
Calcium	<0.13		0.50	0.13	mg/L		10/06/20 13:44	10/08/20 15:50	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/06/20 13:44	10/08/20 15:50	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		10/06/20 13:44	10/08/20 15:50	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/06/20 13:44	10/08/20 15:50	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/06/20 13:44	10/08/20 15:50	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		10/06/20 13:44	10/08/20 15:50	1

Eurofins TestAmerica, Pittsburgh

QC Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

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

Lab Sample ID: MB 180-332470/1-A
Matrix: Water
Analysis Batch: 332836

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 332470

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.0015		0.0050	0.0015	mg/L		10/06/20 13:44	10/08/20 15:50	1
Thallium	<0.00015		0.0010	0.00015	mg/L		10/06/20 13:44	10/08/20 15:50	1

Lab Sample ID: LCS 180-332470/2-A
Matrix: Water
Analysis Batch: 332836

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 332470

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.258		mg/L		103	80 - 120
Arsenic	1.00	0.943		mg/L		94	80 - 120
Barium	1.00	1.07		mg/L		107	80 - 120
Beryllium	0.500	0.522		mg/L		104	80 - 120
Boron	1.25	1.26		mg/L		100	80 - 120
Cadmium	0.500	0.495		mg/L		99	80 - 120
Calcium	25.0	26.8		mg/L		107	80 - 120
Chromium	0.500	0.490		mg/L		98	80 - 120
Cobalt	0.500	0.470		mg/L		94	80 - 120
Lead	0.500	0.487		mg/L		97	80 - 120
Lithium	0.500	0.458		mg/L		92	80 - 120
Molybdenum	0.500	0.500		mg/L		100	80 - 120
Selenium	1.00	0.976		mg/L		98	80 - 120
Thallium	1.00	0.951		mg/L		95	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-332506/1-A
Matrix: Water
Analysis Batch: 332827

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332506

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		10/07/20 18:42	10/08/20 18:25	1

Lab Sample ID: LCS 180-332506/2-A
Matrix: Water
Analysis Batch: 332827

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332506

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00240		mg/L		96	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-331364/2
Matrix: Water
Analysis Batch: 331364

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			09/26/20 06:51	1

Eurofins TestAmerica, Pittsburgh

QC Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 180-331364/1
Matrix: Water
Analysis Batch: 331364

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	624		mg/L		99	80 - 120

Lab Sample ID: 180-111426-3 DU
Matrix: Water
Analysis Batch: 331364

Client Sample ID: ARGWC-23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	310		306		mg/L		2	10

Lab Sample ID: 180-111426-4 DU
Matrix: Water
Analysis Batch: 331364

Client Sample ID: DUP-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	300		310		mg/L		5	10

QC Association Summary

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

HPLC/IC

Analysis Batch: 332195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111426-1	EB-01	Total/NA	Water	EPA 300.0 R2.1	
180-111426-2	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-111426-2	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-111426-3	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-111426-4	DUP-01	Total/NA	Water	EPA 300.0 R2.1	
MB 180-332195/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-332195/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-111426-3 MS	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-111426-3 MSD	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 332470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111426-1	EB-01	Total Recoverable	Water	3005A	
180-111426-2	ARGWC-22	Total Recoverable	Water	3005A	
180-111426-3	ARGWC-23	Total Recoverable	Water	3005A	
180-111426-4	DUP-01	Total Recoverable	Water	3005A	
MB 180-332470/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-332470/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 332506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111426-1	EB-01	Total/NA	Water	7470A	
180-111426-2	ARGWC-22	Total/NA	Water	7470A	
180-111426-3	ARGWC-23	Total/NA	Water	7470A	
180-111426-4	DUP-01	Total/NA	Water	7470A	
MB 180-332506/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-332506/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 332827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111426-1	EB-01	Total/NA	Water	EPA 7470A	332506
180-111426-2	ARGWC-22	Total/NA	Water	EPA 7470A	332506
180-111426-3	ARGWC-23	Total/NA	Water	EPA 7470A	332506
180-111426-4	DUP-01	Total/NA	Water	EPA 7470A	332506
MB 180-332506/1-A	Method Blank	Total/NA	Water	EPA 7470A	332506
LCS 180-332506/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	332506

Analysis Batch: 332836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111426-1	EB-01	Total Recoverable	Water	EPA 6020B	332470
180-111426-2	ARGWC-22	Total Recoverable	Water	EPA 6020B	332470
180-111426-3	ARGWC-23	Total Recoverable	Water	EPA 6020B	332470
180-111426-4	DUP-01	Total Recoverable	Water	EPA 6020B	332470
MB 180-332470/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	332470
LCS 180-332470/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	332470

QC Association Summary

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-1

General Chemistry

Analysis Batch: 331364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111426-1	EB-01	Total/NA	Water	SM 2540C	
180-111426-2	ARGWC-22	Total/NA	Water	SM 2540C	
180-111426-3	ARGWC-23	Total/NA	Water	SM 2540C	
180-111426-4	DUP-01	Total/NA	Water	SM 2540C	
MB 180-331364/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-331364/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-111426-3 DU	ARGWC-23	Total/NA	Water	SM 2540C	
180-111426-4 DU	DUP-01	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 333009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111426-2	ARGWC-22	Total/NA	Water	Field Sampling	
180-111426-3	ARGWC-23	Total/NA	Water	Field Sampling	
180-111426-4	DUP-01	Total/NA	Water	Field Sampling	

Chain of Custody Record

ALANTA
Central Ticketing (6)

Sampler: **Daniel Howard** Lab PM: **Brown, Shall**
 Phone: _____ E-Mail: **Shall.Brown@Eurofins.com**
 Job # No: **64070-12387.1**
 Page: **1 of 1**

Client Information
 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**

Due Date Requested: **Standard**
 TAT Requested (days): _____
 PO #: **GPC11064570**
 WO #: _____
 Project #: **18020201**
 SSONW: _____

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Soil, O=Organic, D=Drinking Water)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	Ra226Ra228_GFPc - Ra 226/228	9320_Ra228 - Radium 228	300_ORGFM_28D - Chloride Fluoride Sulfate	6020B_7470A	2540C_Calcd - Solids, Total Dissolved (TDS)	6020B - Lead	Total Number of Containers	Special Instructions/Note:
EB-01	9/23/20	1400	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	48	pH = 5.77
ARGWC-22		1552	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	48	pH = 6.29
ARGWC-23		1722	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	48	pH = 6.29
DUP-01		-	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	48	pH = 6.29



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: **Daniel Howard** Date/Time: **9/23/20/1245** Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No
 Custody Seal No.: _____

Received by: **Shall** Date/Time: **9/24/20 915** Company: **ALANTA**

Received by: _____ Date/Time: _____ Company: _____

Received by: _____ Date/Time: _____ Company: _____

Method of Shipment: _____

Special Instructions/OC Requirements: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months



Do Not Lift Using This Tag

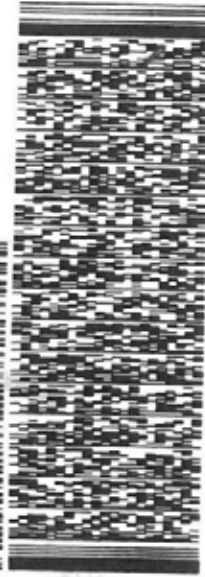
ORIGIN ID: NCDA (770) 421-3382
DANIEL HOWARD
ACCO E & IS
STE 100
1075 BIG SHANTY RD NH STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 23SEP20
ACTWT: 57.50 LB
CAD: 699463755FE2110
DIM3: 23x13x13 IN
BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

(412) 983-7058
REF: PO1

DEPT:



FedEx Express
E
202020071401

1 of 2
TRK# 3971 2220 7888
0201
MASTER

THU - 24 SEP 10:30A
PRIORITY OVERNIGHT

NA AGCA

15238
PA-US PIT

Uncorrected temp
Thermometer ID

CF 0 Initials B

PT-WL-SR-001 effective 11/6/18

RT97

1888
09:20

FZ



180-111426 Waybill

- 1
- 2
- 3
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- 5
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- 7
- 8
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- 10
- 11
- 12
- 13

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111426-1

Login Number: 111426

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: 180-111426-2

Client Project/Site: Plant Arkwright Background Wells 22 23

For:

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

Attn: Joju Abraham



Authorized for release by:
11/5/2020 9:58:06 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

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 Background Wells 22 23

Job ID: 180-111426-2

Job ID: 180-111426-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-111426-2

Comments

No additional comments.

Receipt

The samples were received on 9/24/2020 9:15 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.1° C.

RAD

Methods 903.0, 9315: Radium-226 prep batch 160-484436;

The Ra-226 laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recovery (153%/134%) associated with the following sample is outside the upper QC limit of (125%) indicating a potential positive bias for that analyte. This analyte was observed above the MDC/RL in the associated sample. All other QC are within limits (MB, RER/RPD). Per client request, the data have been reported with this narrative. (LCS 160-484436/1-A), (LCSD 160-484436/2-A) and (MB 160-484436/23-A)

Methods 903.0, 9315: Radium-226 prep batch 160-484436:

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. (LCS 160-484436/1-A), (LCSD 160-484436/2-A) and (MB 160-484436/23-A)

Method 9315: Radium-226 prep batch 160-484436:

The Ra-226 laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recovery (153%/134%) associated with the following sample(s) is outside the upper QC limit of (125%) indicating a potential positive bias for that analyte. This analyte was not observed above the MDC/RL in the associated samples; therefore the sample data is not adversely affected by this excursion. The data have been reported with this narrative.

EB-01 (180-111426-1), ARGWC-22 (180-111426-2), ARGWC-23 (180-111426-3), (LCS 160-484436/1-A) and (LCSD 160-484436/2-A)

Method 9315: Radium-226 prep batch 160-484436:

The Ra-226 laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recovery (153%/134%) associated with the following sample(s) is outside the upper QC limit of (125%) indicating a potential positive bias for that analyte. This analyte was observed above the MDC/RL in the associated samples. All other QC are within limits (MB, RER/RPD). Per client request, the data have been reported with this narrative.

DUP-01 (180-111426-4), (LCS 160-484436/1-A) and (LCSD 160-484436/2-A)

Method 9315: Radium-226 prep batch 160-484436:

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 (180-111426-1), ARGWC-22 (180-111426-2), ARGWC-23 (180-111426-3), DUP-01 (180-111426-4), (LCS 160-484436/1-A), (LCSD 160-484436/2-A) and (MB 160-484436/23-A)

Methods 904.0, 9320: Ra 228 prep batch: 160-484437

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 (180-111426-1), ARGWC-22 (180-111426-2), ARGWC-23 (180-111426-3) and DUP-01 (180-111426-4)

Method PrecSep_0: Radium 228 Prep Batch 160-484437:

Insufficient sample volume was available to perform a sample duplicate for the following samples: EB-01 (180-111426-1), ARGWC-22 (180-111426-2), ARGWC-23 (180-111426-3) and DUP-01 (180-111426-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-484436:

Case Narrative

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Job ID: 180-111426-2 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Insufficient sample volume was available to perform a sample duplicate for the following samples: EB-01 (180-111426-1), ARGWC-22 (180-111426-2), ARGWC-23 (180-111426-3) and DUP-01 (180-111426-4). 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.

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Definitions/Glossary

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

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: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

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: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111426-1	EB-01	Water	09/22/20 14:00	09/24/20 09:15	
180-111426-2	ARGWC-22	Water	09/22/20 15:52	09/24/20 09:15	
180-111426-3	ARGWC-23	Water	09/22/20 17:22	09/24/20 09:15	
180-111426-4	DUP-01	Water	09/22/20 00:00	09/24/20 09:15	

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Method Summary

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

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: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Client Sample ID: EB-01

Lab Sample ID: 180-111426-1

Date Collected: 09/22/20 14:00

Matrix: Water

Date Received: 09/24/20 09:15

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			1000.95 mL	1.0 g	484436	10/02/20 06:38	AVB	TAL SL
Total/NA	Analysis	9315		1			486850	10/26/20 09:56	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.95 mL	1.0 g	484437	10/02/20 07:05	AVB	TAL SL
Total/NA	Analysis	9320		1			486425	10/20/20 12:49	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			487753	11/02/20 20:51	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-22

Lab Sample ID: 180-111426-2

Date Collected: 09/22/20 15:52

Matrix: Water

Date Received: 09/24/20 09:15

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			1000.70 mL	1.0 g	484436	10/02/20 06:38	AVB	TAL SL
Total/NA	Analysis	9315		1			486850	10/26/20 09:56	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.70 mL	1.0 g	484437	10/02/20 07:05	AVB	TAL SL
Total/NA	Analysis	9320		1			486271	10/20/20 12:55	SCB	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			487753	11/02/20 20:51	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111426-3

Date Collected: 09/22/20 17:22

Matrix: Water

Date Received: 09/24/20 09:15

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			999.11 mL	1.0 g	484436	10/02/20 06:38	AVB	TAL SL
Total/NA	Analysis	9315		1			486850	10/26/20 09:56	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.11 mL	1.0 g	484437	10/02/20 07:05	AVB	TAL SL
Total/NA	Analysis	9320		1			486271	10/20/20 12:56	SCB	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			487753	11/02/20 20:51	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: DUP-01

Lab Sample ID: 180-111426-4

Date Collected: 09/22/20 00:00

Matrix: Water

Date Received: 09/24/20 09:15

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			999.46 mL	1.0 g	484436	10/02/20 06:38	AVB	TAL SL
Total/NA	Analysis	9315		1			486850	10/26/20 09:57	SCB	TAL SL
Instrument ID: GFPCRED										

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Client Sample ID: DUP-01
Date Collected: 09/22/20 00:00
Date Received: 09/24/20 09:15

Lab Sample ID: 180-111426-4
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			999.46 mL	1.0 g	484437	10/02/20 07:05	AVB	TAL SL
Total/NA	Analysis	9320		1			486271	10/20/20 12:56	SCB	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			487753	11/02/20 20:51	GRW	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

GRW = George Witt

SCB = Sarah Bernsen



Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Client Sample ID: EB-01

Lab Sample ID: 180-111426-1

Date Collected: 09/22/20 14:00

Matrix: Water

Date Received: 09/24/20 09:15

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0544	U *	0.105	0.106	1.00	0.189	pCi/L	10/02/20 06:38	10/26/20 09:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.5		40 - 110					10/02/20 06:38	10/26/20 09:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.109	U	0.313	0.313	1.00	0.542	pCi/L	10/02/20 07:05	10/20/20 12:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.5		40 - 110					10/02/20 07:05	10/20/20 12:49	1
Y Carrier	72.9		40 - 110					10/02/20 07:05	10/20/20 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	0.164	U	0.330	0.330	5.00	0.542	pCi/L		11/02/20 20:51	1

Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-111426-2

Date Collected: 09/22/20 15:52

Matrix: Water

Date Received: 09/24/20 09:15

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.308	*	0.155	0.158	1.00	0.181	pCi/L	10/02/20 06:38	10/26/20 09:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.8		40 - 110					10/02/20 06:38	10/26/20 09:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.576		0.329	0.334	1.00	0.493	pCi/L	10/02/20 07:05	10/20/20 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.8		40 - 110					10/02/20 07:05	10/20/20 12:55	1
Y Carrier	75.1		40 - 110					10/02/20 07:05	10/20/20 12:55	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	0.884		0.364	0.369	5.00	0.493	pCi/L		11/02/20 20:51	1

Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111426-3

Date Collected: 09/22/20 17:22

Matrix: Water

Date Received: 09/24/20 09:15

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.137	U *	0.119	0.119	1.00	0.175	pCi/L	10/02/20 06:38	10/26/20 09:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.7		40 - 110					10/02/20 06:38	10/26/20 09:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.119	U	0.304	0.304	1.00	0.565	pCi/L	10/02/20 07:05	10/20/20 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.7		40 - 110					10/02/20 07:05	10/20/20 12:56	1
Y Carrier	72.9		40 - 110					10/02/20 07:05	10/20/20 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	0.0177	U	0.326	0.326	5.00	0.565	pCi/L		11/02/20 20:51	1

Client Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Client Sample ID: DUP-01

Lab Sample ID: 180-111426-4

Date Collected: 09/22/20 00:00

Matrix: Water

Date Received: 09/24/20 09:15

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.28	*	0.287	0.309	1.00	0.202	pCi/L	10/02/20 06:38	10/26/20 09:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		40 - 110					10/02/20 06:38	10/26/20 09:57	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.874		0.393	0.402	1.00	0.563	pCi/L	10/02/20 07:05	10/20/20 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		40 - 110					10/02/20 07:05	10/20/20 12:56	1
Y Carrier	71.0		40 - 110					10/02/20 07:05	10/20/20 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	2.16		0.487	0.507	5.00	0.563	pCi/L		11/02/20 20:51	1

QC Sample Results

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-484436/23-A
Matrix: Water
Analysis Batch: 486850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484436

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.1527	U	0.117	0.118	1.00	0.166	pCi/L	10/02/20 06:38	10/26/20 11:48	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	93.5		40 - 110					10/02/20 06:38	10/26/20 11:48	1

Lab Sample ID: LCS 160-484436/1-A
Matrix: Water
Analysis Batch: 486850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484436

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	17.39	*	1.87	1.00	0.187	pCi/L	153	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	74.0		40 - 110					10/02/20 06:38	10/26/20 11:48

Lab Sample ID: LCSD 160-484436/2-A
Matrix: Water
Analysis Batch: 486850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 484436

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium-226	11.3	15.16	*	1.65	1.00	0.181	pCi/L	134	75 - 125	0.64	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits		Prepared	Analyzed	Dil Fac				
Ba Carrier	79.0		40 - 110					10/02/20 07:05	10/20/20 12:57	1	

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-484437/23-A
Matrix: Water
Analysis Batch: 486271

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484437

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2421	U	0.285	0.286	1.00	0.470	pCi/L	10/02/20 07:05	10/20/20 12:57	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	93.5		40 - 110					10/02/20 07:05	10/20/20 12:57	1
Y Carrier	79.6		40 - 110		10/02/20 07:05	10/20/20 12:57	1			

QC Sample Results

Client: Southern Company
 Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-484437/1-A
Matrix: Water
Analysis Batch: 486425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484437

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									75	125
Radium-228	7.72	8.355		1.08	1.00	0.498	pCi/L	108	75	125
LCS LCS										
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	74.0		40 - 110							
Y Carrier	82.2		40 - 110							

Lab Sample ID: LCSD 160-484437/2-A
Matrix: Water
Analysis Batch: 486425

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 484437

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	7.72	7.414		0.983	1.00	0.465	pCi/L	96	75	125	0.46	1
LCSD LCSD												
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	79.0		40 - 110									
Y Carrier	77.8		40 - 110									

QC Association Summary

Client: Southern Company
Project/Site: Plant Arkwright Background Wells 22 23

Job ID: 180-111426-2

Rad

Prep Batch: 484436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111426-1	EB-01	Total/NA	Water	PrecSep-21	
180-111426-2	ARGWC-22	Total/NA	Water	PrecSep-21	
180-111426-3	ARGWC-23	Total/NA	Water	PrecSep-21	
180-111426-4	DUP-01	Total/NA	Water	PrecSep-21	
MB 160-484436/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-484436/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-484436/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 484437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111426-1	EB-01	Total/NA	Water	PrecSep_0	
180-111426-2	ARGWC-22	Total/NA	Water	PrecSep_0	
180-111426-3	ARGWC-23	Total/NA	Water	PrecSep_0	
180-111426-4	DUP-01	Total/NA	Water	PrecSep_0	
MB 160-484437/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-484437/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-484437/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Chain of Custody Record

ALANTA
Central Ticketing (6)

Sampler: **Daniel Howard** Lab PM: **Brown, Shall**
 Phone: _____ E-Mail: **Shall.Brown@Eurofins.com**
 Job # No. **64070-12387.1**
 Page **1** of **1**

Client Information
 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**

Due Date Requested: **Standard**
 TAT Requested (days): _____
 PO #: **GPC11064570**
 WO #: _____
 Project #: **18020201**
 SSONW: _____

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Soil, O=Organic, D=Drinking Water)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	Ra226Ra228_GFPc - Ra 226/228	9320_Ra228 - Radium 228	300_ORGFM_28D - Chloride Fluoride Sulfate	6020B_7470A	2540C_Calcd - Solids, Total Dissolved (TDS)	6020B - Lead	Total Number of Containers	Special Instructions/Note:
EB-01	9/23/20	1400	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	48	pH = 5.77
ARGWC-22		1552	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	48	pH = 6.29
ARGWC-23		1722	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	48	pH = 6.29
DUP-01		-	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	48	pH = 6.29



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: **Daniel Howard** Date/Time: **9/23/20 / 12:45** Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No
 Custody Seal No.: _____

Received by: _____ Date/Time: **9/24/20 9:15** Company: **ALANTA**

Received by: _____ Date/Time: _____ Company: _____

Received by: _____ Date/Time: _____ Company: _____

Cooler Temperature(s) °C and Other Remarks: _____



Do Not Lift Using This Tag

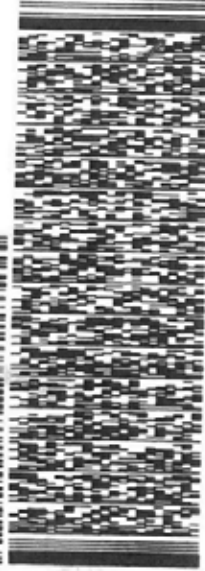
ORIGIN ID: NCDA (770) 421-3382
DANIEL HOWARD
ACCO E & IS
STE 100
1075 BIG SHANTY RD NH STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 23SEP20
ACTWGT: 57.50 LB
CAD: 699463755FE2110
DIM3: 23x13x13 IN
BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

(412) 983-7058
REF: UNL
PO1

DEPT:



FedEx Express
E

1 of 2
TRK# 3971 2220 7888
0201
MASTER

THU - 24 SEP 10:30A
PRIORITY OVERNIGHT

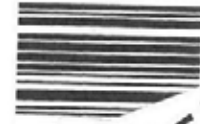
NA AGCA

15238
PA-US PIT

Uncorrected temp
Thermometer ID

CF 0 Initials

PT-WL-SR-001 effective 11/6/18



1888
09:20

RT97

FZ



180-111426 Waybill

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111426-2

Login Number: 111426

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: 180-111426-2

Login Number: 111426

List Number: 2

Creator: Boyd, Jacob C

List Source: Eurofins TestAmerica, St. Louis

List Creation: 09/26/20 11:52 AM

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: 2020-09-22 15:54:27

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright AP2 CCR
Site Name ARGWC-22
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369323
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 27.8 ft

Pump placement from TOC 22.8 ft

Well Information:

Well ID ARGWC-22
Well diameter 2 in
Well Total Depth 27.77 ft
Screen Length 10 ft
Depth to Water 13.03 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.2140832 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.02 in
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:30:45	600.03	20.01	5.78	1538.02	1.41	13.29	0.18	5.04
Last 5	15:35:45	900.02	19.89	5.78	1545.14	1.35	13.29	0.16	2.02
Last 5	15:40:45	1200.03	19.75	5.78	1539.72	1.19	13.31	0.14	0.58
Last 5	15:45:45	1500.02	19.61	5.77	1537.47	1.10	13.31	0.14	0.55
Last 5	15:50:45	1800.02	19.56	5.77	1536.29	0.74	13.31	0.13	0.05
Variance 0			-0.14	0.00	-5.42			-0.01	-1.44
Variance 1			-0.13	-0.00	-2.25			-0.01	-0.03
Variance 2			-0.05	-0.00	-1.18			-0.00	-0.50

Notes

ARGWC-22 sample time 1552

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-22 17:24:06

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright AP2 CCR
Site Name ARGWC-23
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369323
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 28.1 ft

Pump placement from TOC 23.1 ft

Well Information:

Well ID ARGWC-23
Well diameter 2 in
Well Total Depth 28.11 ft
Screen Length 10 ft
Depth to Water 11.76 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.2154222 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.2 in
Total Volume Pumped 3.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	16:59:54	900.13	21.84	6.28	482.29	6.68	12.91	0.39	104.04
Last 5	17:04:54	1200.13	21.73	6.28	481.44	5.68	12.97	0.28	104.22
Last 5	17:09:54	1500.13	21.71	6.28	481.55	4.39	12.97	0.32	101.18
Last 5	17:14:54	1800.13	21.84	6.29	482.31	3.36	12.93	0.35	100.02
Last 5	17:19:54	2100.13	21.82	6.29	482.74	3.53	12.91	0.33	97.30
Variance 0			-0.03	0.00	0.11			0.05	-3.04
Variance 1			0.14	0.00	0.76			0.03	-1.17
Variance 2			-0.03	0.00	0.44			-0.03	-2.71

Notes: DUP-01 also collected
ARGWC-23 sample time 1722

Grab Samples

ANALYTICAL REPORT

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

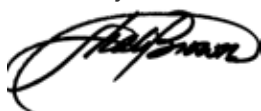
Laboratory Job ID: 180-111648-1

Client Project/Site: CCR - Plant Arkwright AP-2DAS
Revision: 1

For:

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

Attn: Joju Abraham



Authorized for release by:
10/29/2020 7:31:53 AM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

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results through
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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-2DAS

Job ID: 180-111648-1

Job ID: 180-111648-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-111648-1

Comments

102920 Revised Report to correct silver units from ug/L to mg/L. This report replaces the report previously issued on 102720.

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 4 coolers at receipt time were 2.0° C, 2.4° C, 2.7° C and 3.6° 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 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-2DAS

Job ID: 180-111648-1

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.
▫	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-2DAS

Job ID: 180-111648-1

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-2DAS

Job ID: 180-111648-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111648-1	ARGWA-19	Water	09/29/20 15:25	09/30/20 09:00	
180-111686-1	ARGWA-20	Water	09/30/20 11:28	10/01/20 09:00	
180-111686-2	EB-02	Water	09/30/20 12:20	10/01/20 09:00	
180-111686-3	ARGWC-22	Water	09/30/20 14:00	10/01/20 09:00	
180-111686-4	ARAMW-1	Water	09/30/20 15:56	10/01/20 09:00	
180-111740-1	FB-02	Water	10/01/20 09:35	10/02/20 09:00	
180-111740-2	ARGWC-23	Water	10/01/20 11:58	10/02/20 09:00	
180-111740-3	DUP-02	Water	10/01/20 00:00	10/02/20 09:00	
180-111741-1	ARAMW-2	Water	10/01/20 15:12	10/02/20 09:00	
180-111741-2	ARGWC-21	Water	10/01/20 16:08	10/02/20 09:00	

Method Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

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 AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARGWA-19

Lab Sample ID: 180-111648-1

Date Collected: 09/29/20 15:25

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 17:47	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 14:59	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 15:25	AGJ	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: ARGWA-20

Lab Sample ID: 180-111686-1

Date Collected: 09/30/20 11:28

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 20:14	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 20:13	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 11:28	AGJ	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: EB-02

Lab Sample ID: 180-111686-2

Date Collected: 09/30/20 12:20

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 08:45	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 20:17	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: ARGWC-22

Lab Sample ID: 180-111686-3

Date Collected: 09/30/20 14:00

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 21:16	MJH	TAL PIT
Instrument ID: INTEGRION										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-111686-3

Date Collected: 09/30/20 14:00

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 21:37	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 20:21	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 14:00	AGJ	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: ARAMW-1

Lab Sample ID: 180-111686-4

Date Collected: 09/30/20 15:56

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 22:39	MJH	TAL PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 300.0 R2.1		5			332371	10/06/20 23:00	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 20:24	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 15:56	AGJ	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: FB-02

Lab Sample ID: 180-111740-1

Date Collected: 10/01/20 09:35

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			333015	10/12/20 15:12	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 20:53	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			25 mL	25 mL	333418	10/14/20 13:01	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			333677	10/15/20 19:33	KEM	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
		Instrument ID: NOEQUIP								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111740-2

Date Collected: 10/01/20 11:58

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 Instrument ID: INTEGRION		1			333015	10/12/20 13:06	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 Instrument ID: A		1			334271	10/21/20 20:56	RSK	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	333418	10/14/20 13:01	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			333677	10/15/20 19:34	KEM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			333127	10/01/20 11:58	AGJ	TAL PIT

Client Sample ID: DUP-02

Lab Sample ID: 180-111740-3

Date Collected: 10/01/20 00:00

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 Instrument ID: INTEGRION		1			333015	10/12/20 13:27	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 Instrument ID: A		1			334271	10/21/20 21:00	RSK	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	332342	10/05/20 16:37	GRB	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			333127	10/01/20 00:00	AGJ	TAL PIT

Client Sample ID: ARAMW-2

Lab Sample ID: 180-111741-1

Date Collected: 10/01/20 15:12

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 Instrument ID: INTEGRION		1			333015	10/12/20 12:25	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: INTEGRION		5			333147	10/13/20 07:56	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 Instrument ID: A		1			334271	10/21/20 21:03	RSK	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			333127	10/01/20 15:12	AGJ	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARGWC-21

Lab Sample ID: 180-111741-2

Date Collected: 10/01/20 16:08

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 Instrument ID: INTEGRION		1			333015	10/12/20 12:46	MJH	TAL PIT
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: INTEGRION		5			333147	10/13/20 08:17	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 Instrument ID: A		1			334271	10/21/20 21:07	RSK	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Total/NA	Analysis	Field Sampling Instrument ID: NOEQUIP		1			333127	10/01/20 16:08	AGJ	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

- KHM = Kyle Mucroski
- MM1 = Mary Beth Miller
- TJO = Tyler Oliver

Batch Type: Analysis

- AGJ = Andy Johnson
- GRB = Gabriel Berghe
- KEM = Kimberly Mahoney
- MJH = Matthew Hartman
- RSK = Robert Kurtz

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARGWA-19

Lab Sample ID: 180-111648-1

Date Collected: 09/29/20 15:25

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	10		1.0	0.32	mg/L			10/06/20 17:47	1
Fluoride	0.051	J	0.10	0.026	mg/L			10/06/20 17:47	1
Sulfate	8.4		1.0	0.38	mg/L			10/06/20 17:47	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 14:59	1
Barium	0.040		0.010	0.0016	mg/L		10/12/20 15:58	10/22/20 14:59	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/12/20 15:58	10/22/20 14:59	1
Boron	<0.039		0.080	0.039	mg/L		10/12/20 15:58	10/22/20 14:59	1
Calcium	12		0.50	0.13	mg/L		10/12/20 15:58	10/22/20 14:59	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/12/20 15:58	10/22/20 14:59	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/12/20 15:58	10/22/20 14:59	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/12/20 15:58	10/22/20 14:59	1
Lithium	0.0041	J	0.0050	0.0034	mg/L		10/12/20 15:58	10/22/20 14:59	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/12/20 15:58	10/22/20 14:59	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/12/20 15:58	10/22/20 14:59	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/12/20 15:58	10/22/20 14:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	110		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	5.83				SU			09/29/20 15:25	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARGWA-20

Lab Sample ID: 180-111686-1

Date Collected: 09/30/20 11:28

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	5.6		1.0	0.32	mg/L			10/06/20 20:14	1
Fluoride	0.032	J	0.10	0.026	mg/L			10/06/20 20:14	1
Sulfate	15		1.0	0.38	mg/L			10/06/20 20:14	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		10/13/20 09:41	10/21/20 20:13	1
Barium	0.080		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:13	1
Beryllium	0.00019	J	0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:13	1
Boron	0.083		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:13	1
Calcium	9.9		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:13	1
Chromium	0.0057		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:13	1
Cobalt	0.00031	J	0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:13	1
Lead	0.00022	J	0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:13	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:13	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:13	1
Selenium	0.0016	J	0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:13	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	82		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	5.65				SU			09/30/20 11:28	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: EB-02

Lab Sample ID: 180-111686-2

Date Collected: 09/30/20 12:20

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 08:45	1
Fluoride	<0.026		0.10	0.026	mg/L			10/06/20 08:45	1
Sulfate	<0.38		1.0	0.38	mg/L			10/06/20 08:45	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 20:17	1
Barium	<0.0016		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:17	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:17	1
Boron	<0.039		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:17	1
Calcium	<0.13		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:17	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:17	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:17	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:17	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:17	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:17	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:17	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:17	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-2DAS

Job ID: 180-111648-1

Client Sample ID: ARGWC-22

Lab Sample ID: 180-111686-3

Date Collected: 09/30/20 14:00

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	8.0		1.0	0.32	mg/L			10/06/20 21:16	1
Fluoride	0.045	J	0.10	0.026	mg/L			10/06/20 21:16	1
Sulfate	650		10	3.8	mg/L			10/06/20 21:37	10

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 20:21	1
Barium	0.033		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:21	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:21	1
Boron	2.9		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:21	1
Calcium	200		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:21	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:21	1
Cobalt	0.0055		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:21	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:21	1
Lithium	0.014		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:21	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:21	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:21	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		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	5.81				SU			09/30/20 14:00	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARAMW-1

Lab Sample ID: 180-111686-4

Date Collected: 09/30/20 15:56

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	5.2		1.0	0.32	mg/L			10/06/20 22:39	1
Fluoride	0.20		0.10	0.026	mg/L			10/06/20 22:39	1
Sulfate	230		5.0	1.9	mg/L			10/06/20 23:00	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		10/13/20 09:41	10/21/20 20:24	1
Barium	0.052		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:24	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:24	1
Boron	0.98		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:24	1
Calcium	100		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:24	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:24	1
Cobalt	0.0010	J	0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:24	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:24	1
Lithium	0.0091		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:24	1
Molybdenum	0.0054	J	0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:24	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:24	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	520		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	6.16				SU			09/30/20 15:56	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: FB-02

Lab Sample ID: 180-111740-1

Date Collected: 10/01/20 09:35

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	<0.32		1.0	0.32	mg/L			10/12/20 15:12	1
Fluoride	<0.026		0.10	0.026	mg/L			10/12/20 15:12	1
Sulfate	<0.38		1.0	0.38	mg/L			10/12/20 15:12	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 20:53	1
Barium	<0.0016		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:53	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:53	1
Boron	0.11		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:53	1
Calcium	<0.13		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:53	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:53	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:53	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:53	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:53	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:53	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:53	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:53	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		10/14/20 13:01	10/15/20 19:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/05/20 15:06	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111740-2

Date Collected: 10/01/20 11:58

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	3.8		1.0	0.32	mg/L			10/12/20 13:06	1
Fluoride	0.32		0.10	0.026	mg/L			10/12/20 13:06	1
Sulfate	64		1.0	0.38	mg/L			10/12/20 13:06	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 20:56	1
Barium	0.17		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 20:56	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 20:56	1
Boron	0.49		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:56	1
Calcium	73		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:56	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 20:56	1
Cobalt	0.0052		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 20:56	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 20:56	1
Lithium	0.040		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 20:56	1
Molybdenum	0.064		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 20:56	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 20:56	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 20:56	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		10/14/20 13:01	10/15/20 19:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	290		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	6.38				SU			10/01/20 11:58	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: DUP-02

Lab Sample ID: 180-111740-3

Date Collected: 10/01/20 00:00

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	3.8		1.0	0.32	mg/L			10/12/20 13:27	1
Fluoride	0.32		0.10	0.026	mg/L			10/12/20 13:27	1
Sulfate	63		1.0	0.38	mg/L			10/12/20 13:27	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 21:00	1
Barium	0.16		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 21:00	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 21:00	1
Boron	0.47		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 21:00	1
Calcium	72		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 21:00	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 21:00	1
Cobalt	0.0047		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 21:00	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 21:00	1
Lithium	0.039		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 21:00	1
Molybdenum	0.062		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 21:00	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 21:00	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 21:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	290		10	10	mg/L			10/05/20 16:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.38				SU			10/01/20 00:00	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARAMW-2

Lab Sample ID: 180-111741-1

Date Collected: 10/01/20 15:12

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	4.2		1.0	0.32	mg/L			10/12/20 12:25	1
Fluoride	0.098	J	0.10	0.026	mg/L			10/12/20 12:25	1
Sulfate	270		5.0	1.9	mg/L			10/13/20 07:56	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0085		0.0010	0.00031	mg/L		10/13/20 09:41	10/21/20 21:03	1
Barium	0.075		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 21:03	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 21:03	1
Boron	0.95		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 21:03	1
Calcium	91		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 21:03	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 21:03	1
Cobalt	0.0036		0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 21:03	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 21:03	1
Lithium	0.019		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 21:03	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 21:03	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 21:03	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 21:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	530		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	5.96				SU			10/01/20 15:12	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Client Sample ID: ARGWC-21

Lab Sample ID: 180-111741-2

Date Collected: 10/01/20 16:08

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	4.3		1.0	0.32	mg/L			10/12/20 12:46	1
Fluoride	0.098	J	0.10	0.026	mg/L			10/12/20 12:46	1
Sulfate	210		5.0	1.9	mg/L			10/13/20 08:17	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		10/13/20 09:41	10/21/20 21:07	1
Barium	0.051		0.010	0.0016	mg/L		10/13/20 09:41	10/21/20 21:07	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/20 09:41	10/21/20 21:07	1
Boron	0.90		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 21:07	1
Calcium	79		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 21:07	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/20 09:41	10/21/20 21:07	1
Cobalt	0.00082	J	0.0025	0.00013	mg/L		10/13/20 09:41	10/21/20 21:07	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/20 09:41	10/21/20 21:07	1
Lithium	0.012		0.0050	0.0034	mg/L		10/13/20 09:41	10/21/20 21:07	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/20 09:41	10/21/20 21:07	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/20 09:41	10/21/20 21:07	1
Silver	<0.00018		0.0010	0.00018	mg/L		10/13/20 09:41	10/21/20 21:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	500		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	5.99				SU			10/01/20 16:08	1

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

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: 180-111686-1 MS
Matrix: Water
Analysis Batch: 332371

Client Sample ID: ARGWA-20
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.6		50.0	54.0		mg/L		97	90 - 110
Fluoride	0.032	J	2.50	2.49		mg/L		98	90 - 110
Sulfate	15		50.0	62.8		mg/L		95	90 - 110

Lab Sample ID: 180-111686-1 MSD
Matrix: Water
Analysis Batch: 332371

Client Sample ID: ARGWA-20
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.6		50.0	53.7		mg/L		96	90 - 110	1	20
Fluoride	0.032	J	2.50	2.47		mg/L		98	90 - 110	0	20
Sulfate	15		50.0	62.4		mg/L		95	90 - 110	1	20

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QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 180-333015/6
Matrix: Water
Analysis Batch: 333015

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			10/12/20 06:06	1
Fluoride	<0.026		0.10	0.026	mg/L			10/12/20 06:06	1

Lab Sample ID: LCS 180-333015/5
Matrix: Water
Analysis Batch: 333015

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	49.3		mg/L		99	90 - 110
Fluoride	2.50	2.36		mg/L		95	90 - 110

Lab Sample ID: 180-111740-3 MS
Matrix: Water
Analysis Batch: 333015

Client Sample ID: DUP-02
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.8		50.0	56.1		mg/L		105	90 - 110
Fluoride	0.32		2.50	2.93		mg/L		105	90 - 110
Sulfate	63		50.0	112		mg/L		97	90 - 110

Lab Sample ID: 180-111740-3 MSD
Matrix: Water
Analysis Batch: 333015

Client Sample ID: DUP-02
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	3.8		50.0	57.1		mg/L		107	90 - 110	2	20
Fluoride	0.32		2.50	2.97		mg/L		106	90 - 110	1	20
Sulfate	63		50.0	114		mg/L		101	90 - 110	2	20

Lab Sample ID: MB 180-333147/6
Matrix: Water
Analysis Batch: 333147

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			10/13/20 05:08	1

Lab Sample ID: LCS 180-333147/5
Matrix: Water
Analysis Batch: 333147

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	47.0		mg/L		94	90 - 110

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

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

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
Selenium	1.00	1.05		mg/L		105	80 - 120
Silver	0.250	0.251		mg/L		101	80 - 120

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
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

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QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

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

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

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

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-333418/1-A
Matrix: Water
Analysis Batch: 333677

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333418

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		10/14/20 13:01	10/15/20 19:12	1

Lab Sample ID: LCS 180-333418/2-A
Matrix: Water
Analysis Batch: 333677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00234		mg/L		94	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

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	Limits
Total Dissolved Solids	714	606		mg/L		85	80 - 120

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QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

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: 180-111686-4 DU
Matrix: Water
Analysis Batch: 332159

Client Sample ID: ARAMW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	520		516		mg/L		0.4	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

Lab Sample ID: MB 180-332342/2
Matrix: Water
Analysis Batch: 332342

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 16:37	1

Lab Sample ID: LCS 180-332342/1
Matrix: Water
Analysis Batch: 332342

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	318		mg/L		89	80 - 120

Lab Sample ID: 180-111740-3 DU
Matrix: Water
Analysis Batch: 332342

Client Sample ID: DUP-02
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	290		310		mg/L		8	10

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

HPLC/IC

Analysis Batch: 332371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111648-1	ARGWA-19	Total/NA	Water	EPA 300.0 R2.1	
180-111686-1	ARGWA-20	Total/NA	Water	EPA 300.0 R2.1	
180-111686-2	EB-02	Total/NA	Water	EPA 300.0 R2.1	
180-111686-3	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-111686-3	ARGWC-22	Total/NA	Water	EPA 300.0 R2.1	
180-111686-4	ARAMW-1	Total/NA	Water	EPA 300.0 R2.1	
180-111686-4	ARAMW-1	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	
180-111686-1 MS	ARGWA-20	Total/NA	Water	EPA 300.0 R2.1	
180-111686-1 MSD	ARGWA-20	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 333015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111740-1	FB-02	Total/NA	Water	EPA 300.0 R2.1	
180-111740-2	ARGWC-23	Total/NA	Water	EPA 300.0 R2.1	
180-111740-3	DUP-02	Total/NA	Water	EPA 300.0 R2.1	
180-111741-1	ARAMW-2	Total/NA	Water	EPA 300.0 R2.1	
180-111741-2	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
MB 180-333015/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-333015/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-111740-3 MS	DUP-02	Total/NA	Water	EPA 300.0 R2.1	
180-111740-3 MSD	DUP-02	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 333147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111741-1	ARAMW-2	Total/NA	Water	EPA 300.0 R2.1	
180-111741-2	ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
MB 180-333147/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-333147/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 333113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111648-1	ARGWA-19	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	

Prep Batch: 333214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111686-1	ARGWA-20	Total Recoverable	Water	3005A	
180-111686-2	EB-02	Total Recoverable	Water	3005A	
180-111686-3	ARGWC-22	Total Recoverable	Water	3005A	
180-111686-4	ARAMW-1	Total Recoverable	Water	3005A	
180-111740-1	FB-02	Total Recoverable	Water	3005A	
180-111740-2	ARGWC-23	Total Recoverable	Water	3005A	
180-111740-3	DUP-02	Total Recoverable	Water	3005A	
180-111741-1	ARAMW-2	Total Recoverable	Water	3005A	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

Metals (Continued)

Prep Batch: 333214 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111741-2	ARGWC-21	Total Recoverable	Water	3005A	
MB 180-333214/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-333214/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 333418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111740-1	FB-02	Total/NA	Water	7470A	
180-111740-2	ARGWC-23	Total/NA	Water	7470A	
MB 180-333418/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-333418/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 333677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111740-1	FB-02	Total/NA	Water	EPA 7470A	333418
180-111740-2	ARGWC-23	Total/NA	Water	EPA 7470A	333418
MB 180-333418/1-A	Method Blank	Total/NA	Water	EPA 7470A	333418
LCS 180-333418/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	333418

Analysis Batch: 334271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111686-1	ARGWA-20	Total Recoverable	Water	EPA 6020B	333214
180-111686-2	EB-02	Total Recoverable	Water	EPA 6020B	333214
180-111686-3	ARGWC-22	Total Recoverable	Water	EPA 6020B	333214
180-111686-4	ARAMW-1	Total Recoverable	Water	EPA 6020B	333214
180-111740-1	FB-02	Total Recoverable	Water	EPA 6020B	333214
180-111740-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	333214
180-111740-3	DUP-02	Total Recoverable	Water	EPA 6020B	333214
180-111741-1	ARAMW-2	Total Recoverable	Water	EPA 6020B	333214
180-111741-2	ARGWC-21	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: 334457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
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
180-111648-1	ARGWA-19	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

General Chemistry

Analysis Batch: 331996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111648-1	ARGWA-19	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	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-1

General Chemistry

Analysis Batch: 332159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111686-1	ARGWA-20	Total/NA	Water	SM 2540C	
180-111686-2	EB-02	Total/NA	Water	SM 2540C	
180-111686-3	ARGWC-22	Total/NA	Water	SM 2540C	
180-111686-4	ARAMW-1	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	
180-111686-4 DU	ARAMW-1	Total/NA	Water	SM 2540C	

Analysis Batch: 332329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111740-1	FB-02	Total/NA	Water	SM 2540C	
180-111740-2	ARGWC-23	Total/NA	Water	SM 2540C	
180-111741-1	ARAMW-2	Total/NA	Water	SM 2540C	
180-111741-2	ARGWC-21	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	

Analysis Batch: 332342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111740-3	DUP-02	Total/NA	Water	SM 2540C	
MB 180-332342/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-332342/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-111740-3 DU	DUP-02	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 333127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111740-2	ARGWC-23	Total/NA	Water	Field Sampling	
180-111740-3	DUP-02	Total/NA	Water	Field Sampling	
180-111741-1	ARAMW-2	Total/NA	Water	Field Sampling	
180-111741-2	ARGWC-21	Total/NA	Water	Field Sampling	


Analysis Batch: 333128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111686-1	ARGWA-20	Total/NA	Water	Field Sampling	
180-111686-3	ARGWC-22	Total/NA	Water	Field Sampling	
180-111686-4	ARAMW-1	Total/NA	Water	Field Sampling	

Analysis Batch: 333130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111648-1	ARGWA-19	Total/NA	Water	Field Sampling	

Chain of Custody Record 244- ATLANTA

Client Information		Sample Information		Lab P/N: Brown, Shall			
Client Contact: Joju Abraham		Supplier: D Howard		COC No: 180-64149-11995.3			
Company: Southern Company		Phone:		Page: 1			
Address: 241 Ralph McGill Blvd SE B10185		Due Date Requested: Standard		Page # of JCO: 1			
City: Atlanta		TAT Requested (days):		Preservation Codes:			
State, Zip: GA, 30308		PO #: GPC11064570		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AS/NO2 D - Nitric Acid P - Na2O/MS E - NaHSO4 Q - Na2SO3 R - NaOH S - H2SO4 G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA W - pH 4-5 Z - other (specify)			
Phone:		WO #:		Other:			
Email: JAbraham@southernco.com		Project #: 18020201		Special Instructions/Note:			
Project Name: CCR - Plant, Arkwright		SSCN#:		<div style="text-align: center;">  180-111686 Chain of Custody </div>			
State: Georgia		Sample Date				Total Number of Containers	
Sample Identification		Sample Time				3	
ARGWA-20		1128				pH=5.65	
EB-02		1220				pH=5.81	
ARGWC-22		1400		pH=6.16			
ARAMW-1		1556					
Matrix (Water, Soil, Other)		Sample Type (C=comp, G=grab)		Field Filtered Sample (Yes or No)			
W		G		X			
W		G		X			
W		G		X			
W		G		X			
Performance MS/MSD (Yes or No)		Perform MS/MSD (Yes or No)		915, Ra226 - Radium 226			
X		X		X			
6020B - Custom 15 (App III/IV/VI + Silver)		D N N		X X X X X			
300, ORCFM, 280 - Chloride Fluoride Sulfate		X X X X X		X X X X X			
2540C, Calcd - Total Dissolved Solids		X X X X X		X X X X X			
9220, Ra228 - Radium 228		X X X X X		X X X X X			
7470A - Mercury		X X X X X		X X X X X			
Analysis Requested		Disposal Method		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
		Return To Client <input type="checkbox"/> Disposal By Lab <input checked="" type="checkbox"/> Archive For _____ Months					
Possible Hazard Identification		Empty Kit Relinquished by:		Special Instructions/OC Requirements:			
<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		Date:		Method of Shipment:			
Deliverable Requested I, II, III, IV, Other (specify)		Date: 9/30/20		Date/Time: 10-1-20			
Relinquished by: Daniel Howard		Date/Time: 9/30/20		Company: STABIK			
Relinquished by:		Date/Time:		Company:			
Relinquished by:		Date/Time:		Company:			
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			



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, Shaili E-Mail: Shaili.Brown@Eurofins.com Camer Tracking No(s): _____ COC No: 180-64149-11995.2 Page: _____ Page 2 of 2 Job #: _____	
Due Date Requested: <u>Standard</u> TAT Requested (days): _____ PO #: _____ GPC: 11054570 WO #: _____ Project #: 18020201 SSO#: _____		Analysis Requested 602B - Custom 15 (App III/APPV + Silver) D N N 9315 Ra226 - Radium 226 D X X X X X Field Filtered Sample (Yes or No) X X X X X X Perform MS/MSD (Yes or No) X X X X X X 300_ORGM_28D - Chloride Fluoride Sulfate D N N 2640C_Calcd - Total Dissolved Solids D N N 9320_Ra228 - Radium 228 D X X X X X 7470A - Mercury D X X X X X	
Sample Identification: FB-02 ARGWC-23 DUP-02		Total Number of Containers: 3 Special Instructions/Note: pH=6.38 pH=6.38	
Sample Date: 10/1/20 Sample Time: 0935 Sample Type (C=Comp, G=Grab): G Matrix (W=Water, S=Soil, D=Dredge, O=Other): W		Preservation Code: W 1158 ↓ W W	
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 Deliverable Requested I, II, III, IV, Other (specify) _____			
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: Daniel Howard Date/Time: 10/1/20/1820 Company: Wood Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____ Custody Seals Intact: _____ Custody Seal No.: _____ Δ Yes Δ No			

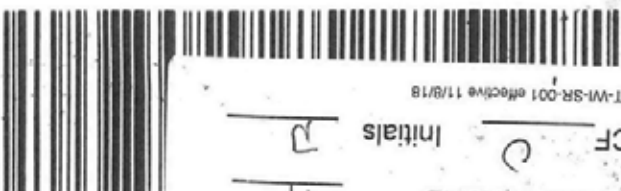


Chain of Custody Record 244- ATLANTA

Client Information Client Contact: Jiju 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		Suggester: D Howard Lab PM: Brown, Shali E-Mail: Shali.Brown@Eurofins.com Carrier Tracking No(s): _____ COC No: 180-64149-11995.3 Page: _____ Job #: _____	
Due Date Requested: TAT Requested (days): Standard PO #: GPC11064570 WO #: _____ Project #: 18020201 SSO# #: _____		Analysis Requested	
Sample Identification ARAMW-2 ARGWC-21		Total Number of Containers: _____ Special Instructions/Note: 3pH=5.96 3pH=5.99	
Sample Date: 10/1/20 Sample Time: 1512 ↓ 1608		Matrix (Water, Soil, Dredge, Other): W W	
Sample Type (C=Comp, G=grab): G G		Preservation Code: _____ _____	
Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		915, Ra226 - Radium 226: X X X X X X X X 6028 - Custom 15 (App III/APPV + Silver): X X X X X X X X 300_ORGM_28D - Chloride Fluoride Sulfate: X X X X X X X X 2640C_Calcd - Total Dissolved Solids: X X X X X X X X 920_Ra228 - Radium 228: X X X X X X X X 7470A - Mercury: X X X X X X X X	
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 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	
Empty Kit Relinquished by: _____ Relinquished by: Daniel K Howard Date/Time: 10/1/20 / 1820 Date/Time: _____ Date/Time: _____ Date/Time: _____		Method of Shipment: _____ Received by: _____ Received by: _____ Received by: _____ Date/Time: 10/2/20 9w Date/Time: _____ Date/Time: _____	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: _____		Cooler Temperature(s) °C and Other Remarks: _____	



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13



PT-WI-SR-001 effective 11/8/18

CF _____
Initials _____
Thermometer ID _____
Uncorrected temp _____ °C
27
14

PA-US
15238
PIT

NA AGCA

TRK# 8121 9394 4867
WED - 30 SEP 10:30A
PRIORITY OVERNIGHT
DSR
15238
PIT



180-111648 Waybill



SAMPLE RECEIVING
10
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238
REF: (412) 963-7068
P01

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: 58.30 LB
CAD: 6994493/SGFE2121
DIMS: 24x13x14 IN
BILL THIRD PARTY

Post # 1662076697-818046540-0821

Form ID No: 0215

Recipient's Copy

Packages up to 150 lbs.
For packages over 100 lbs, use the
FedEx Express Single US Adult

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.

FedEx Envelope*
* Declared value limit \$500

FedEx Pak*
 FedEx Box
 FedEx Tube
 Other

2 or 3 Business Days

FedEx 2Day A.M.
Second business morning. Saturday delivery NOT available.

FedEx 2Day
Second business morning. Thursday shipments will be delivered on Monday unless Saturday delivery is selected.

FedEx Express Saver
Third business day. Saturday delivery NOT available.

Third business day. Saturday delivery NOT available.

fedex.com

IN ID: MCNA (770) 421-3382
EL HOWARD
WOOD E+15)
100
BIG SHANTY RD NW STE 100
SAW, GA 30144
ED STATES US

SHIP DATE: 30SEP20
ACTWT: 59.55 LB
CAD: 6994493/86FE2121
DIMS: 24x13x14 IN
BILL THIRD PARTY

Part 8 1562974486/488027450P 09/21

SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

(412) 963-7058

REF:

DEPT:



TRK# 8121 9394 4878
0215

THU - 01 OCT 10:30A
PRIORITY OVERNIGHT
DSR
15238
PA-US PIT

NA AGCA

Uncorrected temp 3.6 °C
Thermometer ID 14

CF 0 Initials JB

PT-WI-SR-001 effective 11/8/18



80-111686 Waybill

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- 13

121 9394 5690
AGCA
PRIORITY OVERNIGHT
15238
PA-US PIT
Uncorrected temp
Thermometer ID
CF 0 Initials BS
PT-WH-SR-001 effective via 11/28/18

180-111740 VMaybill

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- 13

Do Not Lift Using This Tag

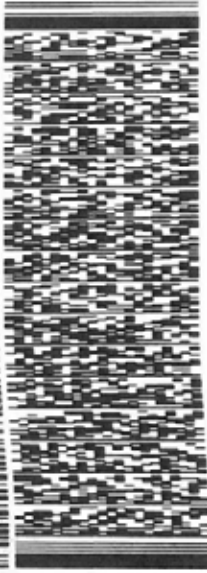
Part # 158297-235-590192 EXP 08/21

SHIP DATE: 01CCT20
ACT WT: 47.66 LB
CAD: 6994493/55E22121
DIMS: 24x13x14 IN
BILL THIRD PARTY

ORIGIN ID: MCNA (770) 421-3382
DANIEL HOWARD
AMEC (WOOD E+IS)
1075 BIG SHANTY RD NH STE 100
KENNESAW, GA 30144
UNITED STATES US

TO **SAMPLE RECEIVING**
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

REF: (412) 863-7058
INVT: 201
REF ID: A110110020202



FedEx Express

FRI - 02 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 8121 9394 4812
0215

AHS
15238
US PIT

NA AGCA

Uncorrected temp
Thermometer ID

2.4 14 °C

CF 0 Initials B

PT-WI-SR-001 effective 11/8/16



180-111741 Waybill

- 1
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Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111648-1

Login Number: 111648

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: 180-111648-1

Login Number: 111686

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 <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: 180-111648-1

Login Number: 111740

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: 180-111648-1

Login Number: 111741

List Number: 1

Creator: Say, Thomas C

List Source: Eurofins TestAmerica, Pittsburgh

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

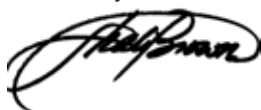
Laboratory Job ID: 180-111648-2

Client Project/Site: CCR - Plant Arkwright AP-2DAS

For:

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

Attn: Joju Abraham



Authorized for release by:
11/18/2020 7:50:42 PM

Shali Brown, Project Manager II
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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-2DAS

Job ID: 180-111648-2

Job ID: 180-111648-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-111648-2

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 4 coolers at receipt time were 2.0° C, 2.4° C, 2.7° C and 3.6° 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.

ARGWA-19 (180-111648-1), ARGWA-20 (180-111686-1), EB-02 (180-111686-2), ARGWC-22 (180-111686-3), ARAMW-1 (180-111686-4), (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.

FB-02 (180-111740-1), ARGWC-23 (180-111740-2), DUP-02 (180-111740-3), ARGWC-21 (180-111741-2), (LCS 160-485335/1-A) and (MB 160-485335/22-A)

Method 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.

ARAMW-2 (180-111741-1)

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.

ARGWA-19 (180-111648-1), ARGWA-20 (180-111686-1), ARGWC-22 (180-111686-3), ARAMW-1 (180-111686-4), (LCS 160-484744/1-A) and (MB 160-484744/24-A)

Method 9320: Radium-228 prep batch 160-484744:

The following sample has a yttrium carrier recovery (126%) above the upper QC limit (110%). The barium carrier recovery is within limits and the sample result is below the MDC and RL. The results are reported with this narrative. EB-02 (180-111686-2)

Method 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-02 (180-111686-2)

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.

FB-02 (180-111740-1), ARGWC-23 (180-111740-2), DUP-02 (180-111740-3), ARAMW-2 (180-111741-1), ARGWC-21 (180-111741-2), (LCS 160-485338/1-A) and (MB 160-485338/22-A)

Method PrecSep_0: Radium 228 prep batch 160-484744

Case Narrative

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Job ID: 180-111648-2 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

The Yttrium carrier recovery is outside the upper control limit (110%) for the following sample: EB-02 (180-111686-2). The sample did not appear to have a larger yttrium pellet than that of the QC but weighed up outside the limit.

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

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Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

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-2DAS

Job ID: 180-111648-2

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-2DAS

Job ID: 180-111648-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111648-1	ARGWA-19	Water	09/29/20 15:25	09/30/20 09:00	
180-111686-1	ARGWA-20	Water	09/30/20 11:28	10/01/20 09:00	
180-111686-2	EB-02	Water	09/30/20 12:20	10/01/20 09:00	
180-111686-3	ARGWC-22	Water	09/30/20 14:00	10/01/20 09:00	
180-111686-4	ARAMW-1	Water	09/30/20 15:56	10/01/20 09:00	
180-111740-1	FB-02	Water	10/01/20 09:35	10/02/20 09:00	
180-111740-2	ARGWC-23	Water	10/01/20 11:58	10/02/20 09:00	
180-111740-3	DUP-02	Water	10/01/20 00:00	10/02/20 09:00	
180-111741-1	ARAMW-2	Water	10/01/20 15:12	10/02/20 09:00	
180-111741-2	ARGWC-21	Water	10/01/20 16:08	10/02/20 09:00	



Method Summary

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

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-2DAS

Job ID: 180-111648-2

Client Sample ID: ARGWA-19

Lab Sample ID: 180-111648-1

Date Collected: 09/29/20 15:25

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			999.04 mL	1.0 g	484743	10/06/20 11:14	AVB	TAL SL
Total/NA	Analysis	9315		1			487030	10/28/20 12:51	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.04 mL	1.0 g	484744	10/06/20 11:57	AVB	TAL SL
Total/NA	Analysis	9320		1			485907	10/15/20 12:55	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			487751	11/02/20 19:07	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWA-20

Lab Sample ID: 180-111686-1

Date Collected: 09/30/20 11:28

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			999.06 mL	1.0 g	484743	10/06/20 11:14	AVB	TAL SL
Total/NA	Analysis	9315		1			487030	10/28/20 12:52	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.06 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			487751	11/02/20 19:07	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: EB-02

Lab Sample ID: 180-111686-2

Date Collected: 09/30/20 12:20

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			1000.04 mL	1.0 g	484743	10/06/20 11:14	AVB	TAL SL
Total/NA	Analysis	9315		1			487030	10/28/20 12:52	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.04 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			487751	11/02/20 19:07	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-22

Lab Sample ID: 180-111686-3

Date Collected: 09/30/20 14:00

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			999.27 mL	1.0 g	484743	10/06/20 11:14	AVB	TAL SL
Total/NA	Analysis	9315		1			487030	10/28/20 12:52	SCB	TAL SL
Instrument ID: GFPCRED										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-111686-3

Date Collected: 09/30/20 14:00

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			999.27 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			487751	11/02/20 19:07	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARAMW-1

Lab Sample ID: 180-111686-4

Date Collected: 09/30/20 15:56

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			999.87 mL	1.0 g	484743	10/06/20 11:14	AVB	TAL SL
Total/NA	Analysis	9315		1			487030	10/28/20 12:52	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.87 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			487751	11/02/20 19:07	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: FB-02

Lab Sample ID: 180-111740-1

Date Collected: 10/01/20 09:35

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			999.23 mL	1.0 g	485335	10/13/20 08:06	AVB	TAL SL
Total/NA	Analysis	9315		1			488215	11/04/20 10:26	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.23 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis	9320		1			487365	10/30/20 11:47	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			489469	11/18/20 16:56	CAH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111740-2

Date Collected: 10/01/20 11:58

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			998.99 mL	1.0 g	485335	10/13/20 08:06	AVB	TAL SL
Total/NA	Analysis	9315		1			488215	11/04/20 10:26	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			998.99 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis	9320		1			487365	10/30/20 11:47	FLC	TAL SL
Instrument ID: GFPCBLUE										

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111740-2

Date Collected: 10/01/20 11:58

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			489469	11/18/20 16:56	CAH	TAL SL

Client Sample ID: DUP-02

Lab Sample ID: 180-111740-3

Date Collected: 10/01/20 00:00

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			1000.11 mL	1.0 g	485335	10/13/20 08:06	AVB	TAL SL
Total/NA	Analysis	9315		1			488215	11/04/20 10:27	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.11 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis	9320		1			487365	10/30/20 11:47	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			489469	11/18/20 16:56	CAH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARAMW-2

Lab Sample ID: 180-111741-1

Date Collected: 10/01/20 15:12

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			1000.73 mL	1.0 g	485335	10/13/20 08:06	AVB	TAL SL
Total/NA	Analysis	9315		1			488523	11/08/20 21:13	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.73 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis	9320		1			487365	10/30/20 11:47	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			489469	11/18/20 16:56	CAH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: ARGWC-21

Lab Sample ID: 180-111741-2

Date Collected: 10/01/20 16:08

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			1000.20 mL	1.0 g	485335	10/13/20 08:06	AVB	TAL SL
Total/NA	Analysis	9315		1			488215	11/04/20 10:28	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.20 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			489469	11/18/20 16:56	CAH	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

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Analyst References:

- Lab: TAL SL
 - Batch Type: Prep
 - AVB = Amber Bleem
 - Batch Type: Analysis
 - CAH = Chris Hough
 - FLC = Fernando Cruz
 - SCB = Sarah Bernsen

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Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: ARGWA-19

Lab Sample ID: 180-111648-1

Date Collected: 09/29/20 15:25

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	0.337		0.113	0.117	1.00	0.120	pCi/L	10/06/20 11:14	10/28/20 12:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					10/06/20 11:14	10/28/20 12:51	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0351	U	0.275	0.275	1.00	0.487	pCi/L	10/06/20 11:57	10/15/20 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					10/06/20 11:57	10/15/20 12:55	1
Y Carrier	77.8		40 - 110					10/06/20 11:57	10/15/20 12:55	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	0.372	U	0.297	0.299	5.00	0.487	pCi/L		11/02/20 19:07	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: ARGWA-20

Lab Sample ID: 180-111686-1

Date Collected: 09/30/20 11:28

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	0.267		0.0949	0.0979	1.00	0.0894	pCi/L	10/06/20 11:14	10/28/20 12:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		40 - 110					10/06/20 11:14	10/28/20 12:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.413	U	0.304	0.306	1.00	0.475	pCi/L	10/06/20 11:57	10/15/20 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		40 - 110					10/06/20 11:57	10/15/20 12:56	1
Y Carrier	77.4		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	0.679		0.318	0.321	5.00	0.475	pCi/L		11/02/20 19:07	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: EB-02
 Date Collected: 09/30/20 12:20
 Date Received: 10/01/20 09:00

Lab Sample ID: 180-111686-2
 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	0.0245	U	0.0499	0.0500	1.00	0.0917	pCi/L	10/06/20 11:14	10/28/20 12:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.6		40 - 110					10/06/20 11:14	10/28/20 12:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00198	U	0.218	0.218	1.00	0.388	pCi/L	10/06/20 11:57	10/15/20 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.6		40 - 110					10/06/20 11:57	10/15/20 12:56	1
Y Carrier	126	X	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	0.0264	U	0.224	0.224	5.00	0.388	pCi/L		11/02/20 19:07	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: ARGWC-22

Lab Sample ID: 180-111686-3

Date Collected: 09/30/20 14:00

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	0.180		0.0877	0.0892	1.00	0.0970	pCi/L	10/06/20 11:14	10/28/20 12:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.9		40 - 110					10/06/20 11:14	10/28/20 12:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.421	U	0.357	0.359	1.00	0.568	pCi/L	10/06/20 11:57	10/15/20 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.9		40 - 110					10/06/20 11:57	10/15/20 12:56	1
Y Carrier	76.3		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	0.602		0.368	0.370	5.00	0.568	pCi/L		11/02/20 19:07	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: ARAMW-1

Lab Sample ID: 180-111686-4

Date Collected: 09/30/20 15:56

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	0.0784	U	0.0628	0.0632	1.00	0.0896	pCi/L	10/06/20 11:14	10/28/20 12:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					10/06/20 11:14	10/28/20 12:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.170	U	0.273	0.274	1.00	0.462	pCi/L	10/06/20 11:57	10/15/20 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					10/06/20 11:57	10/15/20 12:56	1
Y Carrier	77.0		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	0.249	U	0.280	0.281	5.00	0.462	pCi/L		11/02/20 19:07	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: FB-02

Lab Sample ID: 180-111740-1

Date Collected: 10/01/20 09:35

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	0.0846	U	0.0734	0.0738	1.00	0.108	pCi/L	10/13/20 08:06	11/04/20 10:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					10/13/20 08:06	11/04/20 10:26	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.747		0.309	0.316	1.00	0.429	pCi/L	10/13/20 08:31	10/30/20 11:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					10/13/20 08:31	10/30/20 11:47	1
Y Carrier	74.0		40 - 110					10/13/20 08:31	10/30/20 11:47	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	0.832		0.318	0.325	5.00	0.429	pCi/L		11/18/20 16:56	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-111740-2

Date Collected: 10/01/20 11:58

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	0.228		0.107	0.109	1.00	0.123	pCi/L	10/13/20 08:06	11/04/20 10:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					10/13/20 08:06	11/04/20 10:26	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.521		0.293	0.297	1.00	0.441	pCi/L	10/13/20 08:31	10/30/20 11:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					10/13/20 08:31	10/30/20 11:47	1
Y Carrier	77.4		40 - 110					10/13/20 08:31	10/30/20 11:47	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	0.749		0.312	0.316	5.00	0.441	pCi/L		11/18/20 16:56	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: DUP-02

Lab Sample ID: 180-111740-3

Date Collected: 10/01/20 00:00

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	0.122	U	0.0920	0.0926	1.00	0.132	pCi/L	10/13/20 08:06	11/04/20 10:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.8		40 - 110					10/13/20 08:06	11/04/20 10:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.216	U	0.291	0.292	1.00	0.485	pCi/L	10/13/20 08:31	10/30/20 11:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.8		40 - 110					10/13/20 08:31	10/30/20 11:47	1
Y Carrier	72.9		40 - 110					10/13/20 08:31	10/30/20 11:47	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	0.338	U	0.305	0.306	5.00	0.485	pCi/L		11/18/20 16:56	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: ARAMW-2

Lab Sample ID: 180-111741-1

Date Collected: 10/01/20 15:12

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	0.172		0.0950	0.0963	1.00	0.125	pCi/L	10/13/20 08:06	11/08/20 21:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					10/13/20 08:06	11/08/20 21:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.69		0.491	0.550	1.00	0.542	pCi/L	10/13/20 08:31	10/30/20 11:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					10/13/20 08:31	10/30/20 11:47	1
Y Carrier	77.0		40 - 110					10/13/20 08:31	10/30/20 11:47	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	2.86		0.500	0.558	5.00	0.542	pCi/L		11/18/20 16:56	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Client Sample ID: ARGWC-21

Lab Sample ID: 180-111741-2

Date Collected: 10/01/20 16:08

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	0.0439	U	0.0782	0.0783	1.00	0.138	pCi/L	10/13/20 08:06	11/04/20 10:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.1		40 - 110					10/13/20 08:06	11/04/20 10:28	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.452	U	0.327	0.329	1.00	0.509	pCi/L	10/13/20 08:31	10/30/20 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.1		40 - 110					10/13/20 08:31	10/30/20 11:48	1
Y Carrier	73.6		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	0.496	U	0.336	0.338	5.00	0.509	pCi/L		11/18/20 16:56	1

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

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	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	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	MB	Limits							
Ba Carrier	%Yield	Qualifier	40 - 110							
	82.2									
		Prepared	Analyzed	Dil Fac						
		10/06/20 11:14	10/28/20 14:42	1						

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	Limits						
Ba Carrier	%Yield	Qualifier	40 - 110						
	85.2								

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	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							
Ba Carrier	%Yield	Qualifier	40 - 110							
	89.6									
		Prepared	Analyzed	Dil Fac						
		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	%Yield	Qualifier	40 - 110						
	84.6								

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	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

Eurofins TestAmerica, Pittsburgh

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant Arkwright AP-2DAS

Job ID: 180-111648-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Yield	Qualifier				
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 Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits

Carrier	LCS LCS		Limits
	%Yield	Qualifier	
Ba Carrier	85.2		40 - 110
Y Carrier	80.0		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 Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac

Carrier	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Yield	Qualifier				
Ba Carrier	89.6		40 - 110	10/13/20 08:31	10/30/20 11:50	1
Y Carrier	78.5		40 - 110	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

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-2DAS

Job ID: 180-111648-2

Rad

Prep Batch: 484743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111648-1	ARGWA-19	Total/NA	Water	PrecSep-21	
180-111686-1	ARGWA-20	Total/NA	Water	PrecSep-21	
180-111686-2	EB-02	Total/NA	Water	PrecSep-21	
180-111686-3	ARGWC-22	Total/NA	Water	PrecSep-21	
180-111686-4	ARAMW-1	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
180-111648-1	ARGWA-19	Total/NA	Water	PrecSep_0	
180-111686-1	ARGWA-20	Total/NA	Water	PrecSep_0	
180-111686-2	EB-02	Total/NA	Water	PrecSep_0	
180-111686-3	ARGWC-22	Total/NA	Water	PrecSep_0	
180-111686-4	ARAMW-1	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: 485335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111740-1	FB-02	Total/NA	Water	PrecSep-21	
180-111740-2	ARGWC-23	Total/NA	Water	PrecSep-21	
180-111740-3	DUP-02	Total/NA	Water	PrecSep-21	
180-111741-1	ARAMW-2	Total/NA	Water	PrecSep-21	
180-111741-2	ARGWC-21	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
180-111740-1	FB-02	Total/NA	Water	PrecSep_0	
180-111740-2	ARGWC-23	Total/NA	Water	PrecSep_0	
180-111740-3	DUP-02	Total/NA	Water	PrecSep_0	
180-111741-1	ARAMW-2	Total/NA	Water	PrecSep_0	
180-111741-2	ARGWC-21	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	

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, Shail E-Mail: Shail.Brown@Eurofins.com Camer Tracking No(s): _____ COC No: 180-64149-11995.2 Page: _____ Page 2 of 2 Job #: _____	
Due Date Requested: <u>Standard</u> TAT Requested (days): _____ PO #: _____ GPC: 11054570 WO #: _____ Project #: 18020201 SSO#: _____		Analysis Requested 602B - Custom 15 (App III/APPV + Silver) D N N X X X X X 9315 Ra226 - Radium 226 D X X X X X X X 300_ORGM_28D - Chloride Fluoride Sulfate D N N X X X X X 2640C_Calcd - Total Dissolved Solids D N N X X X X X 9320_Ra228 - Radium 228 D N N X X X X X 7470A - Mercury D N N X X X X X	
Sample Identification: FB-02 ARGWC-23 DUP-02		Total Number of Containers: 3 Special Instructions/Note: pH=6.38 pH=6.38	
Sample Date: 10/1/20 Sample Time: 0935 Sample Date: ↓ Sample Time: 1158 Sample Date: - Sample Time: -		Field Filtered Sample (Yes or No) X X X X X X X X Perform MS/MSD (Yes or No) X X X X X X X X Matrix (W=Water, S=Soil, D=Dredge, O=Other, T=Tissue, A=Air) W W W	
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 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: _____ Relinquished by: Daniel Howard Relinquished by: _____ Relinquished by: _____ Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Method of Shipment: _____ Date/Time: 10/1/20 1820 Date/Time: _____ Date/Time: _____ Date/Time: _____ Cooler Temperature(s) °C and Other Remarks: _____	



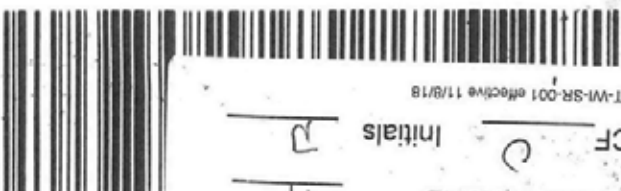
Chain of Custody Record 244- ATLANTA

Client Information Client Contact: Jiju 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		Suggester: D Howard Lab PM: Brown, Shali E-Mail: Shali.Brown@Eurofins.com Carrier Tracking No(s): _____ COC No: 180-64149-11995.3 Page: _____ Job #: _____	
Due Date Requested: Standard TAT Requested (days): _____ PO #: GPC11064570 WO #: _____ Project #: 18020201 SSO# #: _____		Analysis Requested	
Sample Identification ARAMW-2 ARGWC-21		Total Number of Containers: _____ Special Instructions/Note: 3pH=5.96 3pH=5.99	
Sample Date: 10/1/20 1512 ↓ 1608		Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Ammonia H - Ascorbic Acid I - Ice J - D1 Water K - EDTA L - EDA Other: _____	
Sample Type (C=Comp, G=grab) G W G W		Matrix (Water, Solid, Destructive) W W	
Sample Time: 1512 ↓ 1608		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 915, Ra226 - Radium 226 6028 - Custom 15 (App III/APPV + Silver) 300_ORGM_28D - Chloride Fluoride Sulfate 2540C_Calcd - Total Dissolved Solids 9320_Ra228 - Radium 228 7470A - Mercury	
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 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	
Empty Kit Relinquished by: _____ Relinquished by: Daniel K Howard Date/Time: 10/1/20 / 1820 Company: Wood Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____		Method of Shipment: _____ Received by: _____ Date/Time: 10/2/20 9w Company: Eurofins Received by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: _____			



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PT-WI-SR-001 effective 11/8/18

CF Initials

Thermometer ID

Uncorrected temp 27 °C

PA-US PIT

15238

DSR

PRIORITY OVERNIGHT

WED - 30 SEP 10:30A

NA AGCA

TRK# 8121 9394 4867

0215



180-111648 Waybill



SAMPLE RECEIVING
10 EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

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
BILL THIRD PARTY

SHIP DATE: 29SEP20
ACTWGT: 58.30 LB
CAD: 6994493/SGFE2121
DIMS: 24x13x14 IN

Post # 1662076697-818046540-0021

5 Packaging * Declared value limit \$500

FedEx Envelope
 FedEx Pak
 FedEx Box
 FedEx Tube
 Other

4 Express Package Service * To meet locations
 Packages up to 150 lbs.
 For packages over 100 lbs, use the
 FedEx Express Freight US Adult

Next Business Day
 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.

FedEx First Overnight
 Earliest next business morning delivery to select
 locations. Friday shipments will be delivered on
 Monday unless Saturday delivery is selected.

FedEx 2Day
 Second business morning. Thursday shipments
 will be delivered on Monday unless Saturday
 delivery is selected.

FedEx 2Day A.M.
 Second business morning.
 Saturday delivery NOT available.

FedEx Express Saver
 Third business day.
 Saturday delivery NOT available.

Recipient's Copy
Form ID No. 0215
867

IN ID: MCNA (770) 421-3382
EL HOWARD
WOOD E+15)
100
BIG SHANTY RD NW STE 100
MARIETTA, GA 30144
UNITED STATES US

SHIP DATE: 30SEP20
ACTWT: 59.55 LB
CAD#: 6994493/86FE2121
DIMS: 24x13x14 IN
BILL THIRD PARTY

Part 8 1562979486/818027450P 09/21

SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

(412) 963-7058

REF:

DEPT:



TRK# 8121 9394 4878
0215

THU - 01 OCT 10:30A
PRIORITY OVERNIGHT
DSR
15238
PA-US PIT

NA AGCA

Uncorrected temp 3.6 °C
Thermometer ID 14

CF 0 Initials JB



PT-WI-SR-001 effective 11/8/18



80-111686 Waybill

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AGCA
121 9394 5690
PRIORITY OVERNIGHT
15238
PA-US PIT
Uncorrected temp
Thermometer ID
CF . 0 Initials
PT-WH-SR-001 effective 11/18/18



180-111740 VMaybill

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Do Not Lift Using This Tag

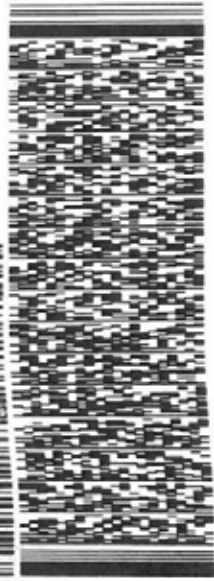
ORIGIN ID: MCNA (770) 421-3382
DANIEL HOWARD
AMEC (WOOD E+HS)
1075 BIG SHANTY RD NH STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 01OCT20
ACT WT: 47.65 LB
CAD: 6994493/55E22121
DIMS: 24x13x14 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING**
EUROFINS TEST AMERICA
301 ALPHA DR
RIDC PARK
PITTSBURGH PA 15238

REF: (412) 863-7058
INVT: 201

REF1:



FedEx Express **E**

FRI - 02 OCT 10:30A
PRIORITY OVERNIGHT
AHS
15238
US PIT

TRK# **8121 9394 4812**
0215

NA AGCA

Uncorrected temp _____ °C
Thermometer ID _____
CF 0 Initials B

PT-WI-SR-001 effective 11/8/16



180-111741 Waybill

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Chain of Custody Record



Client Information (Sub Contract Lab)		Lab P/N:	Brown, Shali	Carrier (Tracking No.):	COC No:
Client Contact: Shipping/Receiving		E-Mail:	Shali.Brown@Eurofins.com	State of Origin:	Georgia
Company: TestAmerica Laboratories, Inc.		Address:	13715 Rider Trail North,	Page:	Page 1 of 1
City: Earth City		State, Zip:	MO, 63045	Job #:	180-111740-2
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		PO #:		Preservation Codes:	
Email:		WO #:		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 - EDTA 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)	
Project Name: CCR - Plant Arkwright		Project #:	18020201	Analysis Requested	
Site: Arkwright		SSOW#:		Total Number of containers	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, Swab, D=soil, BT=Soil, A=As)
FB-02 (180-111740-1)	10/1/20	09:35 Eastern	Water	9310 Ra228/RsecSep, 0 Radium 228	X
ARGWC-23 (180-111740-2)	10/1/20	11:58 Eastern	Water	9315 Ra228/RsecSep, 21 Radium 226 (GFPC) - 21 day	X
DUP-02 (180-111740-3)	10/1/20	Eastern	Water	Ra226/Ra228 GFPC/ Combined Radium 226 and Radium 228	X
				Perform MS/MSD (Yes or No)	X
				Field Filtered Sample (Yes or No)	X
				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/matrix 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.

Possible Hazard Identification

Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____
Relinquished by: _____ Date: 10/7/20 15w
Relinquished by: _____ Date: _____
Relinquished by: _____ Date: _____

Received by: _____ Date/Time: _____
Received by: _____ Date/Time: _____
Received by: _____ Date/Time: _____

Company: _____
Company: _____
Company: _____

Method of Shipment: _____
Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/OC Requirements: _____

Custody Seal No.: _____
Custody Seals Intact: _____
Cooler Temperature(s) °C and Other Remarks: _____

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-111648-2

Login Number: 111648

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: 180-111648-2

Login Number: 111648

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 \leq 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: 180-111648-2

Login Number: 111686

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: 180-111648-2

Login Number: 111686

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: 180-111648-2

Login Number: 111740

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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: 180-111648-2

Login Number: 111740

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 </= 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: 180-111648-2

Login Number: 111741

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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: 180-111648-2

Login Number: 111741

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 </= 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: 2020-09-29 15:27:14

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR AP2
Site Name ARGWA-19
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 52.8 ft

Pump placement from TOC 47.74 ft

Well Information:

Well ID ARGWA-19
Well diameter 2 in
Well Total Depth 52.74 ft
Screen Length 10 ft
Depth to Water 26.6 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.9896642 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 μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:03:49	600.02	19.44	5.84	169.59	1.00	26.62	3.08	103.23
Last 5	15:08:49	900.02	19.48	5.84	168.58	0.78	26.61	3.08	104.61
Last 5	15:13:49	1200.02	19.58	5.82	167.64	0.23	26.61	3.08	106.00
Last 5	15:18:49	1500.01	19.43	5.83	166.70	0.20	26.61	3.10	107.16
Last 5	15:23:49	1800.01	19.48	5.83	166.77	0.18	26.61	3.12	108.19
Variance 0			0.10	-0.01	-0.94			0.00	1.40
Variance 1			-0.14	0.01	-0.94			0.02	1.15
Variance 2			0.05	-0.00	0.06			0.02	1.03

Notes

ARGWA-19 sample time 1525

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-30 11:30:45

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR AP2
Site Name ARGWA-20
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 37.7 ft

Pump placement from TOC 32.7 ft

Well Information:

Well ID ARGWA-20
Well diameter 2 in
Well Total Depth 37.7 ft
Screen Length 10 ft
Depth to Water 14.24 ft

Pumping Information:

Final Pumping Rate 150 mL/min
Total System Volume 0.843908 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0 in
Total Volume Pumped 4.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	11:06:42	600.02	18.05	5.64	130.13	7.27	14.38	5.54	66.89
Last 5	11:11:42	900.02	18.10	5.64	130.17	4.23	14.38	5.57	67.80
Last 5	11:16:42	1200.02	18.14	5.65	130.23	4.37	14.38	5.59	68.95
Last 5	11:21:42	1500.01	18.17	5.64	130.22	3.60	14.38	5.56	70.68
Last 5	11:26:42	1800.01	18.22	5.65	130.37	4.66	14.38	5.55	72.36
Variance 0			0.04	0.00	0.06			0.02	1.15
Variance 1			0.02	-0.01	-0.02			-0.03	1.73
Variance 2			0.06	0.00	0.15			-0.01	1.68

Notes

ARGWA-20 sample time 1128

Grab Samples

Product Name: Low-Flow System

Date: 2020-10-01 16:09:15

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR AP2
Site Name ARGWC-21
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 27 ft

Pump placement from TOC 22 ft

Well Information:

Well ID ARGWC-21
Well diameter 2 in
Well Total Depth 26.98 ft
Screen Length 10 ft
Depth to Water 14.12 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.7406238 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.1 in
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:46:50	900.03	20.72	6.00	699.66	7.91	14.48	0.24	109.57
Last 5	15:51:50	1200.02	20.65	6.00	697.92	4.86	14.48	0.20	110.58
Last 5	15:56:50	1500.02	20.61	5.99	697.71	3.17	14.48	0.19	111.70
Last 5	16:01:50	1800.02	20.59	6.00	697.15	3.13	14.48	0.18	112.43
Last 5	16:06:50	2100.01	20.55	5.99	697.05	2.39	14.48	0.17	113.37
Variance 0			-0.04	-0.00	-0.21			-0.01	1.13
Variance 1			-0.02	0.00	-0.55			-0.01	0.72
Variance 2			-0.04	-0.00	-0.10			-0.01	0.94

Notes

ARGWC-21 sample time 1608.

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-30 14:00:16

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR AP2
Site Name ARGWC-22
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 541714
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 27.8 ft

Pump placement from TOC 22.8 ft

Well Information:

Well ID ARGWC-22
Well diameter 2 in
Well Total Depth 27.74 ft
Screen Length 10 ft
Depth to Water 13.67 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.6040831 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.01 in
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	13:37:07	600.02	20.06	5.75	1504.99	1.35	13.97	0.21	93.17
Last 5	13:42:07	900.02	20.01	5.76	1493.79	1.21	13.97	0.18	93.62
Last 5	13:47:07	1200.02	19.94	5.78	1479.67	1.10	13.97	0.17	93.79
Last 5	13:52:07	1500.01	19.96	5.80	1457.39	1.05	13.97	0.16	93.08
Last 5	13:57:07	1800.01	19.90	5.81	1447.27	0.80	13.97	0.16	92.81
Variance 0			-0.07	0.02	-14.12			-0.00	0.18
Variance 1			0.01	0.02	-22.28			-0.01	-0.71
Variance 2			-0.06	0.01	-10.13			-0.00	-0.27

Notes

ARGWC-22 sample time 1400

Grab Samples

Product Name: Low-Flow System

Date: 2020-10-01 12:00:51

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR AP2
Site Name ARGWC-23
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 541714
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 28.1 ft

Pump placement from TOC 23 ft

Well Information:

Well ID ARGWC-23
Well diameter 2 in
Well Total Depth 28.08 ft
Screen Length 10 ft
Depth to Water 12.1 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.6054222 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.3 in
Total Volume Pumped 4.25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	11:35:26	1500.02	24.91	6.39	476.93	2.56	12.84	0.41	88.84
Last 5	11:40:26	1800.01	25.04	6.39	477.76	2.02	12.89	0.35	90.72
Last 5	11:45:26	2100.01	25.21	6.39	477.41	2.09	12.93	0.32	92.67
Last 5	11:50:26	2400.01	25.45	6.38	477.18	2.08	12.95	0.32	94.56
Last 5	11:55:26	2700.01	25.62	6.38	476.38	2.20	12.97	0.31	95.52
Variance 0			0.18	-0.00	-0.35			-0.03	1.95
Variance 1			0.24	-0.01	-0.23			-0.01	1.89
Variance 2			0.17	0.00	-0.80			-0.01	0.95

Notes

ARGWC-23 sample time 1158. DUP-02 also collected.

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-30 15:56:32

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR AP2
Site Name ARAMW-1
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 541714
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 45.3 ft

Pump placement from TOC 40.3 ft

Well Information:

Well ID ARAMW-1
Well diameter 2 in
Well Total Depth 45.32 ft
Screen Length 10 ft
Depth to Water 13.39 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.682193 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 μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	15:34:24	600.03	20.59	6.21	780.10	0.68	13.76	0.16	105.54
Last 5	15:39:24	900.03	20.50	6.22	780.53	1.78	13.76	0.16	105.53
Last 5	15:44:24	1200.00	20.52	6.19	775.81	1.12	13.76	0.18	108.70
Last 5	15:49:24	1500.02	20.46	6.18	769.31	0.42	13.76	0.17	107.72
Last 5	15:54:24	1800.02	20.41	6.16	768.24	0.09	13.76	0.17	109.28
Variance 0			0.02	-0.03	-4.72			0.02	3.18
Variance 1			-0.06	-0.01	-6.50			-0.00	-0.99
Variance 2			-0.05	-0.02	-1.07			0.00	1.56

Notes

ARAMW-1 sample time 1556

Grab Samples

Product Name: Low-Flow System

Date: 2020-10-01 15:13:03

Project Information:

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR AP2
Site Name ARAMW-2
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 541714
Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type Alexis Peristaltic pump
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 24.9 ft

Pump placement from TOC 19.8 ft

Well Information:

Well ID ARAMW-2
Well diameter 2 in
Well Total Depth 24.84 ft
Screen Length 10 ft
Depth to Water 13.58 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.5911392 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0 in
Total Volume Pumped 15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	14:49:21	3300.00	23.04	5.98	686.00	7.17	13.68	0.30	99.18
Last 5	14:54:21	3600.00	23.00	5.98	685.98	6.83	13.68	0.27	99.42
Last 5	14:59:21	3900.03	22.94	5.97	709.23	5.17	13.68	0.30	99.33
Last 5	15:04:21	4200.01	22.96	5.97	721.53	4.64	13.68	0.29	98.28
Last 5	15:09:21	4499.98	22.87	5.96	711.48	4.04	13.68	0.26	98.14
Variance 0			-0.07	-0.01	23.26			0.03	-0.09
Variance 1			0.02	0.00	12.29			-0.01	-1.05
Variance 2			-0.09	-0.01	-10.05			-0.03	-0.14

Notes

ARAMW-2 sample time 1512

Grab Samples

ANALYTICAL REPORT

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

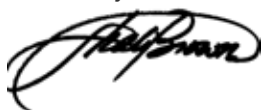
Laboratory Job ID: 180-113158-1

Client Project/Site: CCR - Arkwright Surfacewater

For:

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

Attn: Joju Abraham



Authorized for release by:
11/18/2020 9:17:33 AM

Shali Brown, Project Manager II
(615)301-5031
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 - Arkwright Surfacewater

Job ID: 180-113158-1

Job ID: 180-113158-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

**Job Narrative
180-113158-1**

Comments

No additional comments.

Receipt

The samples were received on 11/4/2020 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 3.8° 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.

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 - Arkwright Surfacewater

Job ID: 180-113158-1

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.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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 - Arkwright Surfacewater

Job ID: 180-113158-1

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	12-31-21
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.

Eurofins TestAmerica, Pittsburgh

Sample Summary

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

Job ID: 180-113158-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-113158-1	BC-0.8	Water	11/03/20 12:38	11/04/20 09:00	
180-113158-2	BC-0.5.5	Water	11/03/20 11:24	11/04/20 09:00	
180-113158-3	BC-BR	Water	11/03/20 11:49	11/04/20 09:00	

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Method Summary

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

Job ID: 180-113158-1

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 9040C	pH	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
SM2320 B	Alkalinity, Total	SM18	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	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: CCR - Arkwright Surfacewater

Job ID: 180-113158-1

Client Sample ID: BC-0.8
Date Collected: 11/03/20 12:38
Date Received: 11/04/20 09:00

Lab Sample ID: 180-113158-1
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: INTEGRION		1			336722	11/11/20 18:17	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	336278	11/07/20 08:11	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			337118	11/13/20 20:09	RSK	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			336783	11/11/20 23:38	PMH	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	336451	11/09/20 17:15	GRB	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			336113	11/05/20 18:39	AVS	TAL PIT

Client Sample ID: BC-0.5.5
Date Collected: 11/03/20 11:24
Date Received: 11/04/20 09:00

Lab Sample ID: 180-113158-2
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			336638	11/11/20 13:41	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	336278	11/07/20 08:11	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			337118	11/13/20 20:18	RSK	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: PCTITRATOR		1			336799	11/11/20 19:53	PMH	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	336451	11/09/20 17:15	GRB	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			336113	11/05/20 18:45	AVS	TAL PIT

Client Sample ID: BC-BR
Date Collected: 11/03/20 11:49
Date Received: 11/04/20 09:00

Lab Sample ID: 180-113158-3
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			336638	11/11/20 13:58	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	336278	11/07/20 08:11	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: A		1			337118	11/13/20 20:21	RSK	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: PCTITRATOR		1			336799	11/11/20 22:00	PMH	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	336451	11/09/20 17:15	GRB	TAL PIT
Total/NA	Analysis	SM2320 B Instrument ID: PCTITRATOR		1			336113	11/05/20 18:50	AVS	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-113158-1

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

KHM = Kyle Mucroski

Batch Type: Analysis

AVS = Abbey Smith

GRB = Gabriel Berghe

MJH = Matthew Hartman

PMH = Paloma Hoelzle

RSK = Robert Kurtz

SAT = Stephen Tallam

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Client Sample Results

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

Job ID: 180-113158-1

Client Sample ID: BC-0.8

Lab Sample ID: 180-113158-1

Date Collected: 11/03/20 12:38

Matrix: Water

Date Received: 11/04/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.5		1.0	0.32	mg/L			11/11/20 18:17	1
Fluoride	0.066	J	0.10	0.044	mg/L			11/11/20 18:17	1
Sulfate	3.8		1.0	0.38	mg/L			11/11/20 18:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00042	J	0.0025	0.00013	mg/L		11/07/20 08:11	11/13/20 20:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1	0.1	SU			11/11/20 23:38	1
Total Dissolved Solids	84		10	10	mg/L			11/09/20 17:15	1
Total Alkalinity as CaCO3 to pH 4.5	55		5.0	5.0	mg/L			11/05/20 18:39	1
Bicarbonate Alkalinity as CaCO3	55		5.0	5.0	mg/L			11/05/20 18:39	1

Client Sample Results

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

Job ID: 180-113158-1

Client Sample ID: BC-0.5.5

Lab Sample ID: 180-113158-2

Date Collected: 11/03/20 11:24

Matrix: Water

Date Received: 11/04/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.2		1.0	0.32	mg/L			11/11/20 13:41	1
Fluoride	0.050	J	0.10	0.044	mg/L			11/11/20 13:41	1
Sulfate	6.1		1.0	0.38	mg/L			11/11/20 13:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00047	J	0.0025	0.00013	mg/L		11/07/20 08:11	11/13/20 20:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			11/11/20 19:53	1
Total Dissolved Solids	88		10	10	mg/L			11/09/20 17:15	1
Total Alkalinity as CaCO3 to pH 4.5	55		5.0	5.0	mg/L			11/05/20 18:45	1
Bicarbonate Alkalinity as CaCO3	55		5.0	5.0	mg/L			11/05/20 18:45	1

Client Sample Results

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

Job ID: 180-113158-1

Client Sample ID: BC-BR

Lab Sample ID: 180-113158-3

Date Collected: 11/03/20 11:49

Matrix: Water

Date Received: 11/04/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.3		1.0	0.32	mg/L			11/11/20 13:58	1
Fluoride	<0.044		0.10	0.044	mg/L			11/11/20 13:58	1
Sulfate	6.2		1.0	0.38	mg/L			11/11/20 13:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00048	J	0.0025	0.00013	mg/L		11/07/20 08:11	11/13/20 20:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			11/11/20 22:00	1
Total Dissolved Solids	85		10	10	mg/L			11/09/20 17:15	1
Total Alkalinity as CaCO3 to pH 4.5	55		5.0	5.0	mg/L			11/05/20 18:50	1
Bicarbonate Alkalinity as CaCO3	55		5.0	5.0	mg/L			11/05/20 18:50	1

QC Sample Results

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

Job ID: 180-113158-1

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

Lab Sample ID: MB 180-336638/6
Matrix: Water
Analysis Batch: 336638

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			11/11/20 05:54	1
Fluoride	<0.044		0.10	0.044	mg/L			11/11/20 05:54	1
Sulfate	<0.38		1.0	0.38	mg/L			11/11/20 05:54	1

Lab Sample ID: LCS 180-336638/5
Matrix: Water
Analysis Batch: 336638

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	50.9		mg/L		102	90 - 110
Fluoride	2.50	2.49		mg/L		99	90 - 110
Sulfate	50.0	50.0		mg/L		100	90 - 110

Lab Sample ID: MB 180-336722/6
Matrix: Water
Analysis Batch: 336722

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			11/11/20 12:23	1
Fluoride	<0.044		0.10	0.044	mg/L			11/11/20 12:23	1
Sulfate	<0.38		1.0	0.38	mg/L			11/11/20 12:23	1

Lab Sample ID: LCS 180-336722/5
Matrix: Water
Analysis Batch: 336722

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	51.8		mg/L		104	90 - 110
Fluoride	2.50	2.52		mg/L		101	90 - 110
Sulfate	50.0	51.1		mg/L		102	90 - 110

Lab Sample ID: 180-113158-1 MS
Matrix: Water
Analysis Batch: 336722

Client Sample ID: BC-0.8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	9.5		50.0	60.1		mg/L		101	90 - 110
Fluoride	0.066	J	2.50	2.52		mg/L		98	90 - 110
Sulfate	3.8		50.0	54.5		mg/L		101	90 - 110

Lab Sample ID: 180-113158-1 MSD
Matrix: Water
Analysis Batch: 336722

Client Sample ID: BC-0.8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	9.5		50.0	61.0		mg/L		103	90 - 110	2	20
Fluoride	0.066	J	2.50	2.60		mg/L		101	90 - 110	3	20
Sulfate	3.8		50.0	55.3		mg/L		103	90 - 110	1	20

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-113158-1

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

Lab Sample ID: MB 180-336278/1-A
Matrix: Water
Analysis Batch: 337118

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 336278

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00013		0.0025	0.00013	mg/L		11/07/20 08:11	11/13/20 19:41	1

Lab Sample ID: LCS 180-336278/2-A
Matrix: Water
Analysis Batch: 337118

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 336278

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.500	0.504		mg/L		101	80 - 120
Calcium	25.0	28.6		mg/L		114	80 - 120
Boron	1.25	1.21		mg/L		97	80 - 120

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-336783/1
Matrix: Water
Analysis Batch: 336783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-336799/29
Matrix: Water
Analysis Batch: 336799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-336799/3
Matrix: Water
Analysis Batch: 336799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: 180-113158-3 DU
Matrix: Water
Analysis Batch: 336799

Client Sample ID: BC-BR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	HF	7.5		SU		0.5	2

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-336451/2
Matrix: Water
Analysis Batch: 336451

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			11/09/20 17:15	1

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-113158-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 180-336451/1
 Matrix: Water
 Analysis Batch: 336451

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	700		mg/L		98	80 - 120

Method: SM2320 B - Alkalinity, Total

Lab Sample ID: MB 180-336113/53
 Matrix: Water
 Analysis Batch: 336113

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			11/05/20 16:59	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			11/05/20 16:59	1

Lab Sample ID: LCS 180-336113/52
 Matrix: Water
 Analysis Batch: 336113

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	236		mg/L		95	90 - 110

QC Association Summary

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

Job ID: 180-113158-1

HPLC/IC

Analysis Batch: 336638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-113158-2	BC-0.5.5	Total/NA	Water	EPA 300.0 R2.1	
180-113158-3	BC-BR	Total/NA	Water	EPA 300.0 R2.1	
MB 180-336638/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-336638/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 336722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-113158-1	BC-0.8	Total/NA	Water	EPA 300.0 R2.1	
MB 180-336722/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-336722/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-113158-1 MS	BC-0.8	Total/NA	Water	EPA 300.0 R2.1	
180-113158-1 MSD	BC-0.8	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 336278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-113158-1	BC-0.8	Total Recoverable	Water	3005A	
180-113158-2	BC-0.5.5	Total Recoverable	Water	3005A	
180-113158-3	BC-BR	Total Recoverable	Water	3005A	
MB 180-336278/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-336278/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 337118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-113158-1	BC-0.8	Total Recoverable	Water	EPA 6020B	336278
180-113158-2	BC-0.5.5	Total Recoverable	Water	EPA 6020B	336278
180-113158-3	BC-BR	Total Recoverable	Water	EPA 6020B	336278
MB 180-336278/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	336278
LCS 180-336278/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	336278

General Chemistry

Analysis Batch: 336113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-113158-1	BC-0.8	Total/NA	Water	SM2320 B	
180-113158-2	BC-0.5.5	Total/NA	Water	SM2320 B	
180-113158-3	BC-BR	Total/NA	Water	SM2320 B	
MB 180-336113/53	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-336113/52	Lab Control Sample	Total/NA	Water	SM2320 B	

Analysis Batch: 336451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-113158-1	BC-0.8	Total/NA	Water	SM 2540C	
180-113158-2	BC-0.5.5	Total/NA	Water	SM 2540C	
180-113158-3	BC-BR	Total/NA	Water	SM 2540C	
MB 180-336451/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-336451/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 336783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-113158-1	BC-0.8	Total/NA	Water	EPA 9040C	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-113158-1

General Chemistry (Continued)

Analysis Batch: 336783 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-336783/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Analysis Batch: 336799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-113158-2	BC-0.5.5	Total/NA	Water	EPA 9040C	
180-113158-3	BC-BR	Total/NA	Water	EPA 9040C	
LCS 180-336799/29	Lab Control Sample	Total/NA	Water	EPA 9040C	
LCS 180-336799/3	Lab Control Sample	Total/NA	Water	EPA 9040C	
180-113158-3 DU	BC-BR	Total/NA	Water	EPA 9040C	

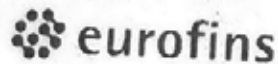


Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2488

Chain of Custody Record

Client Information Client Contact: Warren Johnson Company: ARCADIS U.S., Inc. Address: 2839 Paces Ferry Road SE Suite 900 City: Atlanta State, Zip: GA, 30339 Phone: 404-952-1615(Tel) Email: warren.johnson@arcadis.com Project Name: Georgia Power CCR Site: PLANT ARKWRIGHT		Sampler: RAYO/Johnson Lab PM: LARIER-JERRY E-Mail: GAIL.LANG Phone: 678-485-5298 Email: Jerry.Larier@Eurofins.com		Carrier Tracking No(s): COC No: 180-85384-13119 1 Page: Page 1 of 1 Job #:		
Due Date Requested: TAT Requested (days): 7 DAY PO #: 20510382606 Purchase Order Requested:		Analysis Requested Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): 6020B - Metals COAST ONLY D N N X X X X 2320B, 9040C, 9056A, ORGFM, 28D D N N X X X X 2540C - Calc'd - TDS D N N X X X X 4020B - COAST METALS LITHIUM				
Sample Identification BC-O.S BC-O.S.S BC-BR		Sample Date 11/3/20 11/3/20 11/3/20	Sample Time 1238 1124 1149	Sample Type (C=Comp, G=Grab) G G G	Matrix (Water, Soil, On-surface, RT-Tissue, etc) Water Water Water Water Water Water	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 - AshAO2 P - Na2CO3 Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Z - other (specify)
Special Instructions/Note: 32° 55' 22" N / -83° 42' 20" W 32° 55' 14" N / -83° 42' 06" W 32° 55' 12" N / -83° 41' 59" W		Total Number of Containers:				
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:				
Empty Kit Relinquished by:		Method of Shipment:				
Reinquished by: <i>[Signature]</i>		Date/Time: 11/03/20 17:40 Company: ARCADIS				
Reinquished by: <i>[Signature]</i>		Date/Time: 18:00 Company: ARCADIS				
Reinquished by: <i>[Signature]</i>		Date/Time: 11/4/20 9:00 Company: ARCADIS				
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:				





Environment Testing
TestAmerica

1594-89-434 R172 EXP 09/21



ORIGIN ID: LIYA (678) 966-9891
GEORGE TAYLOR
EUROFINS TESTAMERICA
6500 MCDONOUGH DRIVE
SUITE C-10
NORCROSS, GA 30093
UNITED STATES US

SHIP DATE: 03NOV20
ACTWTG: 23.00 LB
CAD: 859116/CAFE3406

BILL RECIPIENT

TO **SAMPLE RECIEVING**
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238

(412) 963-7066
REF: ARCADIS PLT ARTW



TRK# 1516 9325 7929
0201

WED - 04 NOV 10:30A
PRIORITY OVERNIGHT

NA AGCA

15238
PIT'

Uncorrected temp 3.8 °C
Thermometer ID 14
Initials J

effective 7/26/13



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-113158-1

Login Number: 113158

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	

