

Assessment of Corrective Measures Report

Georgia Power Company – Plant Arkwright

Ash Pond 2 Dry Ash Stockpile Project No.: 6122201429

Prepared for:



Atlanta, Georgia 12/4/2020

CERTIFICATION STATEMENT

Assessment of Corrective Measures Report

Plant Arkwright Ash Pond 2 Dry Ash Stockpile

Gregory J. Wrenn, P.E. Project Manager

Rhonda N. Quinn, P.G. Senior Geologist

Project No.: 6122201429 | 12/4/2020

Page i of iv

Table of Contents

1.0	INTRODUCTION	1
1.1	Purpose	2
1.2	Site Location and Description	3
1.3	Pond Closure	3
2.0	CONCEPTUAL SITE MODEL	4
2.1	Geology	4
2.2	Hydrogeology and Groundwater Flow	4
3.0	NATURE AND EXTENT OF APPENDIX IV CONSTITUENTS	6
3.1	Groundwater Monitoring & SSL Constituents	6
3.1.1	Groundwater Monitoring Program	6
3.1.2	SSLs for Appendix IV Constituents	6
3.2	Field Investigation Activities	7
4.0	GROUNDWATER CORRECTIVE MEASURES	9
4.1	Objectives of the Corrective Measures	9
4.2	Summary of Potential Corrective Measures	9
4.2.1	Geochemical Approaches (In-Situ Injection)	10
4.2.2	Hydraulic Containment (Pump and Treat)	11
4.2.3	Monitored Natural Attenuation	11
4.2.4	Permeable Reactive Barriers	12
4.2.5	Phytoremediation	13
4.2.6	Subsurface Vertical Barrier Walls	15
5.0	REMEDY SELECTION PROCESS	17
5.1	Pond Closure and Site Management Strategy	17
5.2	Additional Data Collection	17
5.3	Schedule, Reporting, and Next Steps	18
6.0	REFERENCES	19



List of Tables

Monitoring Network Well Construction Details
Summary of Groundwater Protection Standards
Summary of Analytical Results
Evaluation of Remedial Technologies

List of Figures

Figure 1	Site Location Map
Figure 2	Monitoring Network Well Location Map
Figure 3	Cross-Sections A-A' and B-B'
Figure 4	Potentiometric Surface - April 2020
Figure 5	Potentiometric Surface - September 2020
Figure 6	Isoconcentration Map for Cobalt Ash Pond 2 - April 2020
Figure 7	Isoconcentration Map for Cobalt Ash Pond 2 – September/October 2020
Figure 8	Proposed Locations for Vertical Extent Wells
9	·

List of Appendices

Appendix A	Risk Assessment
Appendix B	Boring and Well Construction Logs
Appendix C	Laboratory Reports



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.**

Project No.: 6122201429 | 12/4/2020 Page 5 of 2



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 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

wood.

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 aboveground 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.

Project No.: 6122201429 | 12/4/2020 Page 16 of 2



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

- ACC, Inc., 2019. 2019 Semiannual Groundwater Monitoring and Corrective Action Report Former Plant Arkwright Closed Ash Pond No. 2 Dry Ash Stockpile.
- Clark, W.Z., and Zisa, A.C., 1976, Physiographic Map of Georgia: 1:2,000,000, Georgia Department of Natural Resources, Geologic and Water Resources Division, Atlanta, Georgia.
- Gatliff E., P.J. Linton, D.J. Riddle, and P.R. Thomas. 2016. Phytoremediation of Soil and Groundwater: Economic Benefits Over Traditional Methodologies. In: Bioremediation and Bioeconomy, p. 589-608; Elsevier, Amsterdam, Netherlands. M.N.V. Prasad, ed.
- ITRC (Interstate Technology & Regulatory Council). 2011. Permeable Reactive Barrier: Technology Update. PRB-5. Washington, D.C.: Interstate Technology & Regulatory Council, PRB: Technology Update Team. www.itrcweb.org.
- LeGrand, H. E. 1962, Geology and Ground-water Resources of the Macon Area, Georgia. The Geological Survey Bulletin No. 72.
- Southern Company Services, Inc., 2005, Plant Arkwright Ash Ponds 2 and 3 and Ash Monofill Site Acceptability Report, Revision 1.
- U.S. Environmental Protection Agency (US EPA), 1989. US EPA 530/SW-89-031 Interim Final RCRA Investigation (RFI) Guidance, Volume I and II.
- US EPA, 1993. Subpart E, Groundwater Monitoring and Corrective Action, in Chapter 5, Solid Waste Disposal Facility Criteria Technical Manual. EA530-R-93-017.
- US EPA 1996. Final Guidance: Presumptive Response Strategy and Ex-Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites, EPA 540/R-96/023, Office of Solid Waste and Emergency Response Directive 9283.1-12, October 1996.
- US EPA, 2000. Guidance for Data Quality Assessment: Practical Methods for data analysis; US EPA QA/G-9, QA00 Update. Environmental Protection Agency report US EPA/600/R-96/084, Office of Environmental Information, Washington, D.C.
- US EPA, March 2009. Unified Guidance, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities. Office of Solid Waste Management Division, U.S. Environmental Protection Agency, Washington, D. C.
- US EPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery Program Implementation and Information Division. March.

wood.

- US EPA. 2011. Data Validation Standard Operating Procedures. Science and Ecosystem Support Division. Region IV. Athens, GA. September.
- US EPA, 2013. "SESDPROC-201-R3: Surface Water Sampling" Environmental Protection Agency Region 4, Science and Ecosystem Support Division, February 28, 2013.
- US EPA. 2015a. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. 40 CFR Parts 257and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA-HQ-RCRA-2009-0640; FRL-9919-44-OSWER]. RIN-2050-AE81. April.
- US EPA. 2015b. Use of Monitored Natural Attenuation for Inorganic Contaminants in Groundwater at Superfund Sites, Office of Solid Waste and Emergency Response Directive 9283.1-36, August 2015.
- US EPA. 2017. National Functional Guidelines for Inorganic Superfund Methods Data. Office of Superfund Remediation and Technology Innovation. OLEM 9355.0-135 [EPA-540-R-2017-001]. Washington, DC. January.
- Wood Environment & Infrastructure Solutions, Inc., 2020a. 2020 Annual Groundwater Monitoring and Corrective Action Report Georgia Power Company Plant Arkwright Ash Pond 2 Dry Ash Stockpile, July 31, 2020.
- Wood Environment & Infrastructure Solutions, Inc., 2020b. Risk Evaluation Report Georgia Power Company Plant Arkwright Ash Pond 2 Dry Ash Stockpile, December 2020.

Assessment of Corrective Measures Report Georgia Power Company – Plant Arkwright Ash Pond 2 Dry Ash Stockpile 12/4/2020

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.

			We	II ID	
	Substance	ARGWA-19	ARGWA-19	ARGWA-19	ARGWA-19
		4/07/2020	6/25/2020	8/19/2020	9/29/2020
	Boron	0.072 J	0.091	NA	<0.039
E	Calcium	14	14	NA	12
	Chloride	11	11	NA	10
APPENDIX	Fluoride	0.14	0.030 J	<0.026	0.051 J
PE	Sulfate	8.4	9.8	NA	8.4
₹	TDS	120	NA	NA	110
	рН	5.7	5.8	6.3	5.8
	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
APPENDIX	Cobalt	0.00038 J	<0.00013	<0.00013	<0.00013
۱Ä	Lead	0.00037 J	NA	<0.00013	<0.00013
APF	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.

- 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

			We	II ID	
	Substance	ARGWA-20	ARGWA-20	ARGWA-20	ARGWA-20
		4/06/2020	6/25/2020	8/19/2020	9/30/2020
	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
APPENDIX	Fluoride	0.059 J	<0.026	<0.026	0.032 J
PPE	Sulfate	15	16	NA	15
₹	TDS	90	NA	NA	82
	рН	5.5	5.6	6.2	5.7
	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
APPENDIX	Cobalt	0.00039 J	0.00015 J	0.00064 J	0.00031 J
M	Lead	0.00033 J	NA	0.00039 J	0.00022 J
APF	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).
- 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.

- 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

			We	II ID	
	Substance	ARGWC-21	ARGWC-21	ARGWC-21	ARGWC-21
		4/07/2020	6/25/2020	8/21/2020	10/1/2020
	Boron	0.74	0.82	NA	0.90
I≡	Calcium	69	80	NA	79
	Chloride	4.2	3.7	NA	4.3
APPENDIX	Fluoride	0.12	0.041 J	0.084 J	0.098 J
PPE	Sulfate	180	210	NA	210
₽	TDS	460	NA	NA	500
	рН	6.0	6.0	5.9	6.0
	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
APPENDIX	Cobalt	0.00087	0.00097 J	0.00066 J	0.00082 J
M	Lead	0.00026 J	NA	<0.00013	<0.00013
APF	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.

- 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

						We	II ID				
	Substance	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
	Boron	2.7	3.0	2.7	2.6	2.5	2.5	2.6	1.3	2.8	2.9
I≡	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
APPENDIX	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
PPE	Sulfate	930	660	630	710	720	810	820	1000	720	650
₹	TDS	1400	1300	1200	1300	1300	NA	1400	1400	1300	1200
	рН	5.9	5.9	6.0	5.8	5.7	5.8	5.6	6.2	5.8	5.8
	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
APPENDIX	Lead	0.00022 J	< 0.00013	< 0.00013	0.00014 J	< 0.00013	NA	<0.00013	<0.00013	<0.00013	<0.00013
APF	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

- 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.

- 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

						We	II ID				
	Substance	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
	Boron	0.43	0.079 J	0.25	0.44	0.45	0.42	0.49	0.44	0.50	0.49
I≡	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
Z	Fluoride	0.21	0.13	0.089 J	0.18	0.25	0.25	0.28	0.19	0.33	0.32
APPENDIX	Sulfate	68	18	49	58	65	77	78	69	68	64
₹	TDS	340	110	210	290	320	NA	310	310	310	290
	рН	6.6	6.7	6.3	6.4	6.3	6.4	6.4	6.3	6.3	6.4
	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
APPENDIX	Lead	0.00018 J	0.00026 J	< 0.00013	< 0.00013	<0.00013	NA	<0.00013	<0.00013	<0.00013	<0.00013
AP	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

- 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.

- 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

				Well ID			
	Substance	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	
	Boron	1.1	NA	0.84	NA	0.98	
≡	Calcium	NA	NA	81	NA	100	
×	Chloride	NA	NA	5.3	NA	5.2	
APPENDIX	Fluoride	NA	NA	0.21	0.23	0.20	
PPE	Sulfate	NA	NA	250	NA	230	
₹	TDS	NA	NA	NA	NA	520	
	рН	6.1	6.2	6.3	6.1	6.2	
	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	
APPENDIX IV	Chromium	NA	NA	NA	<0.0015	<0.0015	
合	Cobalt	NA	NA	0.00097 J	0.0010 J	0.0010 J	
Ä	Lead	NA	NA	NA	<0.00013	<0.00013	
ΑPF	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	

- 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.

- 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

		Well ID						
	Substance	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		
	Boron	1.8	NA	0.89	NA	0.95		
APPENDIX III	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		
	pН	6.1	5.1	6.2	6.0	6.0		
	Antimony	NA	NA	NA	<0.00038	NA		
APPENDIX IV	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		
ΑPF	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		

- 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.

- 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

		Surface Water ID				
Substance		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		
	рН	7.6	7.4	7.4		
	Antimony	NA	NA	NA		
	Arsenic	NA	NA	NA		
	Barium	NA	NA	NA		
	Beryllium	NA	NA	NA		
	Cadmium	NA	NA	NA		
N >	Chromium	NA	NA	NA		
APPENDIX IV	Cobalt	0.00042 J	0.00047 J	0.00048 J		
νEΝ	Lead	NA	NA	NA		
APF	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		

- 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.

- 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

	Regulatory Citation for Criteria:	Georgia Rule 391-3-410(6)(a)	
Corrective Measure	Description	Performance	Reliability
Geochemical Approaches (In-Situ Injection)	Use of an injection well network, or other means of introducing reagents or air into the subsurface, to provide suitable reagents for either anaerobic or aerobic attenuation of Cobalt (Co). Under anaerobic conditions, Co would be attenuated within sparingly soluble sulfide minerals. 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. Benchand/or pilot-scale treatability testing programs are needed to understand the biogeochemical processes that would effectively reduce migration of Co in groundwater.
(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.	
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.		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 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.

Page 1 of 4

	Regulatory Citation for Criteria:	Georgia Rule 391-3	-410(6)(a)
Corrective Measure	Description	Performance	Reliability
Subsurface Vertical Barrier Walls	This approach involves placing a barrier to groundwater flow in the subsurface, frequently around a source area, to prevent future migration of dissolved constituents in groundwater from beneath the source to downgradient areas. In general, barrier walls are designed to provide containment; localized treatment achieved through the sorption or chemical precipitation reactions from construction of the walls are incidental to the design objective. Barrier walls can also be used in downgradient applications; to limit discharge to a surface water feature or to reduce aquifer recharge from an adjacent surface water feature when groundwater extraction wells are placed near one. A variety of barrier materials can be used, including cement and/or bentonite slurries, geomembrane composite materials, or driven materials such as steel or vinyl sheet pile. Groundwater extraction from upgradient of the barrier is required to avoid groundwater mounding behind the barrier.	Barrier walls are a proven technology for seepage control and/or groundwater cutoff at impoundments. Slurry walls are limited by the depth of installation, which is approximately 90 ft bgs. However, site-specific geologic and technology-specific considerations may limit this depth to shallower installations. Within the context of AP-2 Dry Ash Stockpile, a barrier wall might be used in conjunction with a "funnel and gate" system for a PRB rather than a stand-alone technology. As such, groundwater with Co above GWPS could either be directed to "treatment gates" for passive treatment (in a PRB) or migration of impacted groundwater could be minimized via barrier wall installation. Additional subsurface investigations, aquifer testing, and compatibility testing with site- specific groundwater will be needed.	Generally reliable as a barrier to groundwater flow; however, treatment of downgradient groundwater is incidental and not the primary objective.

December 2020

	Georgia Rule 391-3-410(6)(a)	Georgia Rule 391-3-410(6)(a)	Georgia Rule 391-3-410(6)(a)
Corrective Measure	Ease of Implementation	Potential Impacts	Time Requirement to Begin/Complete
Geochemical Approaches (In-Situ Injection)	Moderate. Installation of injection well network or other injection infrastructure would be required. Alternative installation approaches may be considered, such as along the downgradient edge of impacted groundwater, which would function similar to a PRB application. Potential for clogging of aquifer matrix and/or injection well infrastructure. Chemical distribution during injections (i.e., radius of influence) needs to be evaluated.	Minimal impacts are expected if remedy works as designed, based on a thorough predesign 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 onsite 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.

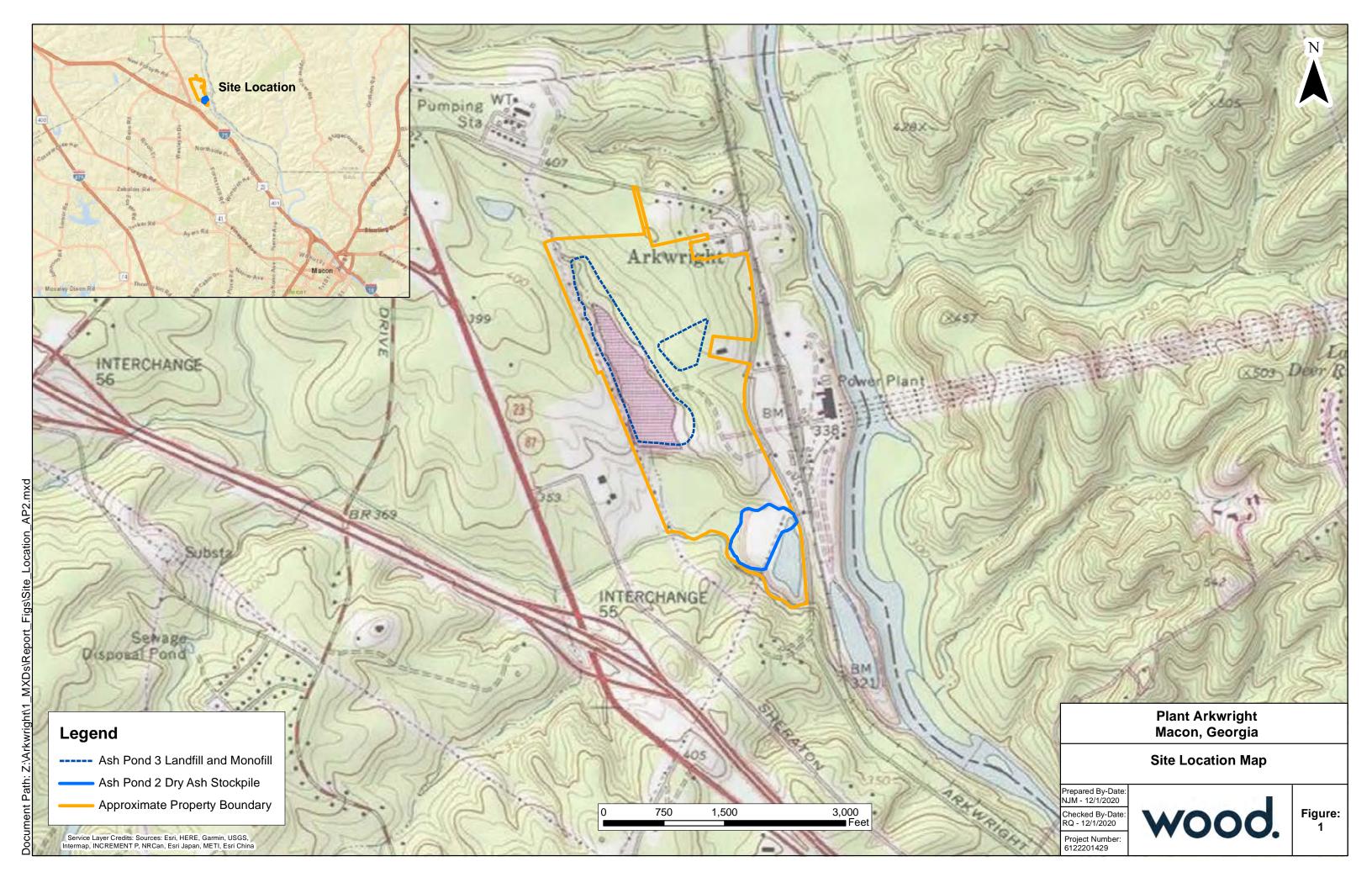
ge 3 of 4

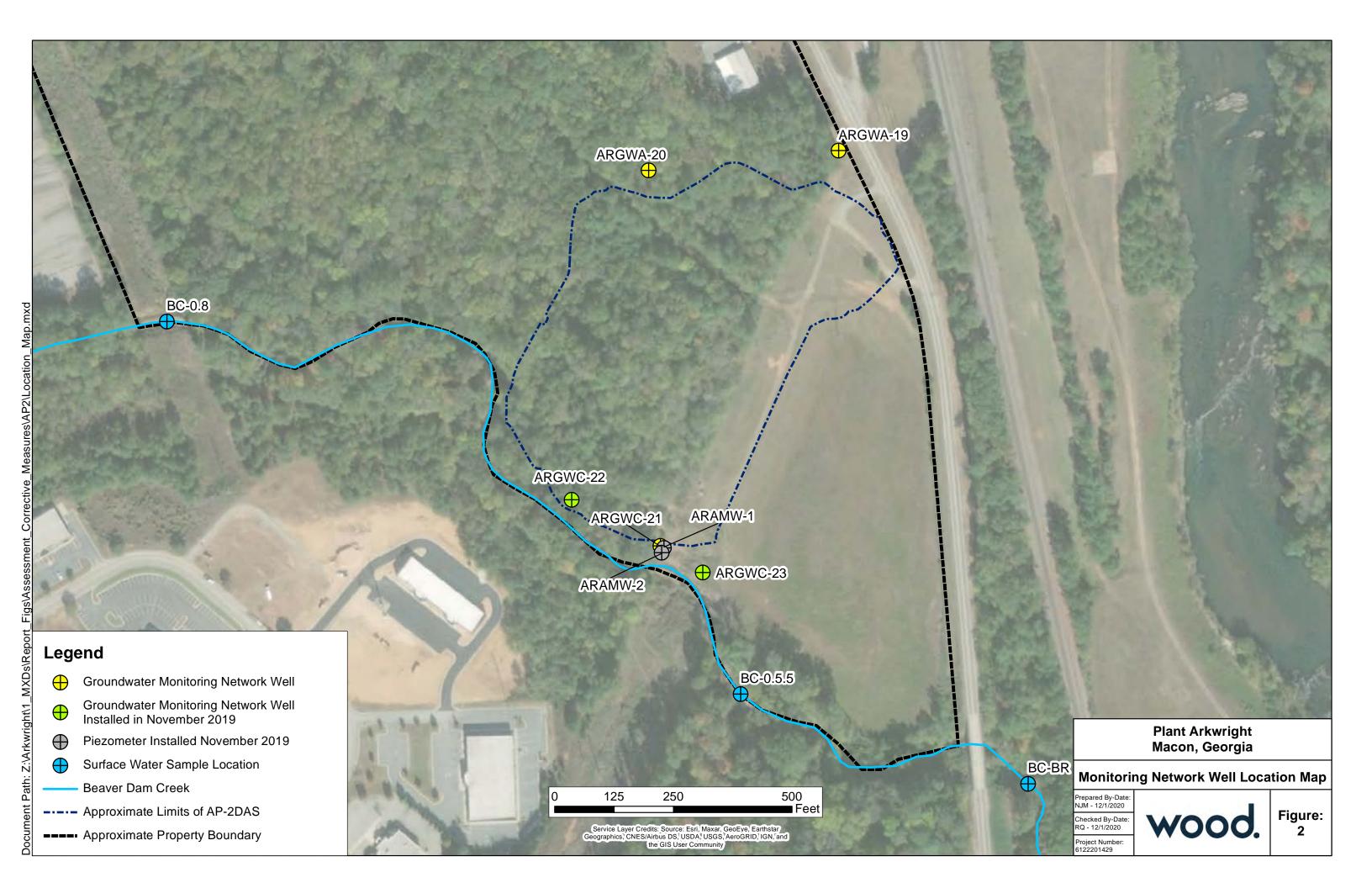
	Georgia Rule 39		
Corrective Measure	Institutional Requirements	Other Environmental or Public Health Requirements	Relative Costs
Geochemical Approaches (In-Situ Injection)	Deed restrictions may be necessary until in-situ treatment has achieved GWPS. An underground injection control (UIC) permit (for 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 anerobic attenuation approach. Following installation, the remedy is passive.	Medium (depending on expanse of injection network required and injectate volume required per derived design parameters)
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®		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	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)

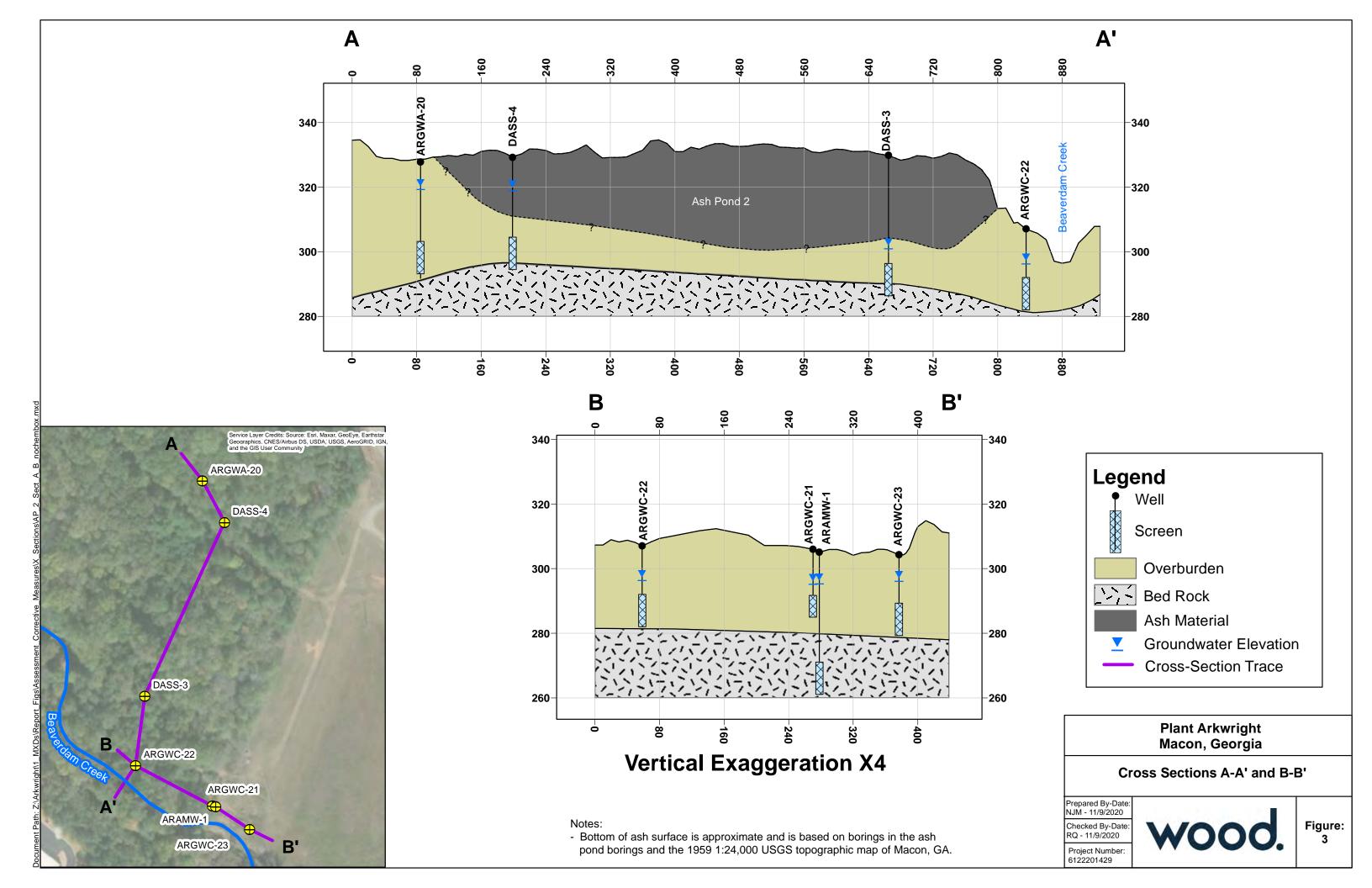
December 2020

Assessment of Corrective Measures Report Georgia Power Company – Plant Arkwright Ash Pond 2 Dry Ash Stockpile 12/4/2020

FIGURES

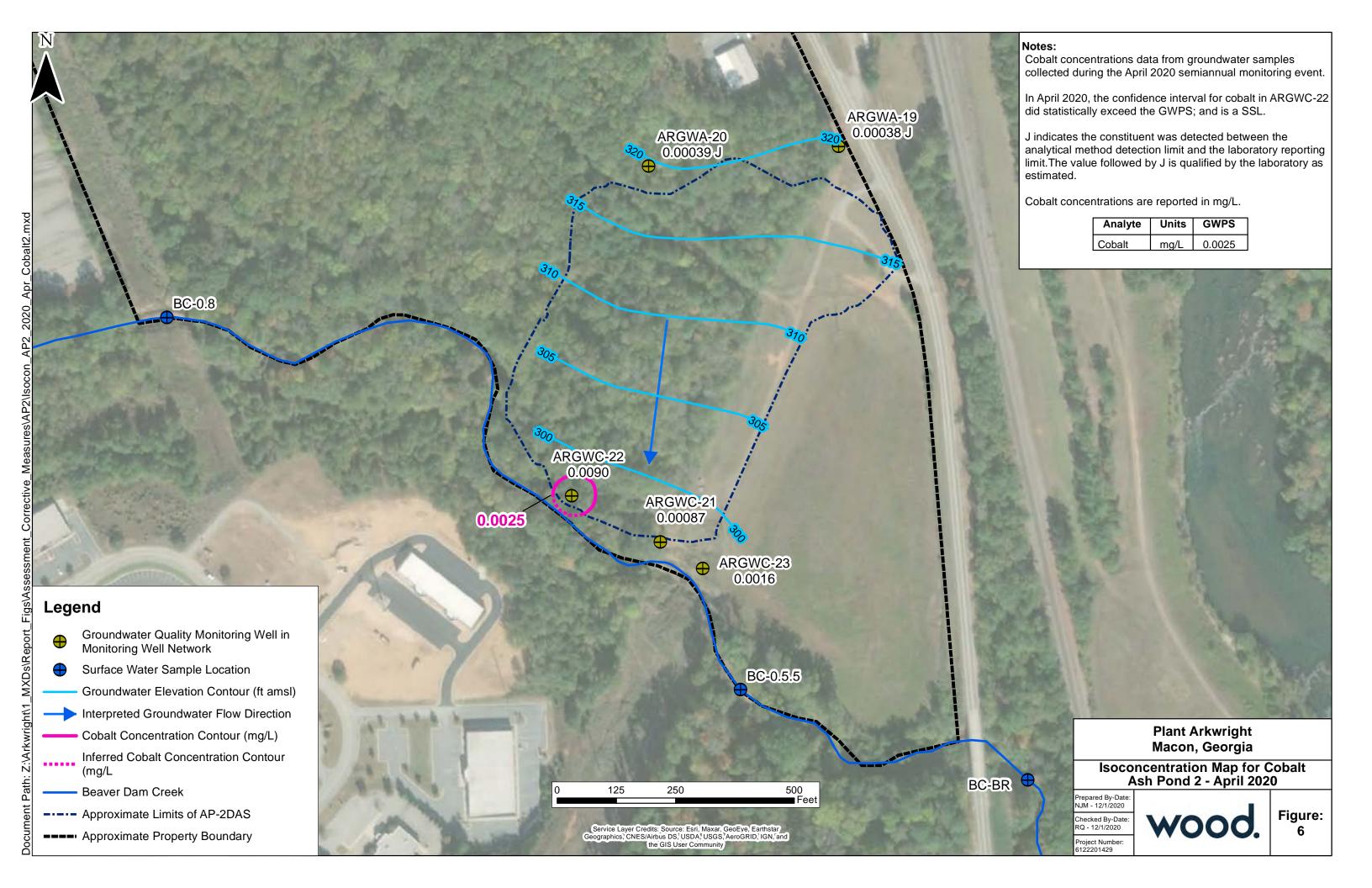


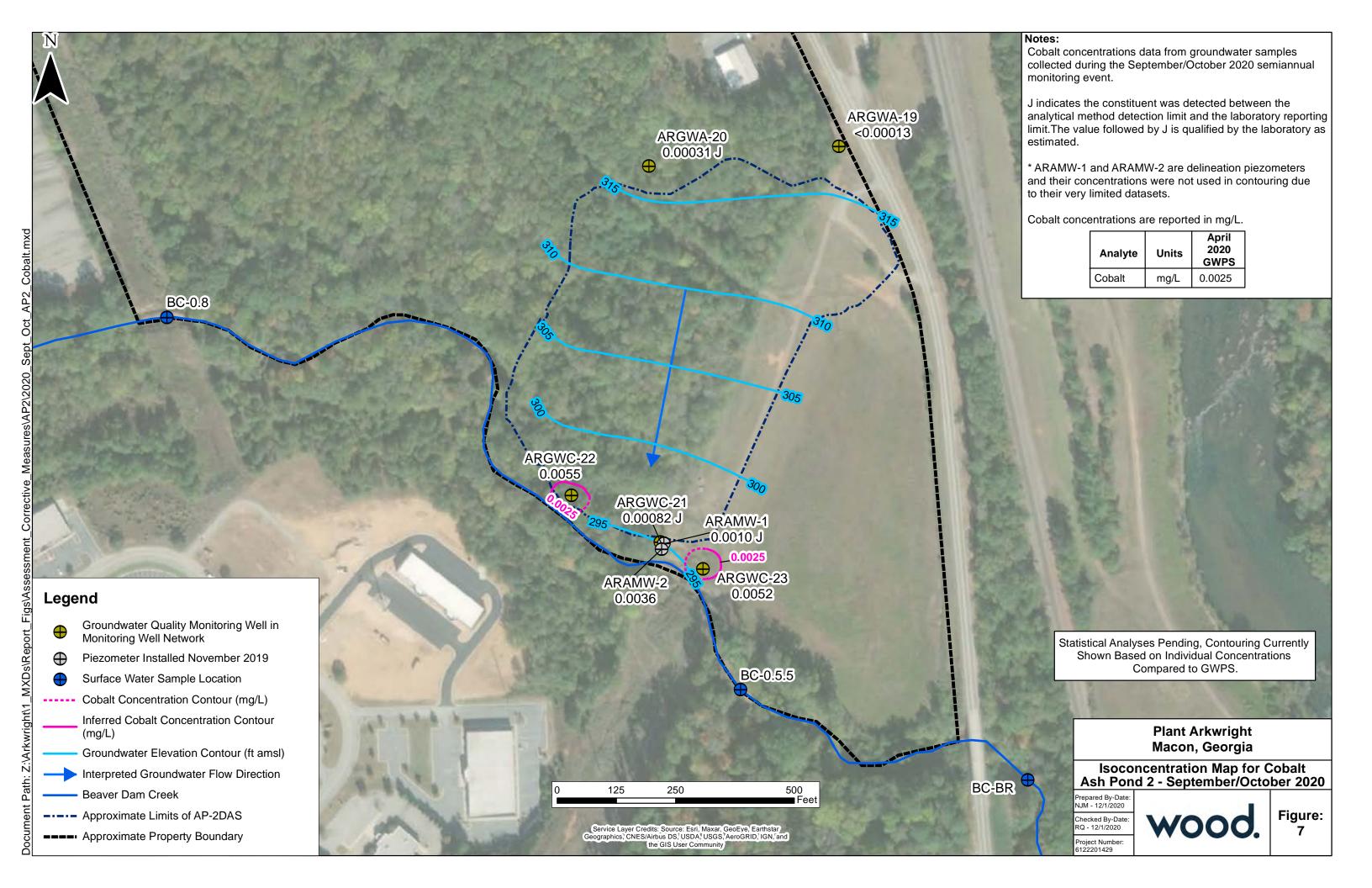














Assessment of Corrective Measures Report Georgia Power Company – Plant Arkwright Ash Pond 2 Dry Ash Stockpile 12/4/2020

APPENDIX A

wood.



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

TABLE OF CONTENTS

EXEC	UTIV	E SUM	MARY	iv	
1	Introduction			1	
2	Basis And Background For The Development Of The Conceptual Exposure			re	
	Mod	lel		3	
	2.1	Site De	escription	3	
		2.1.1	Topography and Surface Hydrology	4	
		2.1.2	Geology and Hydrogeology	4	
	2.2	Potenti	ial Transport Pathways	5	
	2.3	Potenti	ial Exposure Pathways and Receptors	5	
3	Risk		tion Screening		
3.1 Data Used in Risk Evaluation Screening					
		3.1.1	Groundwater Data	8	
		3.1.2	Background Groundwater Quality	9	
	3.2	Ground	dwater Screening Evaluation	9	
4	Refi	Refined Risk Evaluation			
	4.1	Refine	d Groundwater Risk Evaluation	12	
		4.1.1	Groundwater Exposure Point Calculation	12	
		4.1.2	COPI Concentration Trend Analysis	13	
		4.1.3	Refined Groundwater Risk Evaluation Results	14	
	4.2 Surface Water Risk Evaluation		14		
		4.2.1	Surface Water Data	15	
		4.2.2	Human Health Screening	15	
		4.2.3	Ecological Screening	16	
		4.2.4	Refined Groundwater and Surface Water Risk Evaluation		
			Summary and Conclusions	16	
5	Unc	ertainty	Assessment	18	
6	Conclusions		20		
7	Refe	erences		21	

TABLE OF CONTENTS (Continued)

LIST OF TABLES

Table 1	SSL-Related Constituent Groundwater Screening
Table 2	Groundwater Exposure Point Concentration Summary
Table 3	Downgradient Groundwater Refined Screening
Table 4	Human Health Surface Water Screening – Beaverdam Creek and Ocmulgee River
Table 5	Ecological Surface Water Screening – Beaverdam Creek and Ocmulgee River
	LIST OF FIGURES
Figure 1	Site Location
Figure 2	Site Layout and Monitoring Well Network
Figure 3	Potentiometric Surface Elevation Contours (April 2020)
Figure 4	Conceptual Exposure Model
Figure 5	Well Survey Results
Figure 6	Groundwater Risk Screening Approach
Figure 7	Approach for Refined Groundwater Risk Evaluation
Figure 8	Surface Water Risk Screening Approach
Figure 9	Surface Water Sample Locations
	LIST OF APPENDICES
Appendix A	Plant Arkwright Well Survey
Appendix B	Data Used in Risk Evaluation
Append	x B-1 Groundwater Data
Append	x B-2 Surface Water Data
Appendix C	USEPA RSL Calculator Generated Residential Screening Levels
Appendix D	Support for Refined Risk Evaluation
Appendix	D-1 Exposure Point Concentration Calculation Results
Appendix	D-2 Exposure Point Concentration Figure
Appendix	D-3 ProUCL Input/Output Files
Appendix	D-4 Groundwater Trend Graph

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 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 an 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.

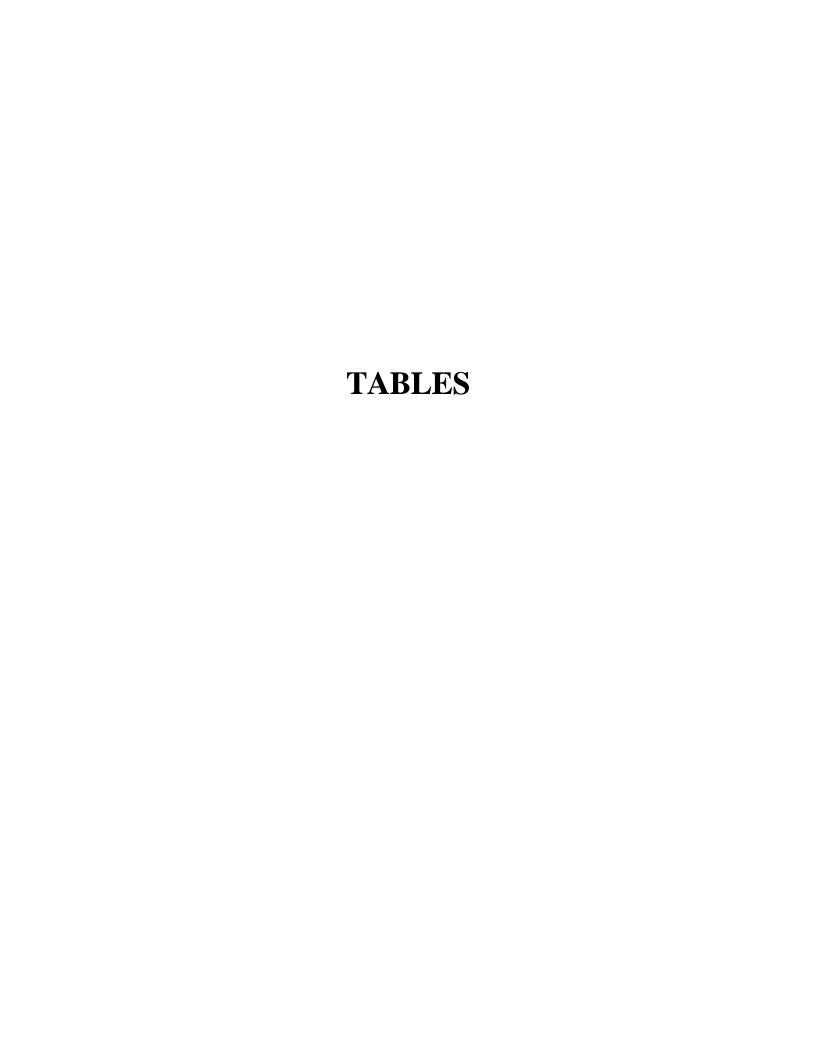
Accordingly, no further risk evaluation for groundwater and surface water is warranted. Compliance monitoring for AP-2 under the State CCR Rule will continue. Georgia Power will proactively evaluate the data and update this evaluation, if necessary.

7 REFERENCES

- Atlantic Coast Consulting (ACC), Inc., 2020. First Semi-annual Groundwater Monitoring Report, Georgia Power Company Closed Ash Pond No. 2 Dry Ash Stockpile February 2020.
- Carroll County, 2018. Carroll County Zoning Map. Located at <a href="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018?bidId="https://carrollcountyga.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-Map-2018.com/DocumentCenter/View/116/Zoning-New/116/Zoning-New/116/Zoning-New/116/Zoning-New/116/Zoning-New/116/Zoning-New/116/Zoning-New/116/Zoning-New/116/Zoning-New/116/Zoning-New/116/Zoning-N
- Bibb County, 2020. Bibb County Zoning Map and LDGS Total Points. Bibb County Community Development. Located at https://Bibbmaps.maps.arcgis.com/apps/webappviewer/index.html?id=a1aa357d5 c50483a817bf14b54df65ba
- EPD, 2009. Georgia Voluntary Remediation Act, OCGA 12-8-100, June 1, 2009.
- EPD, 2015. Water Use Classification and Water Quality Standards, 391-3-6-.03, effective May 1, 2015. Georgia Instream Water Quality Criteria.

 Available at: https://epd.georgia.gov/watershed-protection-branch/georgia-water-quality-standards.
- EPD, 2018a. Coal Combustion Residuals, 391-3-4-.10, effective March 28, 2018.
- EPD, 2018b. Hazardous Site Response Act, Georgia Department of Natural Resources, Environmental Protection Division, Chapter 391-3-19-0.07. Revised September 25, 2018.
- Jacobs, 2018a. CCR Unit Permit Application Part A, Former Plant Arkwright AP2-DAS Landfill. November 2018.
- Jacobs, 2018b. CCR Unit Permit Application Part B, Former Plant Arkwright AP2-DAS Landfill. November 2018.
- Jones County, 2007. Joint Comprehensive Plan for Jones County and City of Gray. June 2007. Available at https://www.dca.ga.gov/sites/default/files/jones_county_comp_plan_update_cag_2007_0.pdf.
- NewFields, 2020. Plant Arkwright Well Survey, Ash Pond No. 2 Dry Ash Stockpile and AP-3 Landfill and Monofill. March 2020.
- USEPA, 1989. Risk Assessment Guidance for Superfund Volume 1 Human Health Evaluation Manual (Part A). EPA/540/1-89/002.

- USEPA, 2002. Supplemental Guidance to Risk Assessment for Superfund:Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. Publication Number 9285 .6-10. Office of Solid Waste and Emergency Response. December 2002.
- USEPA, 2008. Provional Peer Reviewed Toxicity Values for Cobalt. EPA/690/R-08/008F. August 25, 2008. Available at https://cfpub.epa.gov/ncea/pprtv/documents/Cobalt.pdf
- USEPA, 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery Program Implementation and Information Division. March.
- USEPA, 2014. Memorandum for Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. OSWER Directive 9283.1-42, February 2014. Available at: https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236917.
- USEPA, 2015. ProUCL Version 5.1 User Guide. Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations, Office of Research and Development, EPA/600/R-07/041. October 2015.
- USEPA, 2016. Statistical Software ProUCL 5.1.00 for Environmental Applications for Data Sets with and without Nondetect Observations, last updated June 20, 2016.
- USEPA, 2020a. Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. 40 CFR Part 257. Effective Date October 14, 2015. Last amended August 28, 2020 with a final Effective Date of September 28, 2020.
- USEPA, 2020b. USEPA Regional Screening Levels. Revised May 2020. Available at: www.epa.gov/risk/regional-screening-levels-rsls-generic-tables.
- Water Quality Portal, 2020. Water Quality Portal Cooperative Service Sponsored by United States Geological Survey, USEPA, and National Water Quality Monitoring Council. Accessed on November 16, 2020. Available at https://www.waterqualitydata.us/.
- Wood, 2020. 2020 Annual Groundwater Monitoring and Corrective Action Report. Georgia Power Company Plant Arkwright, Ash Pond 2 Dry Ash Stockpile. July 2020.



Prepared by/Date: IMR 10/06/20

Checked by/Date: LMS 10/26/20

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	Υ	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	Υ	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: DL 5/29/20

Checked by/Date: PC 6/1/20

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 5/29/20

Checked 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	Ν	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

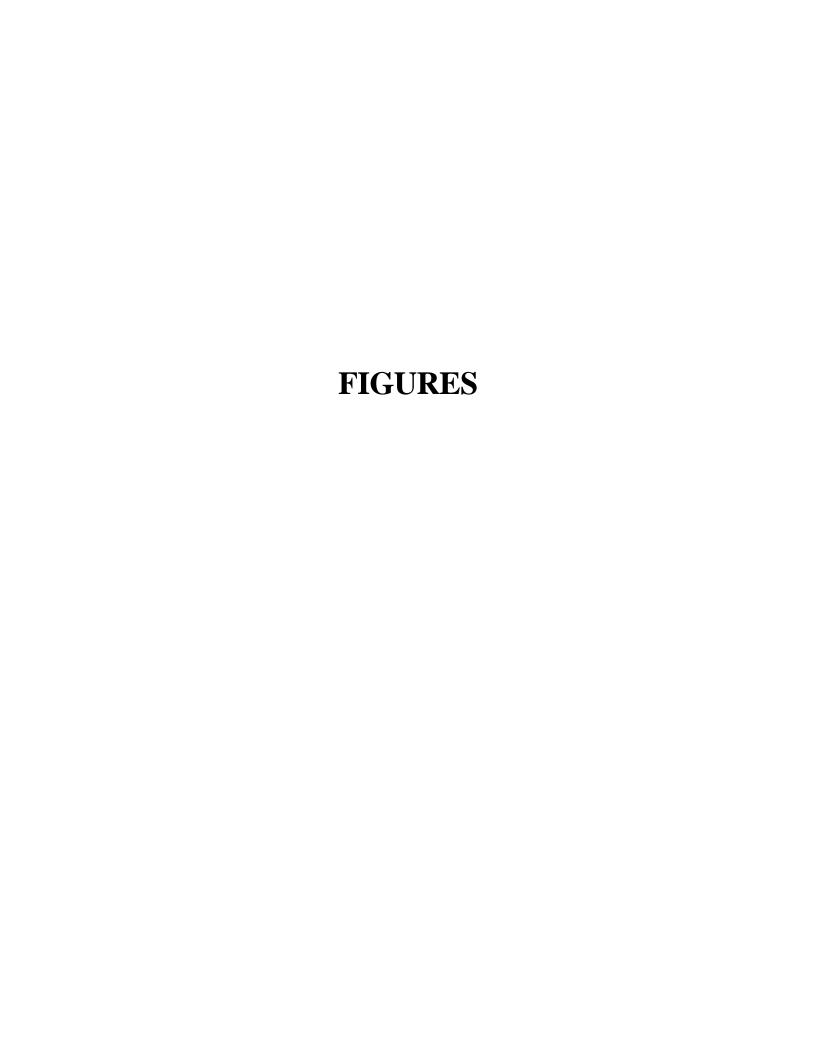
CAS = Chemical Abstract Service

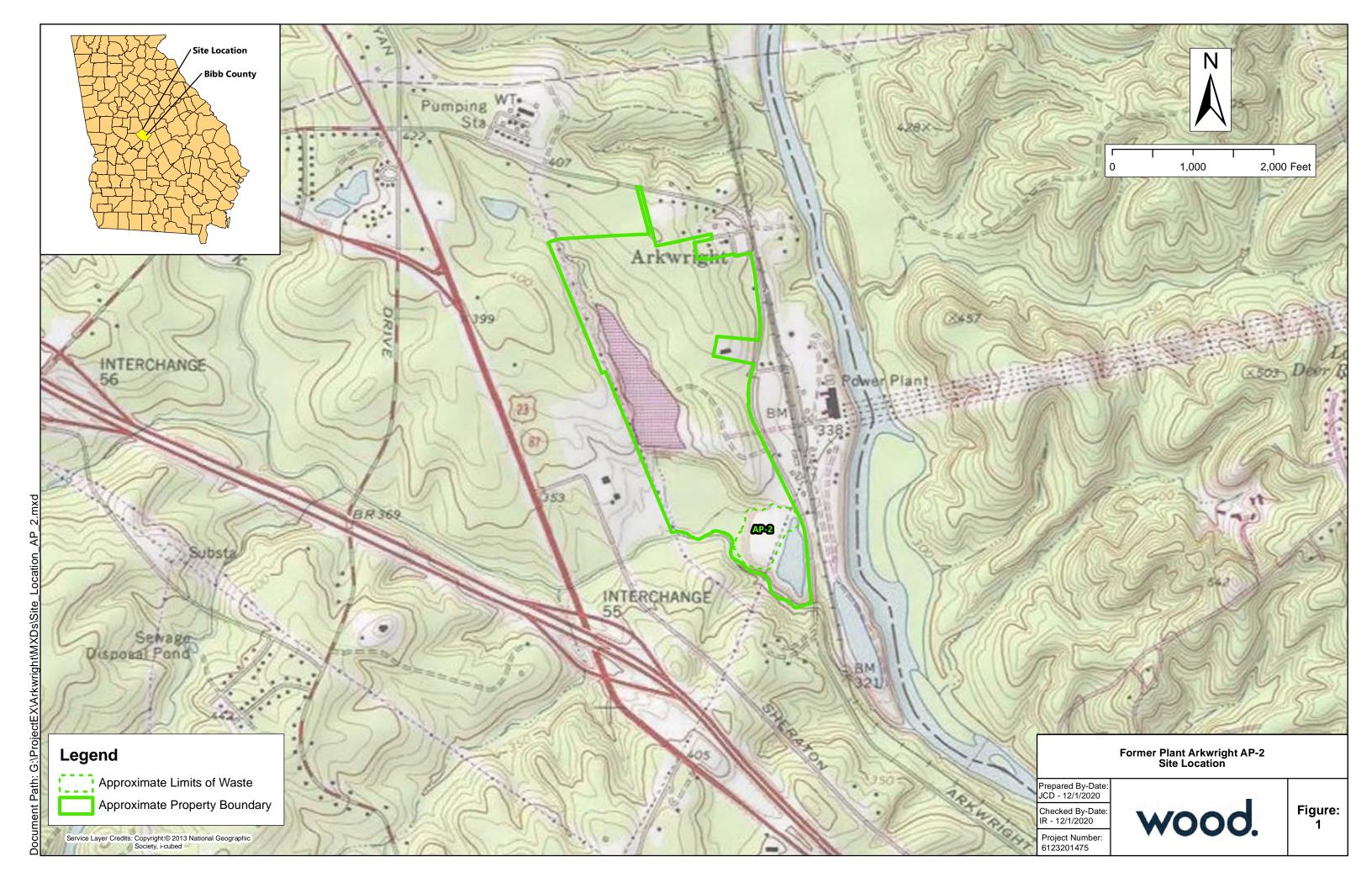
CCR = Coal Combustion Residuals

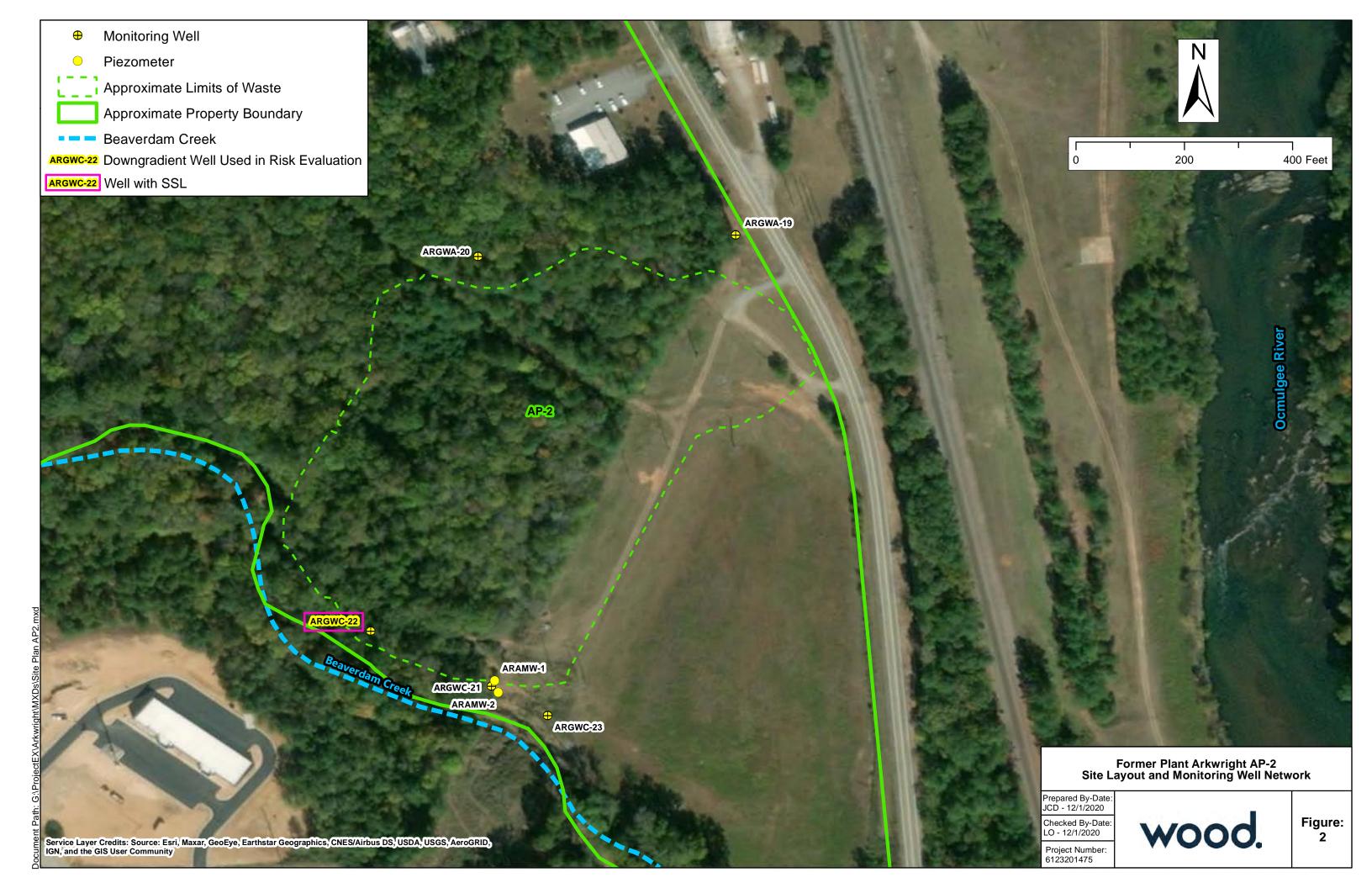
COPI = Constituent of Potential Concern

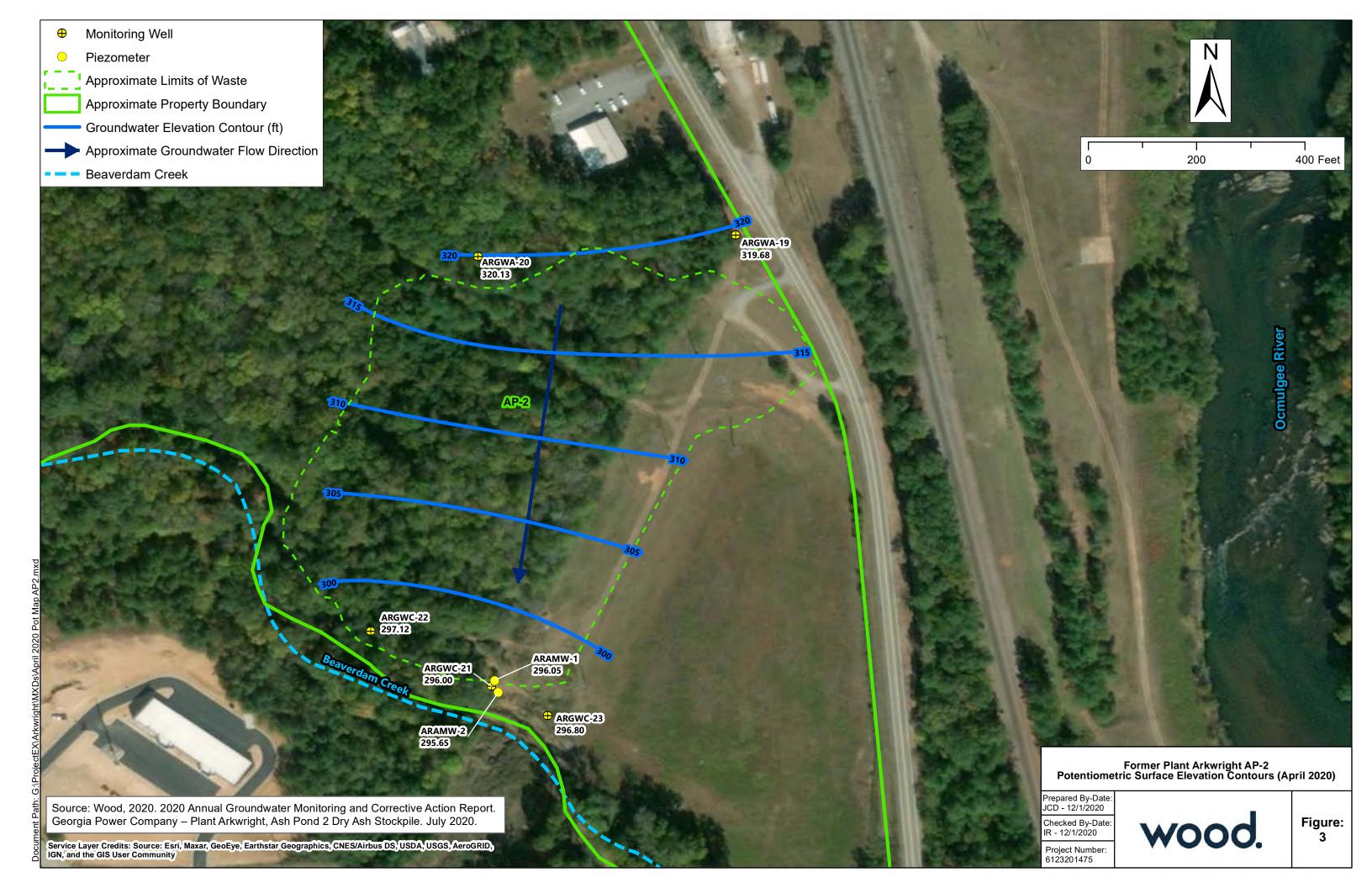
EPA = United States Environmental Protection Agency

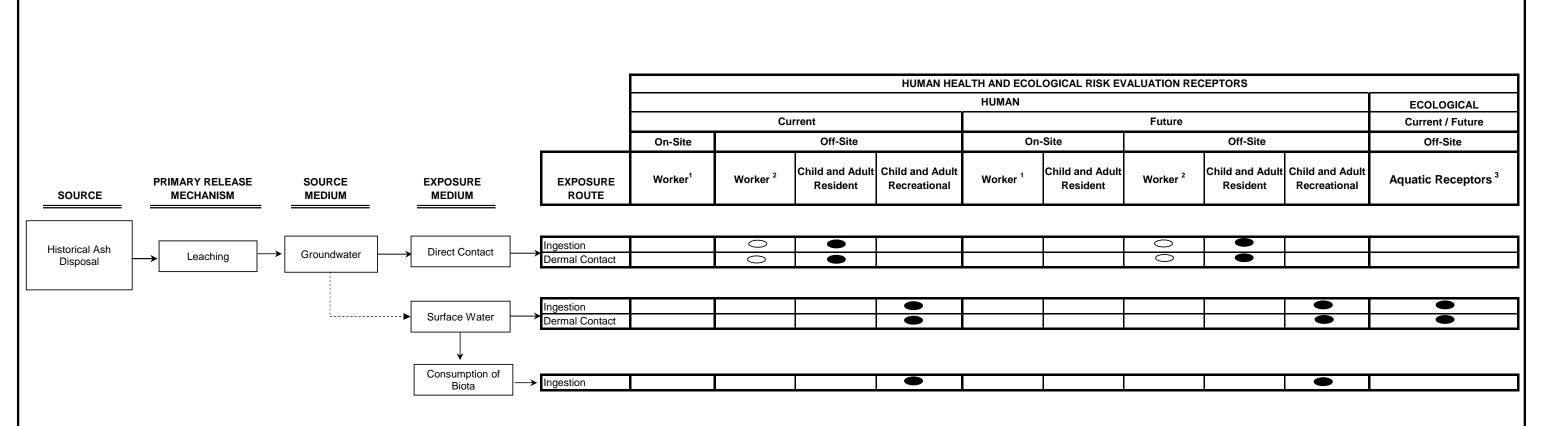
GA ISWQC = Georgia Instream Water Quality Criteria











Legend

A conservative assumption for this assessment was made that groundwater from the site flows to the downgradient surface water.

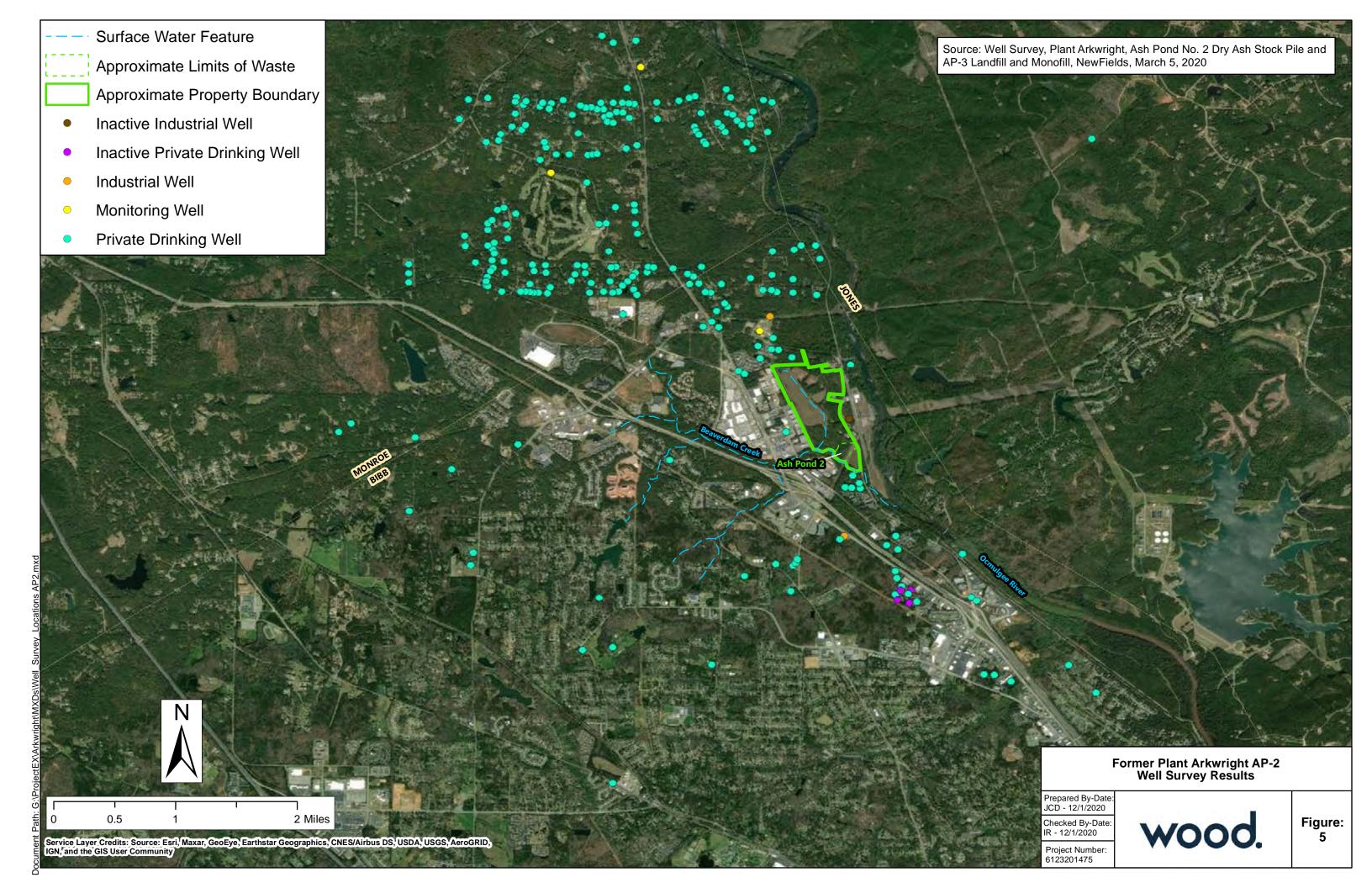
Indicates potentially complete pathway, which is evaluated quantitatively.

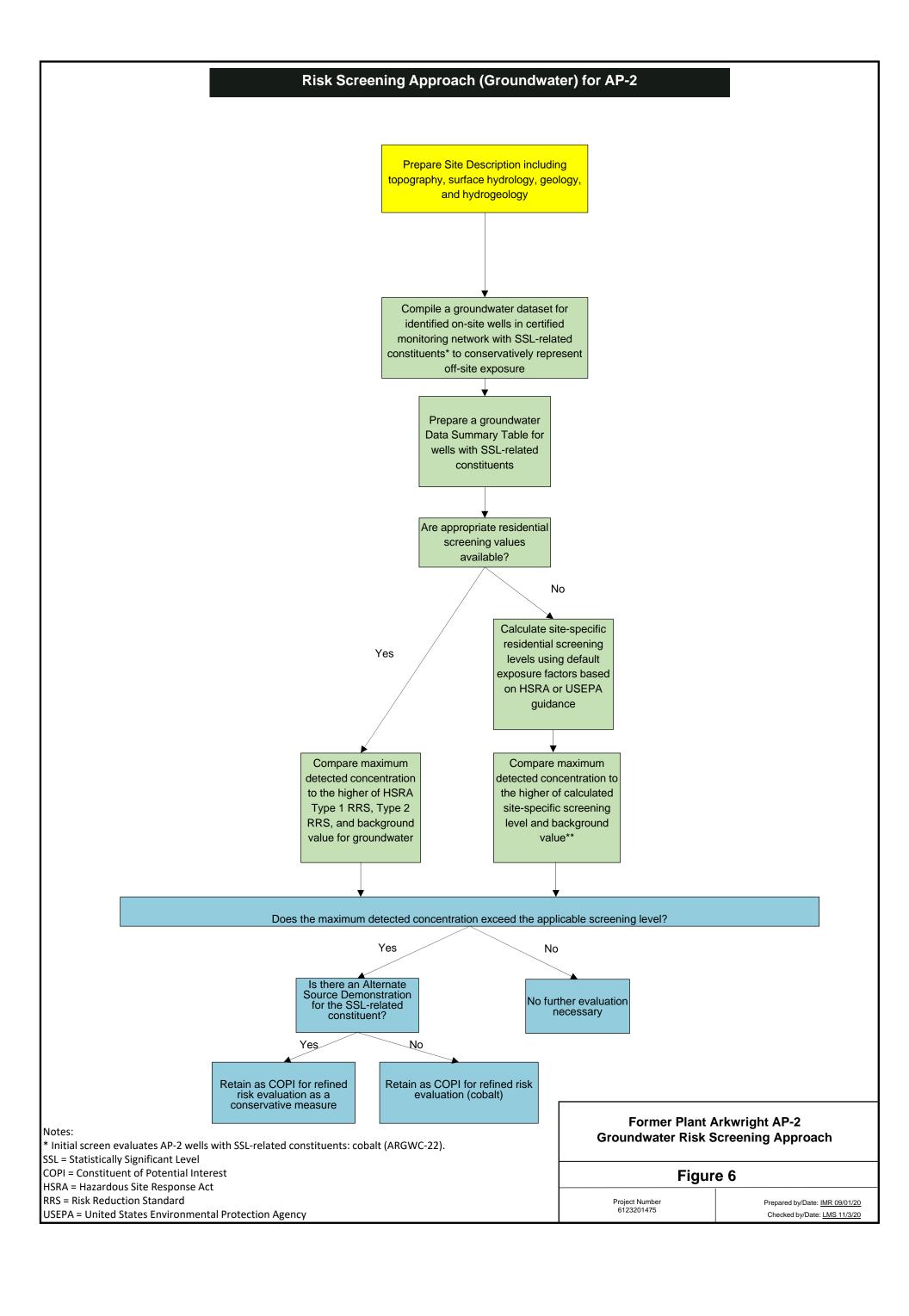
Indicates potentially complete pathway, which is evaluated qualitatively.

Footnotes

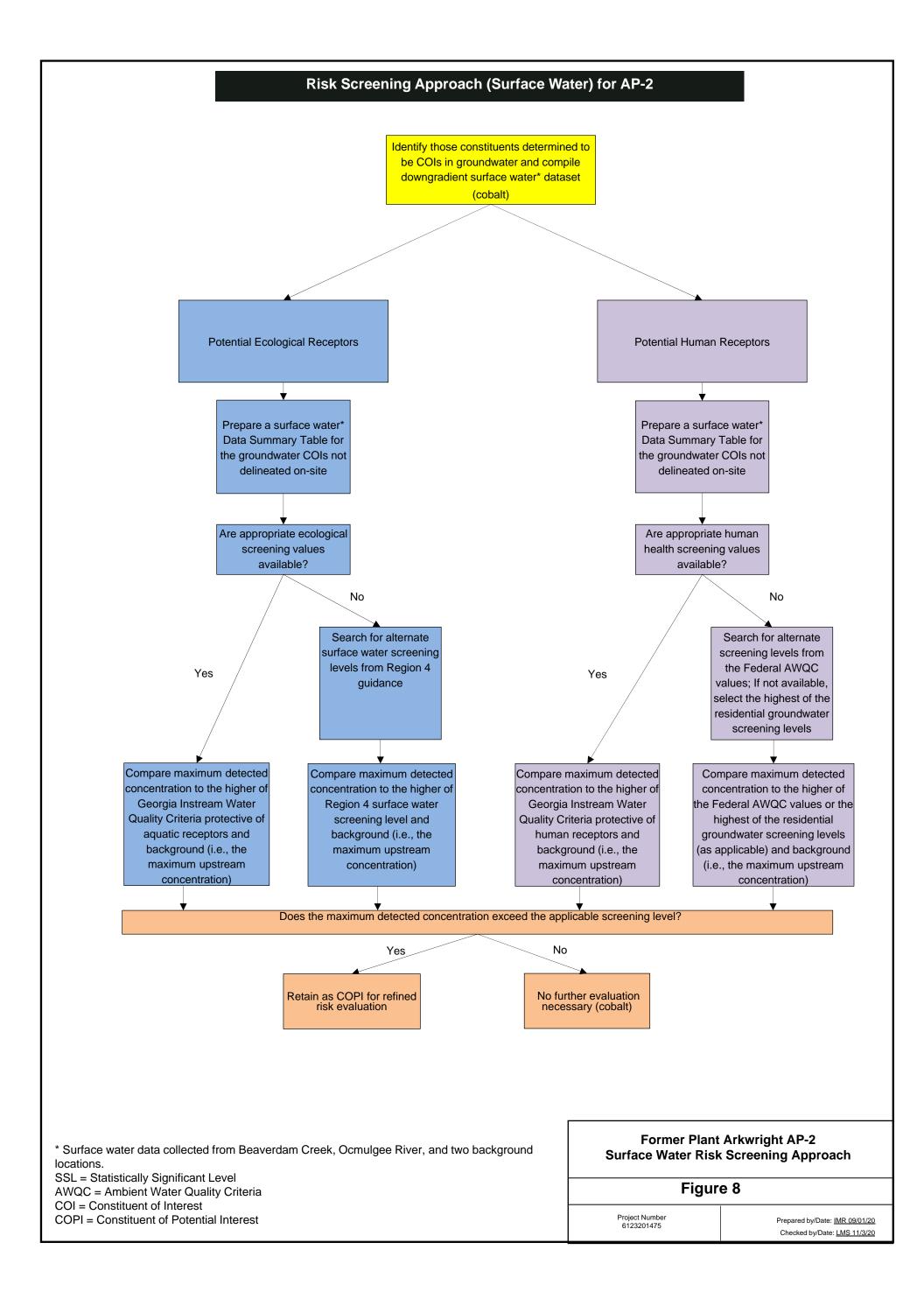
- 1. Industrial worker was considered incomplete because there are no wells on-site that are classified for use as potable wells. On-site construction workers would be expected to have little to no direct contact with on-site groundwater due to safety procedures outlined in their site-specific health 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.

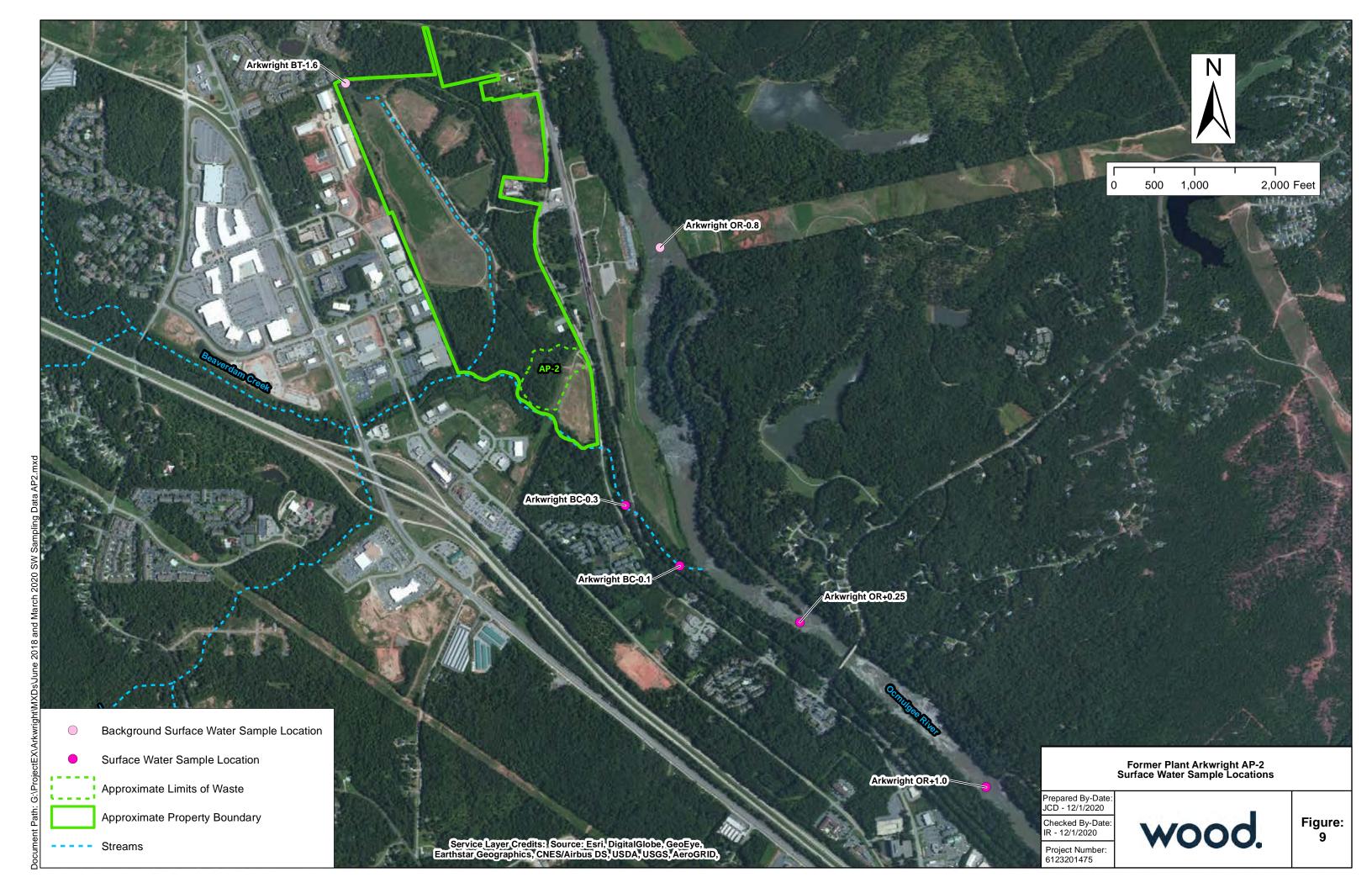
Former Plant Ar Conceptual Exp	_
Figure	4
Project Number 6123201475	Prepared by/Date: IMR 10/01/20 Checked by/Date: LMS 11/3/20





Approach for Refined Risk Evaluation (Groundwater) for AP-2 Identify COPIs in groundwater from initial screen of SSL-related constituents (cobalt) Compile groundwater dataset for each COPI using: 1) the well identified with SSL-related constituents; 2) combine well with SSL-related constituent with wells/piezometers in the same hydrologically downgradient direction; and 3) refine to the farthest hydrologically downgradient wells only Prepare a ProUCL Input file for the identified COPIs and selected datasets Calculate and compare the 95 UCL to the screening level* and generate concentration trend graph for each well with SSLrelated constituent and COPI Does the EPC exceed the applicable screening level? Yes No Further evaluation No further evaluation necessary; retain as COI necessary (cobalt) Potential for migration to off-site receptors (i.e., surface water) Yes No Recommendations may Evaluate the presence of the include additional data COI in surface water collection (i.e., additional (cobalt) monitoring or well installation) Former Plant Arkwright AP-2 Notes: Approach for Refined Groundwater Risk *If the 95 UCL exceeds the maximum concentration, use the maximum as the EPC. **Evaluation** SSL = Statistically Significant Level COPI = Constituent of Potential Interest Figure 7 EPC = Exposure Point Concentration Project Number 6123201475 UCL = Upper Confidence Limit Prepared by/Date: IMR 09/01/20 Checked by/Date: LMS 11/3/20 COI = Constituent of Interest





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. 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

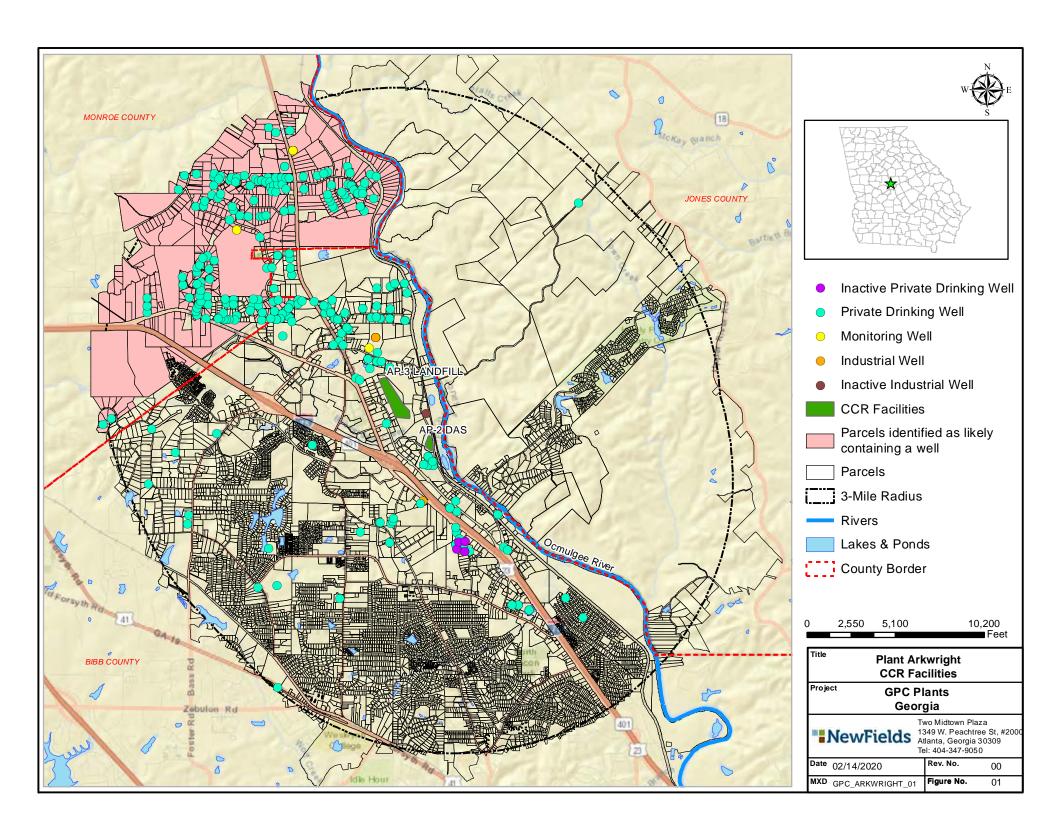
Municipal water from the Macon Water Authority is widely available throughout the Bibb County portion of the Investigated Area. Some water lines dates as far back as 1922, with the majority of the water lines around the plant being built in the 1970s, when the nearby homes were constructed. Municipal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

PLANT ARKWRIGHT WELL SURVEY

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.





APPENDIX B Data Used in Risk Evaluation

APPENDIX B-1 Groundwater Data

Prepared by/Date: LO 10/26/20

Checked by/Date: IMR 10/26/20

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

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	Т		ND	0.000371	0.005
Beaverdam	BC-0.1	Downgradient	03/02/20	7440-48-4	Cobalt	mg/L	Т	0.00063	J	0.0003	0.005
Beaverdam	BC-0.3	Downgradient	03/02/20	7440-48-4	Cobalt	mg/L	Т	0.00071	J	0.0003	0.005
Ocmulgee	OR+0.25	Downgradient	06/08/18	7440-48-4	Cobalt	mg/L	Т		ND	0.000371	0.005
Ocmulgee	OR+1.0	Downgradient	06/08/18	7440-48-4	Cobalt	mg/L	Т		ND	0.000371	0.005
Ocmulgee	OR+0.25	Downgradient	03/02/20	7440-48-4	Cobalt	mg/L	Т	0.0005	J	0.0003	0.005
Ocmulgee	OR+1.0	Downgradient	03/02/20	7440-48-4	Cobalt	mg/L	Т	0.0005	J	0.0003	0.005
Beaverdam	BT-1.6	Background	06/08/18	7440-48-4	Cobalt	mg/L	Т	0.000709	J	0.000371	0.005
Beaverdam	BT-1.6	Background	03/02/20	7440-48-4	Cobalt	mg/L	Т		ND	0.0003	0.005
Ocmulgee	OR-0.8	Background	06/08/18	7440-48-4	Cobalt	mg/L	Т		ND	0.000371	0.005
Ocmulgee	OR-0.8	Background	03/02/20	7440-48-4	Cobalt	mg/L	Т	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

Prepared by/Date: LO 11/02/20 Checked by/Date: IMR 11/02/20 T - Total

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

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
l _{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

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

6123201475 Page 2 of 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.

					SF.	SF	IUR	IUR	RfD	RfD	RfC	RfC		K	
Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	(mg/kg-day) ⁻¹		(ug/m ³) ⁻¹	Ref	(mg/kg-day)	Ref	(mg/m ³)	Ref	GIABS	(cm/hr)	MW
Cobalt	7440-48-4	No	No	Inorganics	-		9.00E-03	Р	3.00E-04	Р	6.00E-06	Р	1.00E+00	4.00E-04	5.89E+01

6123201475 Page 1 of 5

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.

					В	t [*]	T _{event}	FA					MCL
Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	(unitless)	(hr)	(hr/event)	(unitless)	In EPD?	DA _{event (ca)}	DA _{event (nc child)}	DA _{event (nc adult)}	(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	-

6123201475 Page 2 of 5

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)
	Onemou	OAO Italiibei	matagen.	Volutile.	Onemiodi Type	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Co	obalt	7440-48-4	No	No	Inorganics	-	-	-	-	6.02E+00	3.41E+03

6123201475 Page 3 of 5

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	Noncarcinogenic SL Child THI=1	Ingestion SL Adult THQ=1	Dermal SL Adult THQ=1	Inhalation SL Adult THQ=1
Chemical	CAS Nullibel	widiagen?	voiatile	Chemical Type	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Cobalt	7440-48-4	No	No	Inorganics	-	6.01E+00	1.00E+01	4.48E+03	-

6123201475 Page 4 of 5

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

6123201475 Page 5 of 5

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

						EPC Step 1	EPC Step 2	EPC Step 3
CCR Rule Designation	Constituent	Well IDs Included	Maximum Concentration	Detection Frequency	Exceedance Frequency	Individual Target Well(s)	Target Well(s) & Downgradient Well(s)	Farthest Downgradient Well(s)
						2016-2020	2016-2020	2016-2020
			(mg/L)			(mg/L)	(mg/L)	(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.

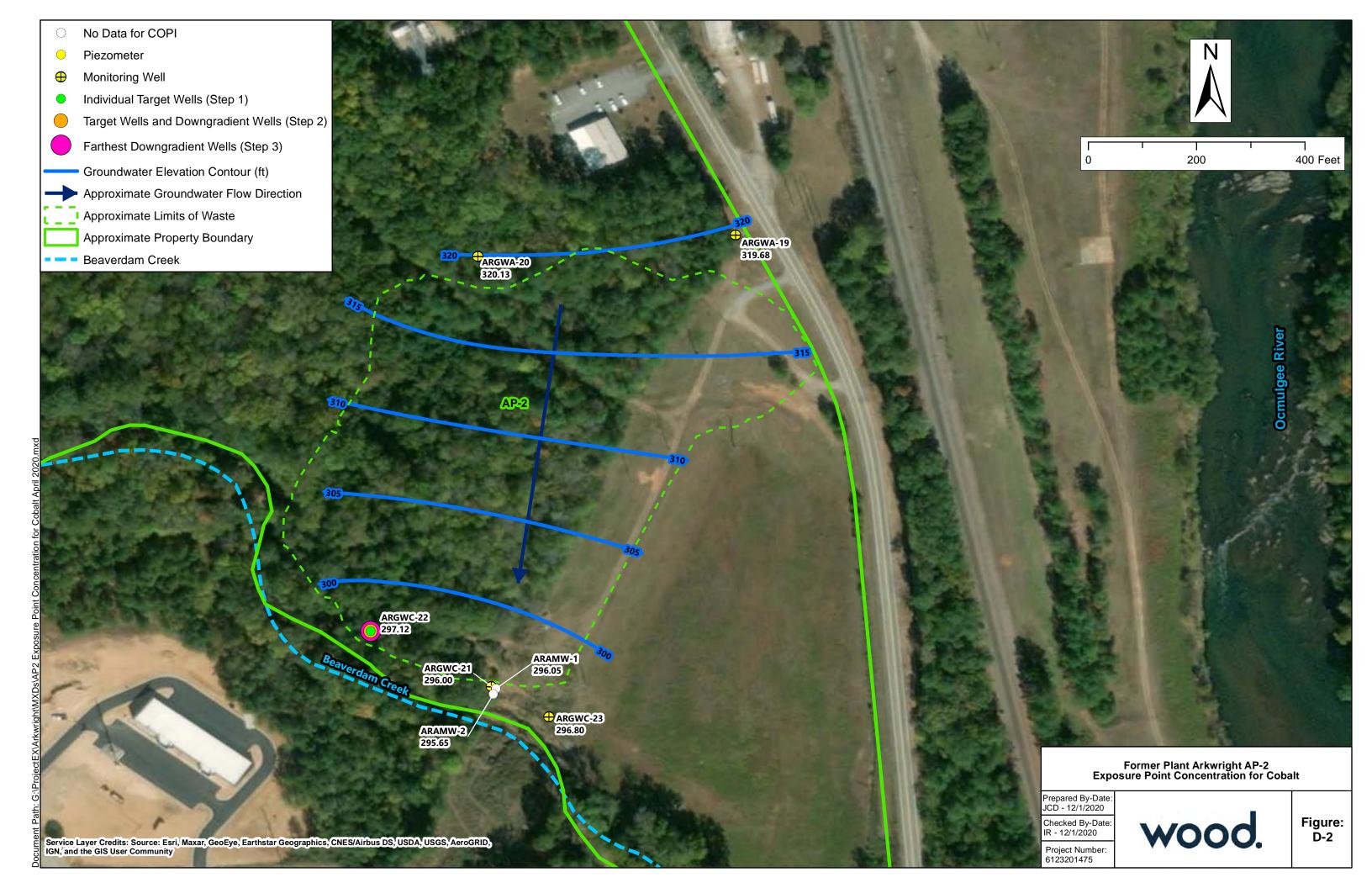
1 - EPCs calculated in accordance with USEPA, 2014. Memorandum for Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. OSWER Directive 9283.1-42, February 2014. Located at https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236917

Definitions:

EPC = Exposure Point Concentration mg/L = milligrams per liter Prepared by/Date: <u>IMR 10/06/20</u> Checked by/Date: <u>LMS 10/26/20</u>

6123201475 Page 1 of 1

Appendix D-2 Exposure Point Concentration Figure



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: <u>LO 10/01/20</u> Checked by/Date: <u>IMR 10/26/20</u>

6123201475 Page 1 of 1

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

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
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

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

Detected data appear Gamma Distributed at 5% Significance Level

6123201475 Page 1 of 2

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

Gamma	Ctal		
t-amma	SIRI	II ST	ıcs.

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	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.187	Lilliefors Lognormal GOF Test
5% Lilliefors Critical Value	0.325	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.

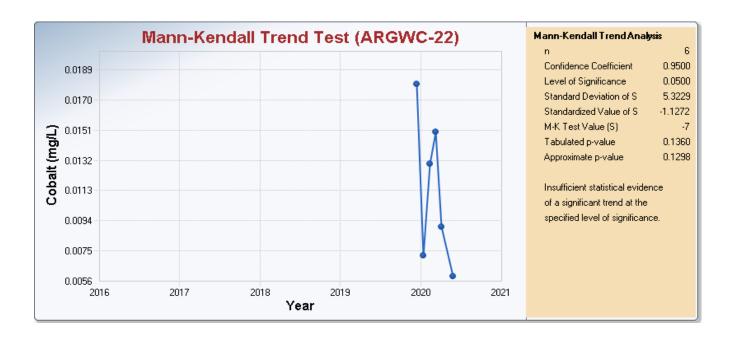
Recommendations are based upon data size, data distribution, and skewness.

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.

6123201475 Page 2 of 2

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

6123201475 Page 1 of 1

Assessment of Corrective Measures Report Georgia Power Company – Plant Arkwright Ash Pond 2 Dry Ash Stockpile 12/4/2020

APPENDIX B

Security Security	sou	THERN A	NY	RILLING L				Hole No.	GWA-	19
COATION Solid Waste Management Area Solid Waste Waste Management Area Solid Waste		to Serve Your \	World [™] GEOL							
Second S	SITE									
Marian M										
CASHING SUPE LEWITH COME SUPE TOTAL % REC.										
Martin Table DePHy 28.1 RILEY TIME AFTER COOK DATE TAKEN 12/18/2008	DRILLII		·	· · · · · · · · · · · · · · · · · · ·				·		
Type GROUT New N							_			
Same Same Same Prevention Feat No. No. Risk Risk										
Repert R		DRILLER	S. Milam RECORDER L. Garland	APPROVED			LLING COM	IP. DATE	12/16/200	8
1 339.65 2 338.65 3 337.65 4 336.65 5 335.65 6 334.65 7 333.65 8 332.65 9 331.65 10 330.66 11 329.66 12 328.65 13 327.65 14 326.55 15 325.65 16 324.65 17 323.65 18 322.65 19 321.65 20 320.65 21 319.66 22 318.66 23 317.65 24 316.65	Depth	Elev.	Material Description, Classification and Remarks				N	Comments	% Rec	RQD
2 338.65 3 337.65 4 336.65 5 335.65 Yellow brown sandy SiLT 1 4.5-6 5-5-5 10 334.65 7 333.65 8 332.65 9 331.65 10 330.65 11 329.65 12 328.65 13 327.65 14 326.65 15 325.65 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	0	340.65								
3 337.65 4 336.65 5 335.65 6 334.65 7 333.65 8 332.65 9 331.65 10 330.65 11 329.65 12 328.65 13 327.65 14 326.65 15 325.65 16 324.65 17 323.65 18 322.65 19 321.65 20 320.65 22 318.65 22 318.65 23 317.65 24 316.66	1	339.65								
4 336.65 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 10 330.65 10 330.65 10 11 329.65 12 328.65 12 328.65 13 327.65 14 326.65 13 327.65 14 326.65 13 324.65 14 5-7-9 14 14 14 326.65 14 323.65 19 321.65 19 321.65 20 320.65 Same as above 4 19.5-21 6-9-11 20 20 319.65 22 318.65 23 317.65 24 316.65 19 317.65 24 316.65 19 317.65 24 316.65 19 317.65 24 316.65 19 317.65 24 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65 316.65	2	338.65								
5 335.65 6 334.65 7 333.65 8 332.65 9 331.65 10 330.65 11 329.65 12 328.65 13 327.65 14 326.65 15 325.65 17 323.65 18 322.65 19 321.65 20 320.65 21 319.65 22 318.65 23 317.65 24 316.65	3	337.65								
6 334.65 7 333.65 8 332.65 9 331.65 10 330.65 11 329.65 12 328.65 13 327.65 14 326.65 15 325.65 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	4	336.65								
7 333.65 8 332.65 9 331.65 10 330.65 11 329.65 12 328.65 13 327.65 14 326.65 15 325.65 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	5	335.65	Yellow brown sandy SILT	1	4.5-6	5-5-5	10			
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 16 324.65 17 323.65 18 322.66 19 321.65 20 320.65 21 319.65 22 318.65 23 317.65 24 316.65	6	334.65								
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	7	333.65								
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 24 316.65	8	332.65								
11 329.65 12 328.65 13 327.65 14 326.65 15 325.65 16 324.65 17 323.65 18 322.65 19 321.65 20 320.65 21 319.65 22 318.65 23 317.65 24 316.65	9	331.65								
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	10	330.65	Same as above	2	9.5-11	5-5-5	10			
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 21 319.65 22 318.65 23 317.65 24 316.65	11	329.65								
14 326.65 15 325.65 16 324.65 17 323.65 18 322.65 19 321.65 20 320.65 21 319.65 22 318.65 23 317.65 24 316.65	12	328.65								
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	13	327.65								
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	14	326.65								
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	15	325.65	Same as above	3	14.5-16	5-7-9	14			
18 322.65 19 321.65 20 320.65 Same as above 4 19.5-21 6-9-11 20 319.65 22 318.65 23 317.65 24 316.65	16	324.65								
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	17	323.65								
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	18	322.65								
21 319.65 22 318.65 23 317.65 24 316.65	19	321.65								
22 318.65 23 317.65 24 316.65	20	320.65	Same as above	4	19.5-21	6-9-11	20			
23 317.65 24 316.65	21	319.65								
24 316.65	22	318.65								
	23	317.65								
			0							

SOUTHERN AS COMPANY
Energy to Serve Your World

DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-19
Sheet 2 of 2

Former Plant Arkwright 49.7 SITE TOTAL DEPTH SURF.ELEV. 340.6522 Standard Penetration Test Depth Elev. Material Description, Classification and Remarks No. From To Blows Ν Comments % Rec RQD 5 16-50/2 R 315.65 Yellow and brown silty SAND, medium to fine grained 24.5-26 25 26 314.65 27 313.65 28 312.65 29 311.65 310.65 6 29.5-31 50/4 R 30 Same as above 309.65 31 32 308.65 Auger refusal 32.8' 33 307.65 33-34.7 Biotite gneiss, highly weathered, heavily fractured, 100 306.65 heavy weathering on fracture faces 34 35 305.65 34.7-39.7 304.65 Same as above with less weathering 96 36 37 303.65 302.65 38 39 301.65 300.65 40 Biotite gneiss, unweathered to slightly weathered, 39.7-44.7 84 moderately to heavily fractured, with slight to 299.65 41 moderatly weathered fracture faces 42 298.65 43 297.65 296.65 45 295.65 Same as above 44.7-49.7 76 46 294.65 293.65 47 48 292.65 291.65 49 49.7' - Bottom of boring 50 290.65 51 289.65 52 288.65 287.65 53 54 286.65 285.65 55 284.65

WELL CONSTRUCTION LOG

Southern Company Generation

WELL CONSTRUCTION LOG	Southern Company Gener	alion	
PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.		WELL
Solid Waste Management Unit	DRILLER: S. Milam		NAME
LOCATION: Ash Ponds 1, 2, 3	RIG TYPE: CME 550		O)A/A 40
LOGGER: L. Garland DATE CONSTRUCTED: 12/16/2008	DRILLING METHODS: HSA, HQ Rock Core		GWA-19
DATE CONSTRUCTED. 12/16/2006			
		DEPTH	ELEVATION
	_	FEET	FT, MSL
Locking Hinged Top ————			
1/4-inch Vent	TOP OF RISER	-2.82	343.48
1/4-inch Weep Hole	2" Threaded Riser Cap		
	·		
	1		
	Pea Gravel in annular space		
4-ft x 4-ft x 4" concrete pad	r ea Graver in armular space		
	GROUND SURFACE	0.00	340.65
	OKOOND GOK! AGE	0.00	040.00
	PROTECTIVE CASING		
	SIZE: 4x4-inch		
	TYPE: Anodized Aluminum		
	☆		
	BOTTOM OF PROTECTIVE CASING		
	BACKFILL MATERIAL		
	TYPE: Portland Cement Grout		
	AMOUNT: 6 bags @ 1.3 cf/bag = 7.80 cf		
	RISER CASING		
	DIA: 2-inch		
	TYPE: Schedule 40 PVC		
	JOINT TYPE: Flush Threaded		
	TOP OF SEAL	35.00	305.65
	ANNULAR SEAL		
	TYPE: 1/4-inch coated bentonite pellets		
	5-gal buckets		
	AMOUNT: 1 bucket PLACEMENT: Tremie		
		37.00	303.65
	TOP OF FILTER PACK FILTER PACK	37.00	303.00
	TYPE: DSI Sand - 1A (20/30)		
	Drillers Services, Inc.		
	AMOUNT: 2 bags; 50 lbs/bag		
	PLACEMENT: Tremie; wash with water		
	BOTTOM OF RISER / TOP OF SCREEN	39.68	300.97
	SCREEN		
	DIA: 2-inch		
	TYPE: Schedule 40 PVC Prepack		
	OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted		
	SLOT SPACING: 0.25-inch		
	SLOT SPACING: 0.23-Inch		
	BOTTOM OF SCREEN	49.68	290.97
	23.13.113. 30KEEN		
	BOTTOM OF CASING	49.98	290.68
	-		
HOLE DIA	A: 9"		

Part	sou	THERN A	DRILL					Hole No.	G	WA-20	
COATION Solid Waste Management COATION Solid Waste Management		to Serve Your \	Vorld GEOLOGIC								
MAIN	SITE								_		
Market M											
CASING SIZE											
MATER TABLE DEPTH 15 ELEV. TIME AFTER COMP. DATE TAKEN 12/14/2008	DRILLIN	NG METHOD	HSA NO. SAMPLE	s	/	NO.	U.D. SAMF	PLES			-
Type Part											
Depth Dept											
Material Placery Material Pl											
0 328.63 1 37.63 2 32.63 3 325.63 4 324.63 5 323.63 6 322.63 7 321.63 8 320.63 9 319.63 10 318.63 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 14 310.63 17 311.63 18 310.63 19 309.63 20 308.63 21 307.63 22 306.63 23 305.63 24 304.63	Denth	Flev	Material Description Classification and Remarks				N	Comments	3	% Pec	ROD
1 327.63 2 326.63 3 325.63 4 324.63 5 323.63 6 322.63 7 321.63 8 320.63 9 319.63 10 318.63 11 317.63 12 316.63 13 315.63 14 314.63 15 313.63 Gray/sh yellow clayey SILT, with sand 3 14.5-16 3 12.63 17 311.63 18 310.63 19 309.63 20 306.63 21 307.63 22 306.63 23 305.63 24 304.63										70 RCC	
3 325.63 4 324.63 5 323.63 6 322.63 7 321.63 8 320.63 9 319.63 10 318.63 11 317.63 12 316.63 13 315.63 14 314.63 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 21 307.63 22 306.63 23 305.63 24 304.63	1	327.63									
4 324.63 5 323.63 Reddish brown sandy SILT, with clay 1 4.5-6 3-3-3 6 8 320.63 9 319.63 10 318.63 11 317.63 12 316.63 13 315.63 14 314.63 Grayish yellow clayey SILT, with sand 3 14.5-16 3-6-8 14 310.63 19 309.63 20 308.63 Dark yellow brown silty SAND, fine to medium grained, micaceous 2 306.63 2 306.63 2 306.63 2 306.63 2 306.63 2 306.63	2	326.63									
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 9 319.63 9 319.63 9 319.63 9 319.63 9 319.63 9 319.63 9 319.63 9 319.63 319.63 319.63 319.63 319.63 319.63 319.63 309.63 <t< td=""><td>3</td><td>325.63</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	3	325.63									
6 322.63 7 321.63 8 320.63 9 319.63 10 318.63 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 21 307.63 22 306.63 23 305.63 24 304.63	4	324.63									
7 321.63 8 320.63 9 319.63 10 318.63 11 317.63 12 316.63 13 315.63 14 314.63 15 313.63 16 312.63 17 311.63 18 310.63 19 309.63 20 308.63 21 307.63 22 306.63 23 305.63 24 304.63	5	323.63	Reddish brown sandy SILT, with clay	1	4.5-6	3-3-3	6				
8 320.63 9 319.63 10 318.63 11 317.63 12 316.63 13 315.63 14 314.63 15 313.63 16 312.63 17 311.63 18 310.63 19 309.63 20 308.63 21 307.63 22 306.63 23 305.63 24 304.63	6	322.63									
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 21 307.63 22 306.63 23 305.63 24 304.63	7	321.63									
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 21 307.63 22 306.63 24 304.63	8	320.63									
11 317.63 12 316.63 13 315.63 14 314.63 15 313.63 16 312.63 17 311.63 18 310.63 19 309.63 20 308.63 21 307.63 22 306.63 23 305.63 24 304.63	9	319.63									
12	10	318.63	Same as above	2	9.5-11	3-4-5	9				
13	11	317.63									
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 21 307.63 22 306.63 23 305.63 24 304.63	12	316.63									
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 21 307.63 22 306.63 23 305.63 24 304.63	13	315.63									
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 21 307.63 22 306.63 23 305.63 24 304.63	14	314.63									
17 311.63 18 310.63 19 309.63 20 308.63 21 307.63 22 306.63 23 305.63 24 304.63	15	313.63	Grayish yellow clayey SILT, with sand	3	14.5-16	3-6-8	14				
18	16	312.63									
19 309.63 20 308.63 Dark yellow brown silty SAND, fine to medium grained, micaceous 21 307.63 22 306.63 23 305.63 24 304.63	17	311.63									
20 308.63 Dark yellow brown silty SAND, fine to medium grained, micaceous 9 21 307.63 22 306.63 23 305.63 24 304.63	18	310.63									
21 307.63 micaceous 22 306.63 23 305.63 24 304.63	19	309.63									
21 307.63 22 306.63 23 305.63 24 304.63	20	308.63		4	19.5-21	6-4-5	9				
23 305.63 24 304.63	21	307.63	micaceous								
24 304.63	22	306.63									
	23	305.63									

SOUTHERN COMPANY
Energy to Serve Your World

DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-20
Sheet 2 of 2

Former Plant Arkwright 36 SITE TOTAL DEPTH SURF.ELEV. 328.63308 Standard Penetration Test Depth Elev. Material Description, Classification and Remarks No. From To Blows Ν Comments % Rec RQD 5 24.5-26 6-8-9 17 303.63 Tan silty SAND, fine to coarse grained 25 26 302.63 301.63 27 300.63 28 29 299.63 30 298.63 Dark yellow and brown sandy SILT, micaceous 6 29.5-31 4-4-12 16 297.63 31 296.63 32 33 295.63 294.63 34 7 Dark gray and yellow silty SAND, fine to medium 34.5-36 14-25-26 51 35 293.63 grained, micaceous 36 292.63 36' - bottom of boring 37 291.63 290.63 38 39 289.63 288.63 40 287.63 41 42 286.63 285.63 43 284.63 45 283.63 46 282.63 47 281.63 48 280.63 49 279.63 278.63 50 51 277.63 276.63 52 53 275.63 54 274.63 273.<u>63</u> 55

WELL CONSTRUCTION LOG

Southern Company Generation

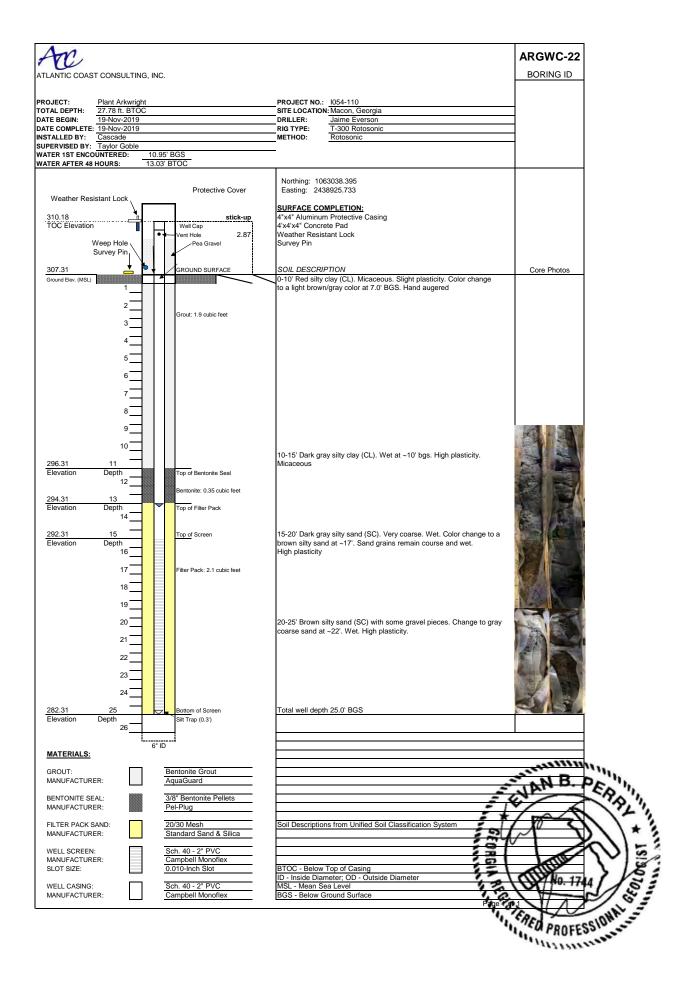
WELL CONSTRUCTION LOG	Southern Company Gener	ation	
PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.		WELL
Solid Waste Management Unit	DRILLER: S. Milam		NAME
LOCATION: Ash Ponds 1, 2, 3	RIG TYPE: CME 550		014/4 00
LOGGER: L. Garland DATE CONSTRUCTED: 12/4/2008	DRILLING METHODS: HSA		GWA-20
DATE CONSTRUCTED. 12/4/2008		DEDTU	
		DEPTH	ELEVATION
ļ	-	FEET	FT, MSL
Locking Hinged Top —	4		
1/4-inch Vent	TOP OF RISER	-2.85	331.48
1/4-inch Weep Hole	2" Threaded Riser Cap		
	I R		
	Pea Gravel in annular space		
4-ft x 4-ft x 4" concrete pad			
	GROUND SURFACE	0.00	328.63
	PROTECTIVE CASING		
	SIZE: 4x4-inch		
	TYPE: Anodized Aluminum		
	 		
	BOTTOM OF PROTECTIVE CASING		
	DACKELL MATERIAL		
	TYPE: Portland Cement Grout		
	AMOUNT: 4 bags @ 1.3 cf/bag = 5.20 cf		
	7 mio 5111. 1 bago (1.0 5//5ag = 5.25 5/		
	RISER CASING		
	DIA: 2-inch		
	TYPE: Schedule 40 PVC		
	JOINT TYPE: Flush Threaded		
	TOP OF SEAL	19.00	309.63
	ANNULAR SEAL	. 0.00	200.00
	TYPE: 1/4-inch coated bentonite pellets		
	5-gal buckets		
	AMOUNT: 1.5 buckets		
	PLACEMENT: Tremie	00.50	000.40
	TOP OF FILTER PACK FILTER PACK	22.50	306.13
	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
	DOTTOM OF CASHIO	34.85	293.78
	BOTTOM OF CASING	34.00	∠93.76
HOLE DIA	k: 9"		
1	-		

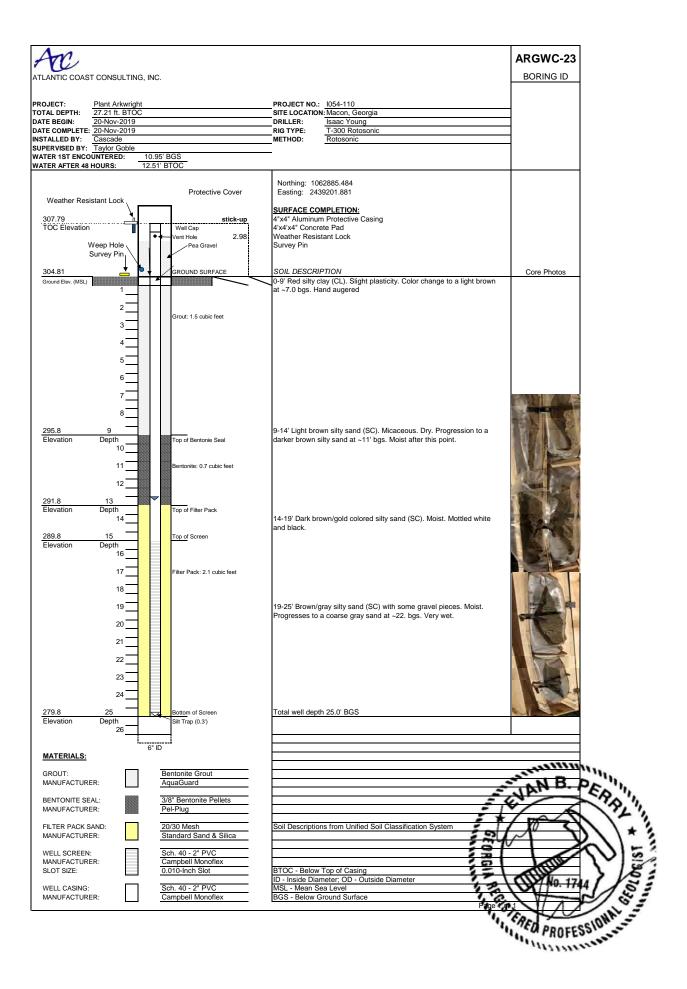
SOU	THERN A	DRILL	ING I	LOG			Hole No.	GWC-2	21
	to Serve Your \	Vorld GEOLOGIC	CAL SE	RVICES			Sheet 1	of	1
SITE					HOLE DEPTH		SURF.E		
		Solid Waste Management Area					<u>E</u>		
ANGLE		BEARING	CONTE	RACTOR	SCS, Inc.		ORILL NO.		
DRILLIN	NG METHOD	HSA NO. SAMPLE	S	4	NO.	U.D. SAM	IPLES	0	
		LENGTH				_			
		LE DEPTH 10.5 ELEV.							
		S. Milam RECORDER L. Garland APPR		/IIX			MP. DATE		
	DRILLER	3. WIIIAIII RECORDER L. GAITATIU APPR	Sample	Stand	lard Penetration Test	LING COI	MP. DATE	12, 1, 2000	1
Depth	Elev.	Material Description, Classification and Remarks	No.		Blows	N	Comments	% Rec	RQD
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		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	3	14.5-16	2-4-9	13			
16	290.68	to medium grained sand							
17	289.68								
18	288.68								
19	287.68								
20	286.68	Dark yellow and gray silty SAND, coarse to fine grained,	4	19.5-21	21-50/4	R			
21	285.68	with gravel, decomposed rock			_: 55, .				
22	284.68								
23	283.68								
23		24' - Bottom of boring	-						
	9901 8-19-200			<u> </u>		<u> </u>			1

WELL CONSTRUCTION LOG

Southern Company Generation

DRILLER'S Milam OGATION: Ash Pond's 1, 2, 3 RIG TYPE: CME 550 OGSGER: L. Garland DRILLING METHODS: HSA DEPTH ELEVATION FEET FT, MSL Advisor Cap Pea Gravel in annular space GROUND SURFACE OROUND SURFACE O.00 306.68 PROTECTIVE CASING SIZE: 4x4-inch TYPE: Annotized Aluminum BOTTOM OF PROTECTIVE CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags: 50 lbs/bag PLACEMENT: Tremie FILTER PACK TYPE: Schedule 40 PVC Prepack OPENING WINDTH: 0,01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WINDTH: 0,01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WINDTH: 0,01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WINDTH: 0,01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WINDTH: 0,01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WINDTH: 0,01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WINDTH: 0,01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WINDTH: 0,01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WINDTH: 0,01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING TYPE: Schedule 40	WELL CONSTRUCTION LOG	Southern Company Gener	ation	\//FII
COGATICUTED: 12/2/2008 RIG TYPE: CME 550 ORGGER: L Galand DATE CONSTRUCTED: 12/2/2008 DEPTH FEET FT, MSI Ocking Hinged Top A-inch Weep Hole Pea Gravel in annular space Pea Gravel in annular space OROUND SURFACE Pea Gravel in annular space OROUND SURFACE O.00 306.68 PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF FILTER PACK TYPE: Schedule 40 PVC JOINT: 1 buckel PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 14 (20/30) Drillers Services, Inc. AMOUNT: 1 bags; 50 lbs/bag PLACEMENT: Tremie, wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING TYPE: Schedule 40 PVC	PROJECT: Former Plant Arkwright	DRILLING CO.: SCS, Inc.		WELL
DRILLING METHODS: HSA				INAIVIE
DEPTH ELEVATION Cocking Hinged Top Africh Vent TOP OF RISER -2.71 309.40 Pea Gravel in annular space Pea Gravel in annular space Pea Gravel in annular space Protective Casing SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING PROTECTIVE CASING SIZE: 4x4-inch TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 cl/bag = 5.20 cf RISER CASING DIA: 2-inch TYPE: 38-inch coated bentonite pellets 5-gal buckets AMOUNT: 4 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Schedule 40 PVC Prepack OPEN				GWC-21
ocking Hinged Top //	DATE CONSTRUCTED: 12/2/2008			
Alinch Weep Hole Top of RISER -2.71 309.46 Alinch Weep Hole Pea Gravel in annular space GROUND SURFACE 0.00 306.68 PROTECTIVE CASING SIZE: 444-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Blush Threaded Top of Seal 9.60 297.08 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie Top of FILTER PACK TYPE: SIS and -1A (20/30) Diflers Services, Inc. AMOUNT: 3 bags: 50 lbs/bag PLACEMENT: Tremie; wash with water SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING YPE: Schedule SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF CASING 24.57 282.41 BOTTOM OF CASING 24.57 282.41			DEPTH	ELEVATION
### After the New Properties of the New York o			FEET	FT, MSL
### After the New Properties of the New York o	Locking Hinged Top			
### A4-fit x 4* concrete pad Pea Gravel in annular space Pea Gravel in annular space PROTECTIVE CASING SIZE: 4x4-inch TYPE: Annodized Aluminum BOTTOM OF PROTECTIVE CASING BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 df/bag = 5.20 cf RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL 9.60 297.08 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckels AMOUNT: 1 bucket PLACEMENT: Tremie FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie: wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 SCREEN DIA: 2-inch OPENING TYPE: Soltedd SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF CASING 24.57 282.12		TOP OF RISER	-2 71	309 40
Pea Gravel in annular space GROUND SURFACE 0.00 306.68 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 9.60 297.08 ANNULAR SEAL TYPE: 3/6-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK 12.00 294.68 FILTER PACK TYPE: DIS Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN 24.27 282.41			2.71	000.10
### A standard of the control of the	**************************************	2 mileaded Meer eap		
### A standard of the control of the				
### A standard of the control of the		Pea Gravel in annular space		
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 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 1 bush with water BOTTOM OF RISER / TOP OF SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF CASING 24.57 282.12	4-ft x 4-ft x 4" concrete pad	Tod Graver in dimidial space		
PROTECTIVE CASING SIZE: 4X4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 cl/bag = 5.20 cl RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: SI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF CASING 24.57 282.12	7 3 3 3	GROUND SURFACE	0.00	306.68
SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 df/bag = 5.20 df RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING WIDTH: 0.01-inch OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF CASING 24.57 282.12				
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 df/bag = 5.20 df RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 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 24.27 282.41		3 t t t t t t t t t t t t t t t t t t t		
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4 bags @ 1.3 ct/bag = 5.20 cf RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN JOIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF CASING 24.57 282.12		N · · · · · · · · · · · · · · · · · · ·		
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 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 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 CASING 24.57 282.12		TYPE: Anodized Aluminum		
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 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 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 CASING 24.57 282.12		POTTOM OF PROTECTIVE CASING		
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 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 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 24.27 282.41		BOTTOM OF PROTECTIVE CASING		
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 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 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 24.27 282.41				
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 TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN TYPE: Schedule 40 PVC Prepack OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF CASING BOTTOM OF CASING 24.57 282.12		BACKFILL MATERIAL		
RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL 9.60 297.08 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK 12.00 294.68 FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 CASING 24.57 282.12				
DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL 9.60 297.08 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK 12.00 294.68 FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41		AMOUNT: 4 bags @ 1.3 cf/bag = 5.20 cf		
DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL 9.60 297.08 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK 12.00 294.68 FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41		DICED CACING		
TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL 9.60 297.08 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK 12.00 294.68 FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41				
JOINT TYPE: Flush Threaded TOP OF SEAL 9.60 297.08 ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT SPACING: 0.25-inch BOTTOM OF SCREEN 24.27 282.41				
ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK 12.00 294.68 FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41				
ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK 12.00 294.68 FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41				
ANNULAR SEAL TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK 12.00 294.68 FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41				
TYPE: 3/8-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK 12.00 294.68 FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41			9.60	297.08
5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF CASING 24.57 282.41		1 /		
AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 CASING 24.57 282.12				
PLACEMENT: Tremie TOP OF FILTER PACK FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41 BOTTOM OF CASING 24.57 282.12				
FILTER PACK FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 CASING 24.57 282.12		1 /		
TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41		TOP OF FILTER PACK	12.00	294.68
Drillers Services, Inc. AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41				
AMOUNT: 3 bags; 50 lbs/bag PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41		` '		
PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 CASING 24.57 282.12				
BOTTOM OF RISER / TOP OF SCREEN 14.27 292.41 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 24.27 282.41				
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 24.27 282.41		TEAGEMENT. Tromic, wash with water		
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 24.27 282.41		BOTTOM OF RISER / TOP OF SCREEN	14.27	292.41
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 24.27 282.41		SCREEN		
OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN 24.27 282.41				
OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN 24.27 282.41 BOTTOM OF CASING 24.57 282.12				
SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN 24.27 282.41 BOTTOM OF CASING 24.57 282.12				
SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN 24.27 282.41 BOTTOM OF CASING 24.57 282.12				
BOTTOM OF SCREEN 24.27 282.41 BOTTOM OF CASING 24.57 282.12				
BOTTOM OF CASING 24.57 282.12			24.27	282.41
HOLE DIA: 9"		BOTTOM OF CASING	24.57	282.12
HOLE DIA: 9"				
HOLE DIA: 9"	1101 5 51	V. 0"		
ı	HOLE DIA	A. 9		





AC						ARAMW-1
ATLANTIC COA	ST CONSULTIN	1G, IN	NC.			BORING ID
	D					
PROJECT: TOTAL DEPTH:	Plant Arkwrig 45.33 ft. BTO	С			PROJECT NO.: 1054-110 SITE LOCATION: Macon, Georgia	_
DATE BEGIN: DATE COMPLETE	20-Nov-2019 E: 20-Nov-2019				DRILLER: Isaac Young	-
INSTALLED BY:				METHOD: Rotosonic		
WATER 1ST ENC	OUNTERED:		4' BC			
WATER AFTER 4	B HOURS:	13.	43' B	TOC		
				Protective Cover	Northing: 1062937.141 Easting: 2439119.673	
Weather Re	sistant Lock			7	SURFACE COMPLETION:	
308.67 TOC Elevatio	n 📑	- г		stick-up Well Cap	4"x4" Aluminum Protective Casing 4'x4'x4" Concrete Pad	
	•		••	Vent Hole 2.98	Weather Resistant Lock	
	Weep Hole Survey Pin			Pea Gravel	Survey Pin	
305.69	↓ `	▶ ↓		GROUND SURFACE	SOIL DESCRIPTION	Core Photos
Ground Elev. (MSL			E		0-10' Red silty clay (CL). Micaceous. Color change to light brown.	00.01.1000
	1				Hang augered	
	2			Grout: 4.6 cubic feet		
	3			Cida: No dable lock		
	4					
	5					
	<u> </u>					
	6					
	7					
	8					
	9					
	10				10-14' No recovery when driller switched to rock coring techniques	
	_				at 14' bgs	
	11					
	12					上 上面
	13	1 ,	_			120-0
	14				14-19' Rock. Gneiss with high quartz content. Iron staining and light	
	15				fracturing evident from 14-17'. Harder rock from 17-19'	
	<u> </u>					
	16					
	17					1100
	18					
	19				19-24' Extremely fractured section. Mottled dark brown moist silty sand	DATE
					from 19-20'. Return to gneiss found above at 20'. Extremely large core	1
	20				pieces. No fracturing or iron staining.	
	21					
	22					
	23	-				
	24				24-29' As above.	
	_				24 25 715 db0vc.	(ES) (III)
	25	-				
	26			<u> </u>		
MATERIALS:		6.0	0" ID	.1		
		1	-	antonito Crout		
GROUT: MANUFACTUR	RER:			entonite Grout quaGuard		
BENTONITE S				8" Bentonite Pellets		
MANUFACTUR		1		el-Plug 1/30 Mesh	Soil Descriptions from Unified Soil Classification System	
MANUFACTUR]	St	andard Sand & Silica	Con Josephono nom offiniod don olassinidation system	
WELL SCREEN MANUFACTUR				ch. 40 - 2" PVC ampbell Monoflex		
SLOT SIZE:				010-Inch Slot	BTOC - Below Top of Casing	
WELL CASING):	1	Sc	ch. 40 - 2" PVC	ID - Inside Diameter; OD - Outside Diameter MSL - Mean Sea Level	
MANUFACTUR	RER:	_		ampbell Monoflex	BGS - Below Ground Surface	of 2

Acc					ARAMW-1
ATLANTIC COAS	T CONSULTING, I	NC.			BORING ID
PROJECT: TOTAL DEPTH: DATE BEGIN: DATE COMPLETE:	Plant Arkwright 45.33 ft. BTOC 20-Nov-2019 20-Nov-2019			PROJECT NO.: 1054-110 SITE LOCATION: Macon, Georgia DRILLER: Isaac Young RIG TYPE: T-300 Rotosonic	
INSTALLED BY: SUPERVISED BY:	Cascade Taylor Goble			METHOD: Rotosonic	
WATER 1ST ENCO	UNTERED:	14' BG			Cons Dhatas
WATER AFTER 48 Elevation	Depth	.43' B	100		Core Photos
MSL 277.69 Elevation	BGS		Top of Bentonite Seal	29-34' As above. Some fracturing and iron staining present. Layer of mottled gold and black sand, moist, from 32-34'	
274.69 Elevation	Depth 32 33 3 3 4 34		Top of Filter Pack	34-39' Hard gneiss. No fracturing or iron staining. Large pieces.	
Elevation	Depth		Top of Screen		
	39		Filter pack: 2.2 cubic feet	39-44' As above. Some fracturing and iron staining ~44'. Limited recovery	
263.34 Elevation			Bottom of Screen Silt Trap (0.3')	Total well depth 44.0' BGS	
	46 47 48 49				
	50	0" OD			
MATERIALS:	0.0				
GROUT: MANUFACTUR	ER:		entonite Grout quaGuard		
BENTONITE SE	EAL:	3/8	8" Bentonite Pellets		
FILTER PACK S MANUFACTUR			0/30 Mesh Iter Media		
WELL SCREEN MANUFACTURI SLOT SIZE:	ER:	0.0	ch. 40 - 2" PVC lver-Line 010-Inch Slot	TOC - Top of Casing ID - Inside Diameter; OD - Outside Diameter	
WELL CASING: MANUFACTUR			ch. 40 - 2" PVC Iver-Line	MSL - Mean Sea Level BGS - Below Ground Surface Page 2 of	2

PROJECT: Plant Arkwright PROJECT NO.: 1054-110	ACC						ARAMW-2
### Pask 21 calc feet #### Pask 21 calc feet ##### Pask 21 calc feet ##################################	ATLANTIC COAS	ST CONSULTIN	NG, IN	Э.			BORING ID
DATE SEGMENT TOTAL COMMETTER TOTAL COM	PROJECT:						
AND COMPARTED SCHOOL COURS Section Section	TOTAL DEPTH: DATE BEGIN:						
SUPPLY COMPANY AND	DATE COMPLETE	: 20-Nov-2019				RIG TYPE: T-300 Rotosonic	
Weather Resistant Lock Weather Resistant Lock Size of Procedure Cover Size of Resistant Lock Size of Resista	SUPERVISED BY:	Taylor Goble				METHOD: Rotosonic	
Protective Cover Weather Resistant Lock 200 57 TOC Elevation Weep Hole Cover Standard Cover St							
Weather Resistant Lock 308.83 Survey Pe 305.47 Consort No. (NB) Add Allerman Performer Performer Cealing 4-44 And Allerman Performer Cealing 4-44 And Allerman Performer Cealing 4-44 And Allerman Performer Cealing 4-44 No. (NB) Sort Sci Casp Trio) Once 1.7 oaks fee Sort Sci Casp Trio) Once 1.7 oaks fee And Allerman Performer Cealing 4-44 No. (NB) Sort Sci Casp Trio) Once 1.7 oaks fee And Allerman Performer Cealing 4-44 No. (NB) NB) Sort Sci Casp Trio) Once 1.7 oaks fee And Allerman Performer Cealing 4-44 NB) Sort Sci Casp Trio) Once 1.7 oaks fee And Allerman Performer Cealing 4-44 NB) Sort Sci Casp Trio) Once 1.7 oaks fee And Allerman Performer Cealing 4-44 NB) NB) Sort Sci Casp Trio) Once 1.7 oaks fee And Allerman Performer Cealing 4-44 NB) NB) Sort Sci Casp Trio) Once 1.7 oaks fee And Allerman Performer Cealing 4-44 NB) NB) NB) NB) NB) NB) NB) N						Northing: 1062926 908	
### And Authinium Protective Casing ### And Authinium Protective C	Weather Res	sistant Lock			Protective Cover		
West Loss Sand Sand Sand Sand Sand Sand Sand Sand	200 E2	7			atiak un		
Weep Pink 305.47 306.47 307.47 308.47 309.48 309.		ı – – – – – – – – – – – – – – – – – – –		T	Well Cap	4'x4'x4" Concrete Pad	
SOIL DESCRIPTION Convertism (Max.) Ground 1.7 cube feee Ground 1.7 cube fee Ground 1.7 cube feee Ground 1		Weep Hole \		1			
### Committee (Miss) Content 17 color feet Content 18 color f				4			
Attenda daugeried. Plant			b .		GROUND SURFACE		Core Photos
### Depth	Ground Elev. (MSL)	1		_			
and the property of the proper		_					
Pair Pack: 2.1 cubic test Bentonia Grout MANUFACTURER: Bentonia Grout MANUFACTURER: Bentonia Grout MANUFACTURER: Sch. 40 - 2° PVC Gampbell Monolics Sch. 40 - 2° PVC Gampbell Monolics Grout Survey MANUFACTURER: Sch. 40 - 2° PVC Gampbell Monolics Grout Survey MANUFACTURER: Sch. 40 - 2° PVC Gampbell Monolics Grout MANUFACTURER: Sch. 40 - 2° PVC Gampbell Monolics Grout Grout Survey Grout Gampbell Monolics Gr		² _			Grout: 1.7 cubic feet		
Page 1 of Caray silly sand (SC). Dry. Becomes wet around 12: Changes in color to a red brown coarse sand (S) around 13.5:		3					
Page 1 of Caray silly sand (SC). Dry. Becomes wet around 12: Changes in color to a red brown coarse sand (S) around 13.5:		4					
Page 1 of Caray silly sand (SC). Dry. Becomes wet around 12: Changes in color to a red brown coarse sand (S) around 13.5:		5	1				
Page 1 of Caray silly sand (SC). Dry. Becomes wet around 12: Changes in color to a red brown coarse sand (S) around 13.5:		_					
9-15' Gray silty sand (SC). Dry, Becomes wet around 12'. Changes in color to a red brown coarse sand (S) around 13.5'. 294.02 12 Elevation Depth 13 14 15 16 17 18 19 20 21 21 22 24 25 26 26 MATERIALS: GROUT: Bentonite Grout AquasGuard Apparation Fellow Top AcquasGuard Bestronite SEAL: MANUFACTURER: Bentonite Fellow Bentonite Fellow Filter PACK SAND: MANUFACTURER: SCh. 40. 2" PVC Campbell Monorliex WELL SCREEN WALL SCREEN WALL SCREEN WELL CASINS: WELL CASINS: SCh. 40. 2" PVC Campbell Monorliex Sch. 40. 2" PVC Elevation Depth 13 15-22' Continue gray coarse sand (S). Moist. Transitions into a dry and gravely brown sand at 19'. Bigger gravel pieces and rock pieces apparent from 19-22' (SG). Total well depth 22.0' BGS Sol Descriptions from Unified Soil Classification System Filter Modia Up Inside Diameter; OD - Outside Diameter WSL - Sangel Monorlex WSL - Sangel Monorlex WSL - Campbell Monorlex Sol - Bellow Top of Casing [D - Inside Diameter; OD - Outside Diameter WSL - Campbell Monorlex WSL - Campbell Monorlex WSL - Mean Sea Level WSL - Mea		° <u> </u>	1				-44
9-15' Gray silty sand (SC). Dry, Becomes wet around 12'. Changes in color to a red brown coarse sand (S) around 13.5'. 294.02 12 Elevation Depth 13 14 15 16 17 18 19 20 21 21 22 24 25 26 26 MATERIALS: GROUT: Bentonite Grout AquasGuard Apparation Fellow Top AcquasGuard Bestronite SEAL: MANUFACTURER: Bentonite Fellow Bentonite Fellow Filter PACK SAND: MANUFACTURER: SCh. 40. 2" PVC Campbell Monorliex WELL SCREEN WALL SCREEN WALL SCREEN WELL CASINS: WELL CASINS: SCh. 40. 2" PVC Campbell Monorliex Sch. 40. 2" PVC Elevation Depth 13 15-22' Continue gray coarse sand (S). Moist. Transitions into a dry and gravely brown sand at 19'. Bigger gravel pieces and rock pieces apparent from 19-22' (SG). Total well depth 22.0' BGS Sol Descriptions from Unified Soil Classification System Filter Modia Up Inside Diameter; OD - Outside Diameter WSL - Sangel Monorlex WSL - Sangel Monorlex WSL - Campbell Monorlex Sol - Bellow Top of Casing [D - Inside Diameter; OD - Outside Diameter WSL - Campbell Monorlex WSL - Campbell Monorlex WSL - Mean Sea Level WSL - Mea		7	4 1				A STATE OF THE STA
295.47 10 Elevation Depth 11 294.02 12 Elevation Depth 13 14 15 16 17 Filter Pack: 2.1 cubic feet Filter Pack 2.21 cubic feet Bentonite Seal: MANUFACTURER: Sch. And: MANUFACTURER: Sch. And: MANUFACTURER: Sch. And: MANUFACTURER: Sch. Sch. And: 27 PVC Campbell Monoritx MANUFACTURER: Sch. Bottonite Polites Pilter Monoritx Sch. And: 27 PVC Campbell Monoritx MANUFACTURER: Sch. Bottonite Relieve Descriptions from Unified Soil Classification System 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		8			<u> </u>		
285.47 10 Elevation Depth 11 294.02 12 Elevation Depth 13 14 15 16 17 18 19 20 21 Elevation Dupth 19 20 21 21 Elevation Dupth 20 21 Elevation Dupth 20 21 Elevation Dupth 20 21 Elevation Dupth 20 21 Elevation Dupth 23 24 25 Elevation Dupth 23 26 Elevation Dupth 23 27 Elevation Dupth 23 28.72 22 Elevation Dupth 23 28 Elevation Dupth 23 29 Elevation Dupth 23 20 Elevation Dupth 22.0' BGS Elevation Bentonite Grout AquaGuard 38' Bentonite Grout AquaGuard Bentonite Seal: MaNUFACTURER: Pel-Plug Elevation Dupth 22.0' BGS Elevation Dupth 23.0' BGS Elevation Dupth 24.0' BGS Elevation Dupth 24.0' BGS E		9					SZ.
Elevation Depth 11 294.02 12 Elevation Depth 13 13 14 15 16 17 18 19 20 21 22 Elevation Depth 16 17 18 19 20 21 22 Elevation Depth 17 18 19 20 21 22 Elevation Depth 18 19 20 21 22 24 25 26 Enor ID 0 - 24* MATERIALS: GROUT: Bentonite Grout AquaGuard Bentonite Seal: MANUFACTURER: MANUFACTURER: MANUFACTURER: MANUFACTURER: WELL SCREEN: WELL SCREEN: WELL SCREEN: WANUFACTURER: Sch. 40 - 2" PVC Campbell Monorlex Dol'non Siot Brook: 2.1 oubic feet 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 Total well depth 22.0' BGS Soil Descriptions from Unified Soil Classification System Filter Media Soil Descriptions from Unified Soil Classification System Brook - Below Top of Casing [10 - Inside Diameter: OD - Outside Diameter MSL - Mean Sea Level MS	295.4	7 10 —				in color to a red brown coarse sand (S) around 13.5'.	
294.02 12 Elevation Depth 13 14 15 16 17 18 19 20 21 21 Elevation Depth 31 18 19 20 21 21 22 Elevation Depth 35 Trap (0.3) Sh Trap (0.3) Sh Trap (0.3) MATERIALS: GROUT: Bentonite Grout AquaGuard Bentonite Seal: MANUFACTURER: MANUFACTURER: MANUFACTURER: MANUFACTURER: MANUFACTURER: MANUFACTURER: MANUFACTURER: MANUFACTURER: Sch. 40 - 2° PVC Campbell Monorlex Not John Casing (D'-Inde) Slot (D'-Ind		Depth	annan	anna			
Elevation Depth 13 14 15 16 16 17 18 18 19 20 21 21 283.72 22 Elevation Depth 22 24 25 26 Bectorn of Screen Sar Trap (0.3') MATERIALS: GROUT: MANUFACTURER: MANUFACTURER: MANUFACTURER: Filter Media Filter Media Filter Media Filter Media Filter Media Filter Media Sch. 40 - 2" PVC Campbell Monoflex Sch. 40 - 2" PVC Sch. 40 - 2" P		_					
### Soil Descriptions from Unified Soil Classification System #### Soil Descriptions from Unified Soil Classification System ###################################			1 2	2	<u> </u>		
### 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). #### 18-20 21			1 =				
gravelly brown sand at 19'. Bigger gravel pieces and rock pieces apparent from 19-22' (SG). Filter Pack: 2.1 cubic feet 17		14	IE	=			
gravelly brown sand at 19'. Bigger gravel pieces and rock pieces apparent from 19-22' (SG). Filter Pack: 2.1 cubic feet 17		15	┪┋			15-22' Continue gray coarse sand (S). Moist. Transitions into a dry and	V
### Total well depth 22.0' BGS Total well depth 22.0' BGS		16				gravelly brown sand at 19'. Bigger gravel pieces and rock pieces	
### Total well depth 22.0' BGS Total well depth 22.0' BGS		<u> </u>	1 =			арраген пош 19-22 (00).	
BENTONITE SEAL: MANUFACTURER:		17	┪┋	=	Filter Pack: 2.1 cubic feet		
283.72 22 Elevation Depth Solt Trap (0.3) MATERIALS: GROUT: MANUFACTURER: MANUFACTURER: MANUFACTURER: MANUFACTURER: Sch. 40 - 2° PVC Campbell Monoflex SLOT SIZE: MANUFACTURER: Sch. 40 - 2° PVC Campbell Monoflex MANUFACTURER: Sch. 40 - 2° PVC Campbell Monoflex MANUFACTURER: Campbell Monoflex Sch. 40 - 2° PVC Campbell Monoflex Sch. 40 - 2° PVC Campbell Monoflex Campbell Monoflex Campbell Monoflex Sch. 40 - 2° PVC Campbell Monoflex Campbell Monoflex Sch. 40 - 2° PVC Campbell Monoflex Campbell Monoflex Sch. 40 - 2° PVC Campbell Monoflex Campbell Monoflex Sch. 40 - 2° PVC Sch. 40 - 2° PVC Campbell Monoflex Sch. 40 - 2° PVC Sch. 40 - 2° P		18	IE	1			A KIL
Elevation Depth 23 Sit Trap (0.3') MATERIALS: GROUT: Bentonite Grout AquaGuard BENTONITE SEAL: MANUFACTURER: Pel-Plug FILTER PACK SAND: MANUFACTURER: Sch. 40 - 2" PVC Campbell Monoflex SLOT SIZE: WELL CASING: MANUFACTURER: Sch. 40 - 2" PVC Campbell Monoflex SLOT SIZE: Sch. 40 - 2" PVC Campbell Monoflex MANUFACTURER: Sch. 40 - 2" PVC Campbell Monoflex SLOT SIZE: Sch. 40 - 2" PVC Campbell Monoflex Sch. 40 - 2" PVC Sch. 40 - 2" PVC Campbell Monoflex Sch. 40 - 2" PVC		19	1 E				The second
Elevation Depth 23 Sit Trap (0.3') MATERIALS: GROUT: Bentonite Grout AquaGuard BENTONITE SEAL: MANUFACTURER: Pel-Plug FILTER PACK SAND: MANUFACTURER: Sch. 40 - 2" PVC Campbell Monoflex SLOT SIZE: WELL CASING: MANUFACTURER: Sch. 40 - 2" PVC Campbell Monoflex SLOT SIZE: Sch. 40 - 2" PVC Campbell Monoflex MANUFACTURER: Sch. 40 - 2" PVC Campbell Monoflex SLOT SIZE: Sch. 40 - 2" PVC Campbell Monoflex Sch. 40 - 2" PVC Sch. 40 - 2" PVC Campbell Monoflex Sch. 40 - 2" PVC		20	1				
Elevation Depth 283.72 22 Elevation Depth 23 24 25 26 26 27 26		_					
Elevation Depth 23 Sit Trap (0.3') 24 25 26 26 26 26 26 26 26 26 26 26 26 26 26			1 F				NEW YEAR
MATERIALS: GROUT: MANUFACTURER: Bentonite Grout AquaGuard BENTONITE SEAL: MANUFACTURER: MANUFACTURER: FILTER PACK SAND: MANUFACTURER: WELL SCREEN: MANUFACTURER: MANUFACTURER: WELL SCREEN: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: MELL CASING: MANUFACTURER: MANUFACTURER: MELL CASING: MANUFACTURER: MANUFACTURER: MELL CASING: MANUFACTURER: MELL CASING: MANUFACTURER: MSL - Mean Sea Level MSS - Below Ground Surface			F			Total well depth 22.0' BGS	
MATERIALS: GROUT: MANUFACTURER: BENTONITE SEAL: MANUFACTURER: MANUFACTURER: FILTER PACK SAND: MANUFACTURER: WELL SCREEN: MANUFACTURER: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: MSS. Below Top of Casing ID - Inside Diameter; MSL - Mean Sea Level MSS. Below Ground Surface							
MATERIALS: GROUT: MANUFACTURER: BENTONITE SEAL: MANUFACTURER: MANUFACTURER: FILTER PACK SAND: MANUFACTURER: WELL SCREEN: MANUFACTURER: WELL SCREEN: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: MEL CASING: MSL MEAN SEA Evel		24					
MATERIALS: GROUT: MANUFACTURER: BENTONITE SEAL: MANUFACTURER: MANUFACTURER: FILTER PACK SAND: MANUFACTURER: WELL SCREEN: MANUFACTURER: WELL SCREEN: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: MEL CASING: MSL MEAN SEA Evel		25	-				
MATERIALS: GROUT: MANUFACTURER: BENTONITE SEAL: MANUFACTURER: MANUFACTURER: DEITHOR PACK SAND: MANUFACTURER: WELL SCREEN: MANUFACTURER: WELL SCREEN: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: MANUFACTURER: MEL CASING: MANUFACTUR			1				
MATERIALS: GROUT: MANUFACTURER: BENTONITE SEAL: MANUFACTURER: FILTER PACK SAND: MANUFACTURER: WELL SCREEN: MANUFACTURER: MANUFACTURER: WELL SCREEN: MANUFACTURER: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: MANUFACTURER: Sch. 40 - 2" PVC Campbell Monoflex D. 10-Inside Diameter; OD - Outside Diameter MSL - Mean Sea Level			<u> </u>				
GROUT: MANUFACTURER: BENTONITE SEAL: MANUFACTURER: Pel-Plug FILTER PACK SAND: MANUFACTURER: WELL SCREEN: MANUFACTURER: WELL SCREEN: MANUFACTURER: UNDESCRIPTION OF Campbell Monoflex SLOT SIZE: WELL CASING: MANUFACTURER: WELL CASING: MANUFACTURER: Campbell Monoflex D.010-Inch Slot BTOC - Below Top of Casing ID - Inside Diameter; OD - Outside Diameter MSL - Mean Sea Level MSC - Below Ground Surface	MATERIALS:		6.00	" ID	0 - 24'		
MANUFACTURER: BENTONITE SEAL: MANUFACTURER: Pel-Plug 20/30 Mesh Filter Media Soil Descriptions from Unified Soil Classification System	GROUT:			Вє	entonite Grout		
MANUFACTURER: FILTER PACK SAND: MANUFACTURER: WELL SCREEN: MANUFACTURER: Sch. 40 - 2" PVC Campbell Monoflex Unified Soil Classification System Soil Descriptions from Unified Soil Classification System		ER:					
MANUFACTURER: Filter Media WELL SCREEN: Sch. 40 - 2" PVC MANUFACTURER: Campbell Monoflex SLOT SIZE: 0.010-Inch Slot BTOC - Below Top of Casing ID - Inside Diameter; OD - Outside Diameter Under the property of Casing WELL CASING: Sch. 40 - 2" PVC MSL - Mean Sea Level MANUFACTURER: Campbell Monoflex BGS - Below Ground Surface							
Sch. 40 - 2" PVC						Soil Descriptions from Unified Soil Classification System	
MANUFACTURER: Campbell Monoflex SLOT SIZE: 0.010-Inch Slot BTOC - Below Top of Casing ID - Inside Diameter; OD - Outside Diameter WELL CASING: Sch. 40 - 2" PVC MSL - Mean Sea Level MANUFACTURER: Campbell Monoflex BGS - Below Ground Surface		_	1				
ID - Inside Diameter; OD - Outside Diameter	MANUFACTUR			Ca	ampbell Monoflex		
WELL CASING: Sch. 40 - 2" PVC MSL - Mean Sea Level MANUFACTURER: Campbell Monoflex BGS - Below Ground Surface	SLOT SIZE:			0.0	010-Inch Slot		
						MSL - Mean Sea Level BGS - Below Ground Surface	

Assessment of Corrective Measures Report Georgia Power Company – Plant Arkwright Ash Pond 2 Dry Ash Stockpile 12/4/2020

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

Veronica Bortot

Authorized for release by: 1/30/2020 3:57:01 PM

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

veronica.bortot@testamericainc.com

LINKS

Review your project results through

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

3

4

5

6

8

9

11

12

10

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-101076-1

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	
Certification Summary	5
Sample Summary	
Method Summary	7
Lab Chronicle	8
Client Sample Results	9
QC Sample Results	11
QC Association Summary	14
Chain of Custody	15
Receipt Chacklists	17

6

8

9

10

12

13

Case Narrative

Client: Southern Company

Job ID: 180-101076-1 Project/Site: CCR - Plant Arkwright

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 Job ID: 180-101076-1

Project/Site: CCR - Plant Arkwright

Qualifiers

HP	LC/	IC
Ous	lifia	-

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

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.

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)

4

0

9

10

12

13

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-101076-1

Project/Site: CCR - Plant Arkwright

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

4

5

7

9

10

46

Sample Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

 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

Job ID: 180-101076-1

3

4

6

Q

9

10

111

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

5

8

9

- 10

10

13

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company Job ID: 180-101076-1

Project/Site: CCR - Plant Arkwright

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at ID: CHICS2100B		1	1 mL	1.0 mL	305040	01/27/20 11:04	MJH	TAL PIT
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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 Instrumer	EPA 6020B nt 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 Instrumer	EPA 7470A nt ID: HGZ		1			305250	01/28/20 14:00	NAM	TAL PIT
Total/NA	Analysis Instrumer	SM 2540C at 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 t ID: CHICS2100B	- Kuii	1	Amount	Amount	305040	01/27/20 10:48		TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	305060	01/27/20 07:32	RJR	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t 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 Instrumen	EPA 7470A t ID: HGZ		1			305250	01/28/20 14:01	NAM	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t 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

Page 8 of 17

Job ID: 180-101076-1

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

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

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) - To	otal Recov	erable						
Analyte		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	JB	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	JB	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 - Mei	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

Lab Sample ID: 180-101076-2 **Client Sample ID: ARGWC-23** 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	A	1.0	0.38	mg/L			01/27/20 10:48	1

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	JB	0.0010	0.00013	mg/L		01/27/20 07:32	01/29/20 18:22	1

Eurofins TestAmerica, Pittsburgh

Page 9 of 17 1/30/2020

Client Sample Results

Client: Southern Company

Job ID: 180-101076-1

Project/Site: CCR - Plant Arkwright

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 - Meta Analyte	•	Otal Recov Qualifier	erable (Cor RL	itinuea) 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 - Mer Analyte	• • • • • • • • • • • • • • • • • • • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	• • • • • • • • • • • • • • • • • • • •	Qualifier	RL	MDL	Unit	D	Prepared		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	ma/L			01/16/20 14:23	

3

5

6

8

9

10

11

Client: Southern Company

Job ID: 180-101076-1 Project/Site: CCR - Plant Arkwright

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

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Chloride 1.0 0.32 mg/L 01/27/20 05:28 <0.32 Fluoride 0.10 0.026 mg/L < 0.026 01/27/20 05:28 Sulfate <0.38 1.0 0.38 mg/L 01/27/20 05:28

LCS LCS

48.2

2.36

47.4

Result Qualifier

mg/L

Spike

Added

50.0

2.50

50.0

Lab Sample ID: LCS 180-305040/5

Matrix: Water

Analyte

Chloride

Fluoride

Sulfate

Analysis Batch: 305040

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

%Rec. Limits Unit D %Rec mg/L 96 90 - 110 mg/L 94 90 - 110

95

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**

90 - 110

Prep Batch: 305060

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

MB MB

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

Page 11 of 17

1/30/2020

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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
%Rec.

Job ID: 180-101076-1

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

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

Lab Sample ID: 180-101076-1 MSD

Matrix: Water

Analysis Batch: 305452

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

Alialysis Dalcii. 303432									Fieb Do	alcii. Si	0000
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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	JB	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	JB	1.00	1.04		mg/L		104	75 - 125	2	20

Eurofins TestAmerica, Pittsburgh

Page 12 of 17

10

1/30/2020

Client: Southern Company Job ID: 180-101076-1

Project/Site: CCR - Plant Arkwright

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

Lab Sample ID: 180-101076-1 MSD

Matrix: Water

Analysis Batch: 305452

Sample Sample Spike MSD MSD

Client Sample ID: ARGWC-22

Prep Type: Total Recoverable

Prep Batch: 305060

RPD

Result Qualifier Added Result Qualifier Limits RPD Limit Analyte Unit D %Rec Lithium 0.034 0.500 0.508 95 75 - 125 mg/L

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-305086/1-A Client Sample ID: Method Blank Matrix: Water Prep Type: Total/NA

Matrix: Water

Analysis Batch: 305250

MB MB

Prep Type: Total/NA

Prep Batch: 305086

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

Lab Sample ID: LCS 180-305086/2-A

Client Sample ID: Lab Control Sample
Matrix: Water

Prep Type: Total/NA

Analysis Batch: 305250 Prep Batch: 305086
Spike LCS LCS %Rec.

 Analyte
 Added
 Result on the control of the control of

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

Lab Sample ID: MB 180-304206/2

Matrix: Water

Client Sample ID: Method Blank

Prep Type: Total/NA

Analysis Batch: 304206

MB MB

Analyte Result 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

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analysis Batch: 304206

 Analyte
 Added Total Dissolved Solids
 Result Result Solids
 Qualifier Total Dissolved Solids
 Unit Message
 Description
 %Rec.

 ***Total Dissolved Solids
 661
 780
 mg/L
 118
 80 - 120

1/30/2020

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	

Page 14 of 17

Eurofins TestAmerica, Pittsburgh

Chain of Custody Record

TestAmerica Pittsburgh 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468

TestAmerica

Client Information	400	Valler		Ver	Verovica		Bortet	4	_			400-73521-29028.1	9028.1	1
Cilent Contact: Joju Abraham	Ctt mour	-594-5	868	Veron	ica.B.	. tot 8	Heta	veronice. Both of Otestame wincon	-			Page.		
Company: Southern Company							Ā	Analysis Requested	quested			Job #:		
Address:	Due Date Requested:	- Pi				Ė	⊢				920	Preservation Codes	Codes:	
ON SOUL GOOD	TAT Requested (days):	iys): Ceandard		T		O996						A-HCL B-NaOH		
Ontimizeran State, Zip. AL. 35291	Т	ordina ordina	2		9000	atelin	. Iaanum					D - Nitric Acid E - NaHSO4	P - Na204S Q - Na2003	
Phone:	PO#: SCS10347656				10	2 8 96	0 10 000					G - Amchior H - Ascorbic Ac	32	hydrate
Email: JAbraham@southernco.com	WO#:					2011[3	LODI I S							
Project Name: CCR Plant Arkwright - Ash Pond 2	Project #: 40007712					Al de	ani ian					L-EDA	W - pH 4-5 Z - other (specify	25
Site: Georgia	SSOM#:					4A bri	922					Other		
Sample Identification	Sample Date	Sample	Sample Type (C=comp, G=grab)	Matrix (weater, 5-solid, O-wasteled, BT-Tissue, A-Art)	Field Filtered : Perform MS/M	Metals App. III a (EPA 6020/7470 MADAO OPF	300_ORGFM_28 TDS TRadium 226 & 2 (SW-846 9315/9					Total Number	Special Instructions/Note:	je :
	\ \	X	e m			0	0.00							
ARGWC-22	02-4-1	9889	4	Water	5		-					APP III , APP IV	2	
ARGWC-23	1-14-20	1059	5	Water	8	-	-				3-1	N		
							\vdash							
						4	+		\pm		_		W.W.W.W.W.W.	1
						4	+		1	=				
					1	7	+		\pm					
						4	+		1	=		Chain of Custody	tody	i
					1	7	+		\pm	=	20-10101-00			
					1	7	+		+	+	\pm	1000		
	+				+	+	+	+	+	\pm	Ŧ			
Identification		Ι,			Sam	ple Disp	osal ()	fee may be	assesse	if sampl	as are reta	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	an 1 month)	
au;	Paison B Unknown	- 1	Radiological		1	Return	To Clie	4	Disposal	By Lab	Ar	Archive For	Months	
Deliverable Requested: I, II, III, IV, Other (specify)					Spec	al Instru	octions/0	Special Instructions/QC Requirements						
Empty Kit Relinquished by:		Date:			Time:	(Me	Method of Shipment	nent:			
Refinquiphed by: What I was	Date/Time:	7 /	F30	Company	-	Received by	1		4	15/2	ate/Time:	1123	Company	1
Relinquisted by:	1 STATION 1	19	2010	Company	u.	Received	3	1	\	Date	116 2	3	Company	A
Relinquished by:	/ Date/Type:)	Company	_	Received) ×			Date	Date/Time:		Company	
Custody Seals Intact: Custody Seal No.:						Socier Terr	peratrue	Cooler Temperature(s) °C and Other Remarks:	r Remarks:					
					1								Ver 08/04/20	910



Page 16 of 17

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	

Environment Testing TestAmerica

ANALYTICAL REPORT

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

Tel. (412)903-7036

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

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

veronica.bortot@testamericainc.com

LINKS

Review your project results through

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

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-101076-2

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	7
Method Summary	8
Lab Chronicle	9
Client Sample Results	10
QC Sample Results	12
QC Association Summary	13
Chain of Custody	14
Pacaint Chacklists	17

Case Narrative

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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.

Job ID: 180-101076-2

4

5

6

0

10

11

12

Definitions/Glossary

Client: Southern Company Job ID: 180-101076-2

Project/Site: CCR - Plant Arkwright

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)

4

6

1

_

10

11

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-101076-2

Project/Site: CCR - Plant Arkwright

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

4

5

7

9

10

11

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

Eurofins TestAmerica, Pittsburgh

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-101076-2

Project/Site: CCR - Plant Arkwright

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 *
lowa	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
JS Fish & Wildlife	US Federal Programs	058448	07-31-20
Utah	NELAP	MO000542019-11	07-31-20
√irginia	NELAP	10310	06-14-20
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

3

4

5

7

9

10

10

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

Eurofins TestAmerica, Pittsburgh

Sample Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

 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

Job ID: 180-101076-2

3

4

5

9

10

11

12

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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

Protocol References:

None = None

PrecSep-21

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.

Preparation, Precipitate Separation (21-Day In-Growth)

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Job ID: 180-101076-2

TAL SL

None

3

4

7

8

9

4 4

12

1.

Lab Chronicle

Client: Southern Company Job ID: 180-101076-2

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-101076-1 **Client Sample ID: ARGWC-22**

Date Collected: 01/14/20 09:39 **Matrix: Water** Date Received: 01/16/20 08:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	nt 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
	Instrumer	nt ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			460297	02/13/20 12:48	SMP	TAL SL
	Instrumer	nt ID: NOEQUIP								

Lab Sample ID: 180-101076-2 **Client Sample ID: ARGWC-23** Date Collected: 01/14/20 10:59 **Matrix: Water**

Date Received: 01/16/20 08:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCBLUE		1			460292	02/13/20 09:49	CJQ	TAL SL
Total/NA	Prep	PrecSep_0			750.2 mL	1.0 g	457557	01/22/20 11:25	EJQ	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPURPLE		1			458956	01/31/20 13:38	AJD	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			460297	02/13/20 12:48	SMP	TAL SL

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

Page 9 of 18

Ba Carrier

95.8

Lab Sample ID: 180-101076-1

01/22/20 09:36 02/13/20 09:49

Client Sample ID: ARGWC-22 Date Collected: 01/14/20 09:39

Matrix: Water

Job ID: 180-101076-2

Date Received: 0	1/16/20 08:30									
Method: 9315 -	Radium-226 (GFPC)								
	•	•	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

40 - 110

Method: 9320 - Radium-228 (GFPC) Count Total Uncert. Uncert. Result Qualifier **MDC** Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Analyzed Dil Fac 0.529 U 0.564 pCi/L 01/22/20 11:25 01/31/20 13:38 Radium-228 0.362 0.366 1.00 Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac

Ba Carrier 95.8 40 - 110 01/22/20 11:25 01/31/20 13:38 Y Carrier 88.1 40 - 110 01/22/20 11:25 01/31/20 13:38

Method: Ra226 Ra228 - Combined Radium-226 and Radium-228 Count Total Uncert. Uncert. Analyte Result Qualifier **MDC** Unit $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Analyzed Dil Fac 02/13/20 12:48 **Combined Radium** 0.783 0.386 0.390 5.00 0.564 pCi/L 226 + 228

Lab Sample ID: 180-101076-2 Client Sample ID: ARGWC-23 Date Collected: 01/14/20 10:59 **Matrix: Water**

Date Received: 01/16/20 08:30

Method: 9315 - Ra	dium-226 ((GFPC)	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

adium-228 (GFPC)								
		Count	Total						
Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
0.715		0.457	0.462	1.00	0.703	pCi/L	01/22/20 11:25	01/31/20 13:38	1
%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
89.7		40 - 110					01/22/20 11:25	01/31/20 13:38	1
72.0		40 - 110					01/22/20 11:25	01/31/20 13:38	1
	Result 0.715 %Yield 89.7	%Yield Qualifier	Count Uncert.	Count Uncert. Uncert.	Count Uncert. Uncert. Count Uncert. Cou	Count Uncert. Uncert. Variety Variety	Count Uncert. Uncert. Count Uncert. Cou	Count Uncert. Uncert. Variety Variety	Count Uncert. Uncert. Variety Variety

Client Sample Results

Client: Southern Company Job ID: 180-101076-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-23 Lab Sample ID: 180-101076-2

Date Collected: 01/14/20 10:59

Date Received: 01/16/20 08:30

Matrix: Water

Method: Ra226_Ra	228 - Combined	Radium-226 a	and Radiur	n-228					
_		Count	Total						
		Uncert.	Uncert.						
Analyte	Result Qualifie	er (2σ+/-)	(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

9

10

12

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

Matrix: Water

Analyte

Radium-226

Analysis Batch: 460292

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 457542

MB MB Uncert. Uncert. Result Qualifier **MDC** Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RI Prepared Analyzed Dil Fac Radium-226 -0.05948 U 0.150 pCi/L 01/22/20 09:36 02/13/20 09:50 0.0598 0.0600 1.00

Total

Count

Result Qual

12.96

MB MB

Carrier Qualifier Limits %Yield Ba Carrier 40 - 110 99.4

Prepared Analyzed Dil Fac 01/22/20 09:36 02/13/20 09:50

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 457542

Total

1.34

Spike LCS LCS

Added

15.1

Uncert. $(2\sigma + / -)$

MDC Unit 0.114 pCi/L

RL

1.00

%Rec 86

Limits 75 - 125

%Rec.

LCS LCS

Analysis Batch: 460292

Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 99.7

Lab Sample ID: LCS 160-457542/1-A

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

Analysis Baton: 4	00102		• •						r rep Batem.	101 001
			Count	Total						
	MB	MB	Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
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
	МВ	МВ								

%Yield Qualifier Limits Prepared Dil Fac Carrier Analyzed 40 - 110 01/22/20 11:25 01/31/20 13:35 Ba Carrier 99.4 Y Carrier 90.2 40 - 110 01/22/20 11:25 01/31/20 13:35

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

Total Uncert.

Spike LCS LCS %Rec. Added RL Analyte Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits 1.00 Radium-228 12.2 10.40 1.25 0.516 pCi/L 85 75 - 125

LCS LCS Carrier %Yield Qualifier Limits 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

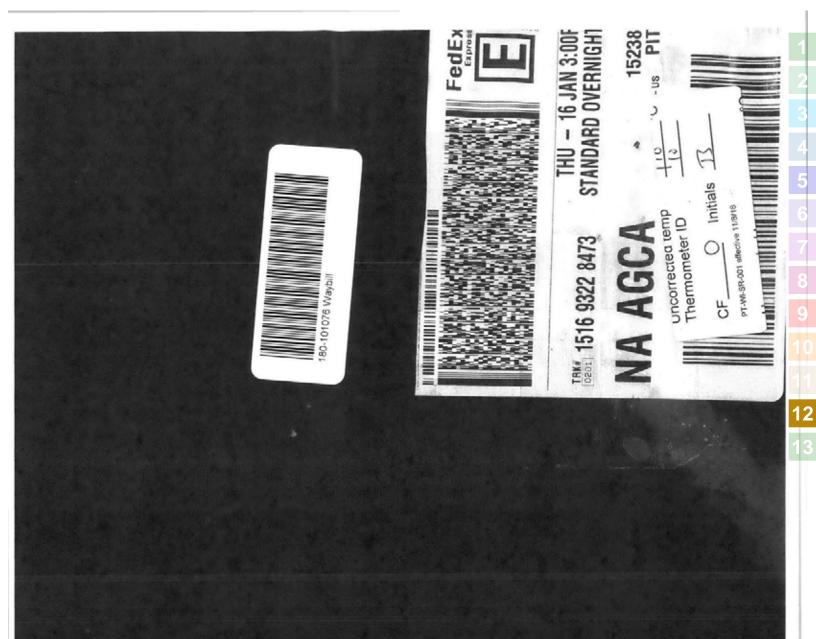
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101076-1	ARGWC-22	Total/NA	Water	PrecSep_0	
180-101076-2	ARGWC-23	Total/NA	Water	PrecSep_0	
MB 160-457557/17-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-457557/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Chain of Custody Record

TestAmerica Pittsburgh 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468

TestAmerica

	Sameler			1 ab PM	4			Camber Tracking Notes	.\s/k	COC No.	
Client Information	Lyan (Walker		Ver	Verovica	Bortet	+			400-73521-29028	128.1
Client Contact: Joju Abraham	Phone 7 70 - 59	594-599	866	E-Mail Vero	1. Ca. B.	tot Otesta	E-Mail Veronica. Britat Otestame: Wincon			Page:	
Company: Southern Company		1				A	Analysis Requested	quested		Job #:	
Address: PO BOX 2641 GSC8	Due Date Requested:	:pa				-:				Preservation Codes	des:
Ory. Birmingham	TAT Requested (days):	ys): Standard	E			3° 5840C				B - NaOH C - Zn Acetate	N - None O - AsNaO2
State, Zip: AL, 35291					86	ageying				E - NaHSO4	P - Na2045 Q - Na2503
Phone:	PO#: SCS10347656				(0	å abi				G - Amchior H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate
Email: JAbraham@southernco.com	WO#:					Fluor			5.7		U - Acetone V - MCAA
Project Name: CCR Plant Arkwright - Ash Pond 2	Project #: 40007712					VI de			aujutu		W - pH 4-5 Z - other (specify)
Srte: Georgia	SSOW#:					822	lazar		03,0	Other:	
Sample Identification	Sample Date	Sample	Sample Type (C=comp, G=grab)	Matrix (Virwater, Srepolic, Orwastelel, BT-Tissue, Arak)	Field Filtered	Metala App. III 4 (EPA 6020/7470 300_ORGFM_2 TDS TDS (SW-846 9315/9	ciolos cho He		sedmill leto?	Total Number	Special Instructions/Note:
	\ \	X	4 (0)	Preservation Code:	\cdot	ONO					
ARGWC-22	02-4-1	9399	4	Water	S				**)	APP III , APP IV	
ARGWC-23	-	1059	5	Water	5	-			3.1	M	
									9000		
										MINIMUM MINIMU	dy
									180-1010/6		
						#	#		=		
Identification					Samp	e Disposal (A fee may be	assessed if san	nples are reta	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	1 1 month)
Non-Hazard Flammable Skin fritant Poison B Deliverable Requested: 1, II, IV, Other (specify)	ison B Unknown	ч	Radiological		Specia	Return To Cile Il Instructions/	Special Instructions/QC Requirements	Disposal By Lab ents:	Ar	chive For	Months
Empty Kit Relinquished by:		Date:			Time:			Method of Shipment	hipment:		
Reimpuphed by:	Date/Time:	1	1.30	Company	8	Recoived by	/	4012	pate/Time:	1023	Company
Reinquisite by:	Catallime:	1	Se de	Company	Rece	The Contract of the Contract o	3	1	Sale/Time; 1	35	Company
Reinquished by:	Date/Tyfe.)	Company	- Re	Received by: V			Date/Time:		Company
Custody Seals Intact: Custody Seal No.:					8	oler Temperature	Cooler Temperature(s) °C and Other Remarks	Remarks:			
											Ver: 08/04/2016



Chain of Custody Record

Eurofins TestAmerica, Pittsburgh 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2468

	3				
			4	н	
8		Ē			
				STATE COLUMN	
i		i			

The control of the	## Phone In Trail North, In Tall Nort	s Red	Page 1 of 1 Job 8 Job 10 Job 10 Preservation Cod A + HCL A + HCL A - Minch Acid E - Nainch Acid E - Nainch Acid F - Mechan D - American F - Mechan D - Nainch Acid F - Mechan D - Nainch Acid F - Mechan D - Nainch Acid F - Le D
14 Northith 15 Northit	### Trail North. TAT Requested 2/13/2020 TAT Requested (days)	S Red	Job # 180-101076-2 Preservation Code A - HCL B - Nach C - 2n Acetate D - Nainc Acid E - Nach G - Amchor H - Nacorbic Acid I - Ice K - EDT A - EDA Other:
Trail North, Trai	Trail North, 2/13/2020 TAT Requested (days): TAT TAT TAT TAT TAT TAT TAT TAT TAT T	X	180-101076-2 Preservation Code A + HCL B - Nach C - 2n Acetate D - Natic Acid F - MaCH G - Amchior F - MaCH G - Amchior F - Loe J - Di Water K - EDTA L - EDA Other:
Trail North	TAT Requested (days): TAT AT AT Requested (days): TAT AT AT Requested (days): TAT AT AT AT Requested (days): TAT AT AT REQUESTED		Preservation Code A - HCL B - Mouth C - 2n Aceste D - Nainc-Acid E - MacH G - Amchior H - Aecorbic Acid H - Le K - EDT A - EDA Other:
Abeving 14-296-8797 Fax	## Po		Special Inst
	Project # 18020201 SSOWs Sample Date Time Sample (C=control System Matrix Ask) 1/14/20 Eastern Preservation Code: Preservation Co		F - MaOH G - Amchlor G - Amchlor H - Ascerbic Acid H - SDI Water L - EDA Other:
100 100	Sample Date Time Sample (C=comp. Sample (C=com	25 mulba9 F5_qe62=r4185269_25	Special Inst
Sample Sample Sample Sample Sample Matrix Sample Corcespo Co	Sample Date (C=comp. Sample (C=comp. Sample Date Time G=grab) errinsus AAP) Fleid Filtered Sample (Yes or N Preservation Code: X 1/14/20 Eastern 10:59 Water X X	### ### ### ### ### ### ### ### ### ##	N. ED
Sample Date Time Gegrab) Sample Date Time Gegrab) Institute and the first of the control of the	Sample Date Time Gegrab) errisses Askiptices Sample (Cecomp. Sasses Askiptices	× × 3312 Ba228iPrec5ep_0 × × 3315 Ra228iPrec5ep_0	Other
Hitleation - Cirent ID (Lab ID) Sample Date Time Gegrab I stream, Lab ID) Sample Date Time Gegrab I stream, Lab ID) Fresevoration Codes Time Gegrab I stream, Lab ID) Fresevoration Codes Time Gegrab I stream, Lab ID) Fresevoration Codes Time Gegrab I stream, Lab ID I stream, Lab ID I stream, Lab ID I stream, Lab ID ID I stream, Lab ID ID I stream, Lab ID	Sample Date Time (Sample (Normatic Discourage) Type (Normatic Discourage) Type (Normatic Discourage) Sample Date Time G=grab) (Sample Discourage) Type (Normatic Disco	M/RM (TTO THE 97 STEE X X 970 SEE X X Y X Y X X Y X X X X X X X X X X X	
1190-101076-1 1114-20 EalSem Water X X X X 1 1 1 1 1 1 1	1/14/20	× × × × × × × × × × × × × × × × × × ×	
(180-101076-2) 1114/20 1059 Water X X X X X X X X X X X X X X X X X X X	1/14/20	× ×	
1861-101076-2 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 11/4/20 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20 10.59 11/4/20	1/14/20 10.59 Water X Eastern	×	-
The State of Cognitive are subject to charge. Euroffer Teatheries places the coverable of the short of the subject of charges the coverable of charges the c			
Associations are subject to change, Eucline TestAmerica places the overenthylo of mathod, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under changed changed by the subject of mathod analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under changed changed by changes to accreditation and the ground Chain of Custody affecting to said compliance to the Eucline TestAmerica becomes the provided. Any changes to accreditation will be grounded from the constitution of the changes are retained from a sample same retained from the changes are retained from the changes of the samples are retained from the changes of th			
And proceediations are subject to change. Eurofins TraitAmerica places the ownership of method, analyte & accreditation conspiance upon out subcontrol of changes and analyte control of subcontrol of the samples shipment is forwarded under changed to change to change the samples shipment is forwarded under changed to change the samples shipment is described to change the samples shipment is described to change the samples are changed to change the samples are retained formed to change the samples are changed to change the samples are retained formed to change the samples are retained to change the samples are retained to change the samples that the samples are retained to change the samples			
inquished by: Company Custody Seal No.:			
And interesting the studied to change. Eurotine TestAmerica places the ownership of method, shadyte & accreditations are subject to change. Eurotine TestAmerica and Consistence of Cristody attesting to said compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody analyzed, the samples must be shopped back to the Eurofins TestAmerica. Sample Disposal (A fee may be assessed if samples are retained long Consistence). If the company of the contract of the contrac			
The control of the Control of Con			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Requested: 1. II. III. IV. Other (specify) Primary Deliverable Rank: 2 Special Instructions/IOC Requirements: Inquished by: Distering Distering	 Since inhoratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcents than accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica Inhorato Mmerica attention ammediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAn 	This sample shipment stons will be provided	Inder chan-of-custody. If the laboratory does not currently to accreditation stakus should be brought to Eurofins.
Inquished by Inquished by Date: Da	Sample Disp	Sample Disposal (A fee may be assessed if samples a	are retained longer than 1 month)
Inquished by Date Time: Date	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Dated Time Company Received by Received by Company Received by Company Received by Company Company Received by Company Comp	Date:		
Pales Intact: Custody Seal No.: Conjunction Conjunctio	20 0000 Compay 10 20 1706 Compay 17) Ap	31160 02-
Custody Seal No.:	Date/Time Company		9
	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	

Client: Southern Company Job Number: 180-101076-2

Login Number: 101076 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

orcator. Say, momas s		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Page 17 of 18

Client: Southern Company Job Number: 180-101076-2

Login Number: 101076 List Number: 2

101076 List Source: Eurofins TestAmerica, St. Louis
List Creation: 01/21/20 12:44 PM

Creator: Hellm, Michael

Creator: Hellm, Michael		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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
Project Name
Site Name
Atlantic Coast Consulting
Plant Arkwright - Ash Pond 2
Plant Arkwright

Latitude 32° 55' 18.28" Longitude -83° -42' -10.19"

Sonde SN 369557

Turbidity Make/Model Hack 2100Q

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

Pump Information:

Pump Model/Type Peristaltic pump

22 ft

Tubing TypepolyTubing Diameter.17 inTubing Length27 ft

Pump placement from TOC

Pumping Information:

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

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	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

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Ryan Walker

Company Name
Project Name
Atlantic Coast Consulting
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

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

Pump placement from TOC

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

Peristaltic pump

poly

.17 in

27 ft

22 ft

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	/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



Environment Testing TestAmerica

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

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

veronica.bortot@testamericainc.com

Review your project

results through
Total Access

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

1

3

1

5

6

R

9

10

11

12

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-102295-1

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	10
QC Sample Results	12
QC Association Summary	16
Chain of Custody	18
Receipt Checklists	

4

5

9

10

12

1:

Case Narrative

Client: Southern Company

Job ID: 180-102295-1 Project/Site: CCR - Plant Arkwright

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 Job ID: 180-102295-1

Project/Site: CCR - Plant Arkwright

Qualifiers

		_	· /1	$\overline{}$
н	u			1.7
			,/ I	·

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

B Compound was found in the blank and sample.

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

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

9

10

46

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-102295-1

Project/Site: CCR - Plant Arkwright

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority Arkansas DEQ	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

 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

Job ID: 180-102295-1

3

4

_

R

9

4 4

111

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Method **Method Description** Protocol Laboratory EPA 300.0 R2.1 Anions, Ion Chromatography TAL PIT **EPA 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 TAL PIT SW846

Protocol References:

7470A

EPA = US Environmental Protection Agency

Preparation, Mercury

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

Job ID: 180-102295-1

TAL PIT

SW846

3

4

O

7

8

9

10

Lab Chronicle

Client: Southern Company

Job ID: 180-102295-1

Project/Site: CCR - Plant Arkwright

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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 Instrumer	EPA 6020B nt 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 Instrumer	EPA 7470A nt ID: HGZ		1			307605	02/19/20 15:53	NAM	TAL PIT
Total/NA	Analysis Instrumer	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	307102	02/14/20 11:59	AVS	TAL PIT
Total/NA	Analysis Instrumer	Field Sampling at 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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHIC2100A		1			308008	02/25/20 22:15	MJH	TAL PIT
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 7470A t ID: HGZ		1			307605	02/19/20 15:56	NAM	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	307102	02/14/20 11:59	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t 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

Eurofins TestAmerica, Pittsburgh

Page 8 of 20

2

3

6

Ö

10

12

Ш

2/29/2020

Lab Chronicle

Client: Southern Company

Job ID: 180-102295-1 Project/Site: CCR - Plant Arkwright

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

2

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-23 Date Collected: 02/11/20 13:10 Lab Sample ID: 180-102295-1

Matrix: Water

Job ID: 180-102295-1

Date Received: 02/13/20 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	4.7		1.0	0.32	mg/L		-	02/27/20 12:04	
Fluoride	0.13		0.10	0.026	mg/L			02/27/20 12:04	
Sulfate	18		1.0	0.38	mg/L			02/27/20 12:04	
Method: EPA 6020B - Meta	als (ICP/MS) - T	otal Recov	erable						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic	<0.00031		0.0010	0.00031	mg/L		02/17/20 11:20	02/20/20 17:00	
Barium	0.046		0.010	0.0016	mg/L		02/17/20 11:20	02/20/20 17:00	
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/17/20 11:20	02/20/20 17:00	
Boron	0.079	J	0.080	0.039	mg/L		02/17/20 11:20	02/20/20 17:00	
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/17/20 11:20	02/20/20 17:00	
Calcium	10		0.50	0.13	mg/L		02/17/20 11:20	02/20/20 17:00	
Chromium	<0.0015		0.0020	0.0015	mg/L		02/17/20 11:20	02/20/20 17:00	
Cobalt	0.00056		0.00050	0.00013	mg/L		02/17/20 11:20	02/20/20 17:00	
Molybdenum	0.021		0.0050	0.00061	mg/L		02/17/20 11:20	02/20/20 17:00	
Lead	0.00026	J	0.0010	0.00013	mg/L		02/17/20 11:20	02/20/20 17:00	
Antimony	<0.00038		0.0020	0.00038	mg/L		02/17/20 11:20	02/20/20 17:00	
Selenium	<0.0015		0.0050	0.0015	mg/L		02/17/20 11:20	02/20/20 17:00	
Thallium	0.00028	JB	0.0010	0.00015	mg/L		02/17/20 11:20	02/20/20 17:00	
Lithium	0.0078		0.0050	0.0034	mg/L		02/17/20 11:20	02/20/20 17:00	
Method: EPA 7470A - Merc	cury (CVAA)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Mercury	<0.00010		0.00020	0.00010	mg/L		02/18/20 15:50	02/19/20 15:53	
General Chemistry									
Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fa
Total Dissolved Solids	110		10	10	mg/L			02/14/20 11:59	
Method: Field Sampling -							_		
Analyte		Qualifier	RL_	MDL		D	Prepared	Analyzed	Dil Fa
рН	6.71				SU			02/11/20 13:10	

Client Sample ID: ARGWC-22

Date Collected: 02/11/20 14:20

Date Received: 02/13/20 09:00

Lab	Sample	ID:	180-102295-2
			Matrix: Water

Method: EPA 300.0 R2.1 - Ani	ons, Ion Chi	romatograp	hy						
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

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

Page 10 of 20

2/29/2020

4

5

9

11

Client Sample Results

Client: Southern Company Job ID: 180-102295-1

Project/Site: CCR - Plant Arkwright

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 - Meta	als (ICP/MS) - T	otal Recov	erable (Cor	tinued)					
Analyte		Qualifier	RL		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	JB	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 - Merc	curv (CVAA)								
Analyte	• •	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		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.90				SU			02/11/20 14:20	1

2/29/2020

Client: Southern Company Job ID: 180-102295-1

Project/Site: CCR - Plant Arkwright

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

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Chloride 1.0 0.32 mg/L 02/25/20 18:56 <0.32 Fluoride 0.10 < 0.026 0.026 mg/L 02/25/20 18:56 Sulfate <0.38 1.0 0.38 mg/L 02/25/20 18:56

Lab Sample ID: MB 180-308008/6

Matrix: Water

Analysis Batch: 308008

MR ME

	IVID	MID							
Analyte	Result	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
	Chloride Fluoride	AnalyteResultChloride<0.32	Chloride <0.32 Fluoride <0.026	Analyte Result chloride Qualifier chloride RL chloride Fluoride <0.32	Analyte Result Chloride Qualifier RL R	Analyte Result Chloride Qualifier RL O.32 MDL Unit O.32 Unit O.32 mg/L O.32 mg/L O.32 mg/L O.32 MDL O.32 mg/L O.32	Analyte Result Chloride Qualifier RL R	Analyte Result Chloride Qualifier RL RL Qualifier MDL Unit RL MDL MIT	Analyte Result Chloride Qualifier Chloride RL R

Lab Sample ID: LCS 180-308008/49

Matrix: Water

Analysis Batch: 308008

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %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

MB MB

Analyte	Result	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

Prep Type: Total/NA **Analysis Batch: 308276** Spike LCS LCS %Rec. Added Result Qualifier Analyte Unit Limits D %Rec

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

Lab Sample ID: 180-102295-1 MS

Matrix: Water

Analysis Batch: 308276

Allalysis Batcii. 300270	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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

Client Sample ID: ARGWC-23

Prep Type: Total/NA

Page 12 of 20

2/29/2020

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

Matrix: Water

Analysis Batch: 308276	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	•	Qualifier	Added	_	Qualifier	Unit	D	%Rec	Limits	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 **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 307748

Prep Type: Total Recoverable Prep Batch: 307272

	MB	MB							
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 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 **Client Sample ID: Method Blank Prep Type: Total Recoverable Matrix: Water**

Analysis Batch: 307853

Prep Batch: 307272 MB MB

mg/L

mg/L

mg/L

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

Lab Sample ID: LCS 180-307272/2-A

Matrix: Water

Lead Antimony

Selenium

Analysis Batch: 307748							Prep Batch: 307272
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%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		ma/l		111	80 - 120

0.517

0.244

1.05

Eurofins TestAmerica, Pittsburgh

80 - 120

80 - 120

80 - 120

103

98

105

Page 13 of 20

0.500

0.250

1.00

10

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

Job ID: 180-102295-1

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

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

Lab Sample ID: LCS 180-307272/2-A

Lab Sample ID: 180-102295-1 MS

Matrix: Water

Matrix: Water

Analysis Batch: 307748

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

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

> Client Sample ID: ARGWC-23 **Prep Type: Total Recoverable**

Prep Batch: 307272

10

Analysis Batch: 307748 Sample Sample Spike MS MS %Rec. **Analyte** Result Qualifier Added Result Qualifier Unit D %Rec Limits Arsenic < 0.00031 1.00 1.10 mg/L 110 75 - 125 Barium 0.046 1.00 105 75 - 125 1.10 mg/L Beryllium <0.00018 0.500 0.520 mg/L 104 75 - 125 Boron 0.079 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 0.541 108 75 - 125 mg/L Cobalt 0.00056 0.500 0.495 99 75 - 125 mg/L 75 - 125 Molybdenum 0.500 0.598 115 0.021 mg/L Lead 0.00026 J 0.500 0.528 105 75 - 125 mg/L 100 Antimony <0.00038 0.250 0.251 mg/L 75 - 125 Selenium < 0.0015 1.00 1.10 mg/L 110 75 - 125 Thallium 0.00028 JB 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

Analysis Dalcii. 301140	1								Fieb Do	alcii. Ju	J1 Z1 Z
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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	JB	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
_											

2/29/2020

QC Sample Results

Client: Southern Company Job ID: 180-102295-1

RL

RL

10

Project/Site: CCR - Plant Arkwright

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-307460/1-A

Analysis Batch: 307605

Matrix: Water

Analyte

Mercury

Analyte

Mercury

MB MB

Result Qualifier

<0.00010 0.00020

MDL Unit 0.00010 mg/L

LCS LCS

Prepared

Analyzed 02/18/20 15:50 02/19/20 15:41

Prep Type: Total/NA

Prep Batch: 307460

Prep Type: Total/NA

Prep Batch: 307460

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Method Blank

Dil Fac

Lab Sample ID: LCS 180-307460/2-A

Matrix: Water

Analysis Batch: 307605

Spike Added 0.00250

0.00210

Result Qualifier

MDL Unit

10 mg/L

Unit mg/L D %Rec 84

Limits 80 - 120

Client Sample ID: Method Blank

Analyzed

02/14/20 11:59

%Rec.

Client Sample ID: Lab Control Sample

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

Lab Sample ID: MB 180-307102/2

Matrix: Water

Analysis Batch: 307102

MB MB

Analyte Result Qualifier Total Dissolved Solids <10

Lab Sample ID: LCS 180-307102/1

Matrix: Water

Total Dissolved Solids

Analysis Batch: 307102

Analyte

Spike Added

661

LCS LCS Result Qualifier 650

Unit mg/L D %Rec 98

Prepared

%Rec. Limits 80 - 120

Client Sample ID: Lab Control Sample

10

Dil Fac

QC Association Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

HPLC/IC

Analysis Batch: 308008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Ba	atch
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
1	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

Page 16 of 20

2

Job ID: 180-102295-1

3

0

8

40

11

12

1

.

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	

Chain of Custody Record

TestAmerica Pittsburgh

301 Alpha Drive RIDC Park

TestAmerica

S. HZSOM
T. TSP Dodecatydrate
U. Acetione
V. MCAA
W. - pH 4-5
Z. other (specify) Special Instructions/Note: P - Na204S Q - Na2SO3 R - Na2S2O3 400-73521-29028.1 H - Ascorbic Acid APP III, APP IV = Hd C - Zn Acetate D - Nitrio Acid E - NaMSO4 ice . DI Water G - Amchior F - MeOH Total Number of containers Acc to TA-ATL Analysis Requested E-Mail:
<Veronica.Bortot@testamericainc.com> (0Z£6/91£6 998-MS Metals App. III and (EPA 6020/7470) 500_ORGFM_28D -TDS TBadium 226 & 228 Radium 226 & 228 7 7 Lab PM: Bortot, Veronica Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) Preservation Code Water Water Water Water Sample (C=comp, G=grab) O 0 O O Mone. 484-888.5629 1420 Sample 1310 (AT Requested (days): Due Date Requested: PO#: SCS10347656 WO#: Sample Date 21 120 2/11/20 Project #: 40007712 Pittsburgh, PA 15238 Phone (412) 983-7058 Fax (412) 963-2468 CCR Plant Arkwright - Ash Pond 2 JAbraham@southernco.com ARGING Sample Identification Client Information PO BOX 2641 GSC8 Campany: Southern Campany Joju Abraham Birmingham State, Zip: AL, 35291 Georgia

Deliverable Requested: I, II, III, IV, Other (specify	zity)		di S	Special Instructions/QC Requirements:		
Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Reimoushed W	Date/Time.	U 14.40 Company	Company CC	Repelyed by: Den	J (2/20)	hit.
Reinquistants,	2//2/20	1600	Company	Received by St.	Daretting 3/2	4 Now Reduces wh
Reinquished by	(Date/Time:		Company	Received by:	Date/Time	Company
Custody Seals Intact. Custody Seal No.:				Cooler Temperature(s) °C and Other Remarks	los.	
						Ver: 08/04/2016

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Month

180-102295 Chain of Custody

Water Water Water

O O O O

Water

Radiologica/

Unknown

Poison B

Skin Imitant

Possible Hazard Identification

Water Water Water

O O O Environn TestAmer

🔅 eurofins

SHIP ACTU CAD:

BILL

ORIGIN ID:LLYA (678) 966-9991 GEORGE TAYLOR EUROPINS TESTAMERICA SSOO MCDONDUGH DRIVE SUITE C-10 NORCRUSS, GA 30093 UNITED STATES US

TO SAMPLE RECIEVING

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

REF: ACC PLT ARTWRIGHT

(412) 963-7058

NA AGCA

Uncorrected temp Thermometer ID

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



Client: Southern Company

Job Number: 180-102295-1

Login Number: 102295 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

QuestionAnswerCommentRadioactivity wasn't checked or is = background as measured by a survey meter.</td TrueThe cooler's custody seal, if present, is intact.TrueSample custody seals, if present, are intact.TrueThe cooler or samples do not appear to have been compromised or tampered with.TrueSamples were received on ice.TrueCooler Temperature is acceptable.TrueCooler Temperature is recorded.TrueCOC is present.TrueCOC is filled out in ink and legible.TrueCOC is filled out with all pertinent information.TrueIs the Field Sampler's name present on COC?TrueThere are no discrepancies between the containers received and the COC.TrueSamples are received within Holding Time (excluding tests with immediateTrue
meter. The cooler's custody seal, if present, is intact. Sample custody seals, if present, are intact. True The cooler or samples do not appear to have been compromised or tampered with. Samples were received on ice. Cooler Temperature is acceptable. Cooler Temperature is recorded. True COC is present. COC is filled out in ink and legible. COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
Sample custody seals, if present, are intact. True The cooler or samples do not appear to have been compromised or tampered with. 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. Is the Field Sampler's name present on COC? There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
The cooler or samples do not appear to have been compromised or tampered with. Samples were received on ice. Cooler Temperature is acceptable. Cooler Temperature is recorded. True COC is present. True COC is filled out in ink and legible. True COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate
tampered with. Samples were received on ice. Cooler Temperature is acceptable. Cooler Temperature is recorded. COC is present. COC is filled out in ink and legible. COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
Cooler Temperature is acceptable. Cooler Temperature is recorded. True COC is present. COC is filled out in ink and legible. COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
Cooler Temperature is recorded. COC is present. True COC is filled out in ink and legible. True COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? True There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
COC is present. COC is filled out in ink and legible. COC is filled out with all pertinent information. It is the Field Sampler's name present on COC? There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
COC is filled out in ink and legible. COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? True There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
Is the Field Sampler's name present on COC? True There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
There are no discrepancies between the containers received and the COC. Samples are received within Holding Time (excluding tests with immediate True
Samples are received within Holding Time (excluding tests with immediate True
1119)
Sample containers have legible labels.
Containers are not broken or leaking.
Sample collection date/times are provided. True
Appropriate sample containers are used.
Sample bottles are completely filled. True
Sample Preservation Verified.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs True
Containers requiring zero headspace have no headspace or bubble is True <6mm (1/4").
Multiphasic samples are not present. True
Samples do not require splitting or compositing.
Residual Chlorine Checked. N/A



Environment Testing TestAmerica

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

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

veronica.bortot@testamericainc.com

LINKS

Review your project results through

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

3

4

5

7

8

40

11

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-102295-2

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	7
Method Summary	8
Lab Chronicle	9
Client Sample Results	10
QC Sample Results	12
QC Association Summary	14
Chain of Custody	15
Receipt Chacklists	18

4

5

7

9

10

12

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.

0

Ω

9

1 1

12

Definitions/Glossary

Client: Southern Company Job ID: 180-102295-2

Project/Site: CCR - Plant Arkwright

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)

4

-

7

J

6

1

8

10

11

12

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-102295-2

Project/Site: CCR - Plant Arkwright

Laboratory: Eurofins TestAmerica, Pittsburgh

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

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 Illinios 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 Newada NELAP 042-999-482 12-31-20 Newada NELAP 042-999-482 12-31-20 New Hampshire NELAP 040164 07-31-20 New Hampshire 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<	Authority	Program	Identification Number	Expiration Date
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 Newada State PA00164 07-31-20 New Hampshire NELAP 042-999-482 12-31-20 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 <td>Arkansas DEQ</td> <td>State</td> <td>19-033-0</td> <td>06-27-20</td>	Arkansas DEQ	State	19-033-0	06-27-20
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 K798043 12-31-20 Kentucky (WW) State K798043 12-31-20 Louisiana NELAP 04041 06-30-20 Minnesota NELAP 042-999-482 12-31-20 Newada 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 D2-00416 04-30-20	California	State	2891	04-30-20
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<	Connecticut	State	PH-0688	09-30-20
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 Hampshire NELAP PA005 06-30-20 New York NELAP 11182 04-01-20 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 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 US Fish & Wildlife US Federal Programs P30-16-00211 06-26-22 USDA US Federal Programs P330-16-00211 06-26-22 USDA US Federal Programs P330-16-00211 06-26-22 USDA US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 US Federal Programs P330-16-00211 06-26-22 UTah NELAP PA001462019-8 05-31	Florida	NELAP	E871008	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 Jork NELAP 11182 04-01-20 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	Georgia	State	PA 02-00416	04-30-20
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 PA-2151 02-06-21 Pennsylvania NELAP D2-00416 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	Illinois	NELAP	004375	06-30-20
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 PA-2151 02-06-21 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	Kansas	NELAP	E-10350	03-31-20
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 PA-2151 02-06-21 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 PA00146201	Kentucky (UST)	State	162013	04-30-20
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 USDA US Federal Programs P330-16-00211 06-26-22 Utah NELAP	Kentucky (WW)	State	KY98043	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	Louisiana	NELAP	04041	06-30-20
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	Minnesota	NELAP	042-999-482	12-31-20
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 US Federal Programs 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	Nevada	State	PA00164	07-31-20
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 P30-16-00211 06-26-22 Utah NELAP PA001462019-8 05-31-20 Virginia NELAP 10043 09-15-20 West Virginia DEP State 142 02-01-21	New Hampshire	NELAP	2030	04-04-20
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 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	New Jersey	NELAP	PA005	06-30-20
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	New York	NELAP	11182	04-01-20
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	North Carolina (WW/SW)	State	434	01-01-21
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	North Dakota	State	R-227	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	Oregon	NELAP	PA-2151	02-06-21
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	Pennsylvania	NELAP	02-00416	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	Rhode Island	State	LAO00362	12-31-20
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	South Carolina	State	89014	04-30-20
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	Texas	NELAP	T104704528	03-31-20
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	US Fish & Wildlife	US Federal Programs	058448	07-31-20
Utah NELAP PA001462019-8 05-31-20 Virginia NELAP 10043 09-15-20 West Virginia DEP State 142 02-01-21	USDA	Federal	P-Soil-01	06-26-22
Virginia NELAP 10043 09-15-20 West Virginia DEP State 142 02-01-21	USDA	US Federal Programs	P330-16-00211	06-26-22
West Virginia DEP State 142 02-01-21	Utah	NELAP	PA001462019-8	05-31-20
	Virginia	NELAP	10043	09-15-20
Wisconsin State 998027800 08-31-20	West Virginia DEP	State	142	02-01-21
	Wisconsin	State	998027800	08-31-20

4

5

7

9

10

11

Accreditation/Certification Summary

Client: Southern Company

Job ID: 180-102295-2

Project/Site: CCR - Plant Arkwright

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
lowa	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

4

5

7

9

10

12

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

Eurofins TestAmerica, Pittsburgh

Sample Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Job ID: 180-102295-2

3

4

G

Ω

9

10

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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

Protocol References:

None = None

PrecSep-21

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.

Preparation, Precipitate Separation (21-Day In-Growth)

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Job ID: 180-102295-2

TAL SL

None

4

5

7

8

9

10

1:

Lab Chronicle

Client: Southern Company Job ID: 180-102295-2

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-102295-1 **Client Sample ID: ARGWC-23**

Date Collected: 02/11/20 13:10 **Matrix: Water** Date Received: 02/13/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			463541	03/10/20 11:01	KLS	TAL SL
Total/NA	Prep	PrecSep_0			999.85 mL	1.0 g	460625	02/17/20 12:02	MNH	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPURPLE		1			462662	03/03/20 17:38	AJD	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			464942	03/19/20 11:20	SMP	TAL SL

Lab Sample ID: 180-102295-2 **Client Sample ID: ARGWC-22** 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 q	460621	02/17/20 11:37	MNH	TAL SL
Total/NA	Analysis	9315 ot ID: GFPCRED		1	555.75 IIIE	9	463541	03/10/20 11:02		TAL SL
Total/NA	Prep	PrecSep_0			999.76 mL	1.0 g	460625	02/17/20 12:02	MNH	TAL SL
Total/NA	Analysis Instrumer	9320 at ID: GFPCPURPLE		1		-	462662	03/03/20 17:38	AJD	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			464942	03/19/20 11:20	SMP	TAL SL

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

Page 9 of 19

Client: Southern Company

Date Received: 02/13/20 09:00

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-23

Lab Sample ID: 180-102295-1 Date Collected: 02/11/20 13:10

Matrix: Water

Carrier Ba Carrier	%Yield 95.7	Qualifier	40 - 110				Prepared 02/17/20 11:37	Analyzed 03/10/20 11:01	Dil Fac
Analyte Radium-226	0.0559	Qualifier U	Uncert. (2σ+/-) 0.0578	Uncert. (2σ+/-) 0.0580	RL 1.00	MDC 0.0896	Prepared 02/17/20 11:37	Analyzed 03/10/20 11:01	Dil Fac
			Count	Total					

Method: 9320 - Radium-228 (GFPC)

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

_			Count	Total					
			Uncert.	Uncert.					
Analyte	Result	Qualifier	(2σ+/-)	(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)
---------------------------	--------

			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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	(GEPC)
welliou.	3320	- Naululli	-220	IGFFGI

			Uncert.	Uncert.						
Analyte	Result (Qualifier	(2σ+/-)	(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
Carrior	%Viold	Oualifier	l imite					Prenared	Analyzed	Dil Fac
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Carrier Ba Carrier	89.2	Qualifier	Limits 40 - 110						Analyzed 03/03/20 17:38	Dil Fac

Total

Count

Client Sample Results

Client: Southern Company Job ID: 180-102295-2

Project/Site: CCR - Plant Arkwright

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

			Count	Total				
			Uncert.	Uncert.				
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC Unit	Prepared	Analyzed
Combined Radium 226	0.229	U	0.242	0.242	2.00	0.395 pCi/L		03/19/20 11:20

+ 228

Dil Fac

03/19/20 11:20

10

Job ID: 180-102295-2

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

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-460621/22-A

Matrix: Water

Matrix: Water

Analyte

Radium-226

Analysis Batch: 463541

Analysis Batch: 463541

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 460621

MB MB Uncert. Uncert. Analyte Result Qualifier MDC Unit $(2\sigma + / -)$ $(2\sigma + / -)$ RI Prepared Analyzed Dil Fac Radium-226 0.01227 U 0.0934 pCi/L 02/17/20 11:37 03/10/20 13:26 0.0475 0.0475 1.00

Total

Count

LCS LCS

Result Qual

9.510

MB MB

Spike

Added

11.3

Carrier Qualifier Limits %Yield Ba Carrier 40 - 110 98.5

Prepared Analyzed Dil Fac 02/17/20 11:37 03/10/20 13:26

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 460621

Total

1.03

Uncert. RL $(2\sigma + / -)$

1.00

MDC Unit 0.0982 pCi/L

%Rec

Limits 75 ₋ 125

%Rec.

LCS LCS

Lab Sample ID: LCS 160-460621/1-A

Carrier %Yield Qualifier I imits 40 - 110 Ba Carrier 84.9

Lab Sample ID: 180-102295-2 DU Client Sample ID: ARGWC-22

Matrix: Water

Analysis Batch: 463541

Prep Type: Total/NA

Prep Batch: 460621

Total

DU DU RER Sample Sample Uncert. Analyte Result Qual Result Qual $(2\sigma + / -)$ RL**MDC** Unit RER Limit Radium-226 0.0956 0.07983 U 0.0675 1.00 0.0960 pCi/L 0.11

DU DU

Carrier %Yield Qualifier Limits Ba Carrier 84.9 40 - 110

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

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-228 02/17/20 12:02 03/03/20 17:42 0.2903 Ū 0.272 0.273 1.00 0.440 pCi/L

> MB MB

Carrier **%Yield Qualifier** Limits Ba Carrier 98.5 40 - 110 89.3 40 - 110 Y Carrier

Dil Fac Prepared Analyzed 02/17/20 12:02 03/03/20 17:42

02/17/20 12:02 03/03/20 17:42

QC Sample Results

Client: Southern Company Job ID: 180-102295-2

Project/Site: CCR - Plant Arkwright

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

Lab Sample ID: LCS 160-460625/1-A **Client Sample ID: Lab Control Sample**

Matrix: Water Prep Type: Total/NA Analysis Batch: 462662 **Prep Batch: 460625**

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

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

Client Sample ID: ARGWC-22 Lab Sample ID: 180-102295-2 DU

Prep Type: Total/NA Matrix: Water Analysis Batch: 462662 **Prep Batch: 460625**

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

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

10

Eurofins TestAmerica, Pittsburgh

3/23/2020

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	- <u> </u>
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	

Ver: 08/04/2016

00

Cooler Temperature(s) °C and Other Remarks:

Received by

7500

Chain of Custody Record

Pittsburgh, PA 15238 Phone (412) 983-7058 Fax (412) 963-2468

TestAmerica Pittsburgh

301 Alpha Drive RIDC Park

TestAmerica

S. HZSOM
T. TSP Dodecahydrate
U. Acetone
V. MCAA
W. pH 4-5
Z. other (specify) 4. JUL Bredwo Special Instructions/Note: The survey P - Na204S Q - Na2SO3 R - Na2S2O3 二十日日 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Month 400-73521-29028.1 otito H - Ascorbic Acid APP III APP IV A - HCL B - NaOH C - Zn Acetata D - Nitric Acid E - NaHSO4 11 HO ice . DI Water G - Amchior F - MeOH 180-102295 Chain of Custody Total Number of containers 12/2 fethod of Shipment Acc to TA-ATL Analysis Requested Special Instructions/QC Requirements: E-Mail:
<Veronica.Bortot@testamericainc.com> (0Z£6/91£6 9#8-MS Metals App. III and (EPA 6020/7470) 300_ORGFM_28D - OTO S & 228 Radium 226 7 Received by sperved by: 7 Lab PM: Bortot, Veronica Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) ATOC. Preservation Code: Water Matrix Water Radiologica/ Sample (C=comp, G=grab) 14.40 Type O O O O O 0 O O O O O Mone. 484-888.5629 1420 Sample 1310 Date: Unknown (AT Requested (days): Due Date Requested: PO#: SCS10347656 Sample Date 21 120 2/11/20 Project #: 40007712 2 C Date/Time: Poison B Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify) Possible Hazard Identification CCR Plant Arkwright - Ash Pond 2 JAbraham@southernco.com Empty Kit Relinquished by: ARGING Sample Identification Client Information Address: PO BOX 2641 GSC8 Campany: Southern Campany Joju Abraham Birmingham State, Zip: AL, 35291 Georgia

Custody Seal No.

Custody Seals Intact:

A Yes A No

Environn TestAmer

🔅 eurofins

SHIP ACTU CAD:

BILL

ORIGIN ID:LLYA (678) 966-9991 GEORGE TAYLOR EUROPINS TESTAMERICA SSOO MCDONDUGH DRIVE SUITE C-10 NORCRUSS, GA 30093 UNITED STATES US

EUROFINS TESTAMERICA PITT PITTSBURGH PA 15238 TO SAMPLE RECIEVING 301 ALPHA DR. RIDC PARK

REF: ACC PLT ARTWRIGHT

(412) 963-7058

NA AGCA

Uncorrected temp Thermometer ID

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



Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2468

Do the three Requested (days): The Requested (days): The Requested (days)	Client Information (Sub Contract Lab)	Sampler			Lab PN Bortor	Lab PM Bortot, Veronica	ca			Camer Tracking No(s)	(s)oN bun		COC No. 180-385221.1	
The control of the	Client Contact	Phone			E-Mail		-			State of Origi	101		Page:	
The properties of the properties The	Shipping/Receiving				veror	ica.borto	ot@test	americain	::com	Georgia			Page 1 of 1	
The Researce (days)	Company: TestAmerica Laboratories, Inc.					Accreditate	ons Requ	ou aes) peur	100				Job #: 180-102295-2	
10 (Lab to) 10 (L	Address: 13715 Rider Trail North,	Due Date Request 3/16/2020	:pa					An	alysis R	equested			Preservation Cod	100
10 (Lab to) Sample Date Sample Date Sample Date Sample Date Sample Date Time Graces Sample Dat	y	TAT Requested (d	sys):				-		F					M - Hexane N - None O - Achaeos
10 (Lab ID) Sample Date Sam	State, Zip MO, 63045													P - NaZO4S O - NaZSO3
Sample S	38-8566(Tel)	PO#					-						78	R - Na2S203 S - H2S04 T - TSP Dedecalvetrate
Sample Description Sample Description Sample Description Sample Description Descri	Email	wo#				(0)						s	6	U - Acetone V - MCAA
Sample Carolina	Project Name: CCR - Plant Arkwright	Project # 18020201				10 20						neriisti		W - pH 4-5 Z - other (specify)
Sample Identification - Client ID (Lab ID) Sample Dear Sample Identification - Client ID (Lab ID) Sample Dear Sample Identification - Client ID (Lab ID) Sample Dear Sample Identification - Client ID (Lab ID) Sample Dear Sample Identification - Client ID (Lab ID) Sample Identification - Client ID (Lab ID) Sample Identification - Client ID (Lab ID) Sample Dear Sample Identification - Client ID (Lab ID) Sample Identification - Client ID (Lab ID) Sample Dear Sample Identification - Client ID (Lab ID) Sample ID (Lab ID) Sample ID (Lab ID) Sample Identification - Client ID (Lab ID) Sample ID (Lab ID) Sa	Sie. Arkwright	SSOWE				A) as		Dd:				noo lo	Other:	
ARGWL-22 (180-102295-1) ARGWL-22 (180-102295-2) 21/1/20 Eastern ARGWL-22 (180-102295-2) 21/1/20 Eastern Water X X X X X X X X X X X X X X X X X X X	Sample Identification - Client ID (Lab ID)	Sample Date	Sample		Matrix (www.sec. 5-sold. O-washind.	M/SM mioha9	or management	Razzerazza Gr				Total Number	Special In	structions/Note
ARCMUL-22 (180-102295-2) ARCMUL-22 (180-102		X	X	e m	on Code:	X						X		
ARGWL-22 (166 / 102265 2) ARGWL-22 (166 / 10226	ARGWL-23 (180-102295-1)	2/11/20	13:10 Fastern		Water			×				-		
Note Store therefore are studyed to change, Eurofren's Techherican places the coverable of mitting, analyse is accordation complished with the Store therefore the coverable of the Store therefore the store of the study of the Store therefore the store of the study of the Store therefore the store of the study of the Store therefore the store of the study of the Store therefore the store of the study of the Store therefore the store of the stor	ARGWL-22 (180-102295-2)	2/11/20	14:20		Water		-	×	F			1		
Note Since bromany accretitations be subject to change, Eurofen Teabheristic places the convertible of method, analyte & accretitation complished upon out subcomment between the presental absorbation in the Since of company accretitation in the Since of an analysis of control to above of an analysis between the presental absorbation in the Since of an analysis of control to above of an analysis between the subgrant of control to above of an analysis of control to an analysis of control			Costal			F	-		F		+			
Note Since laboratory accreditations are subject to change, Eurofina Test/America places the commembre of muthod, analysis & accreditation compliance upon out subcombert blacketines. This sample spicients it forwarded volve changes to change, it is interestable to change, Eurofina Test/America places the commembre of muthod, analysis feets/america subcomber of changes to change the changes the changes to change the changes to change the changes the chang											-			
Note Street laboration are subject to charge, Eurofear Teablewisca places the connection of membra social laborations are subject to charge. Eurofear Teablewisca places the connection of membra social laborations are current to dain, ethan the signed Chain of Costody statements and Connection of Connectio											H			
Note Since thorsely accretiations are subject to change, Eurofins TastAmerica ablocate the comments of method, analyte & accretiations are subject to change, Eurofins TastAmerica ablocations are subject to change, Eurofins TastAmerica ablocations are subject to change, Eurofins TastAmerica ablocations are subject to change, Eurofins TastAmerica ablocation in the State of Cognition and Change of Change o														
Note Sirce librations are subject to change, Eurofina Tatuhunica places the connective of neutrod, analyte & scandidation compliance upon out subcontent laboratories. This sample bispond under channel chann														
Note Sirce thoestory accreditations are subject to change, Eurofins Test/America places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory accreditations are subject to change, Eurofins Test/Americas laboratory accreditations are subject to change, Eurofins Test/Americas laboratory or cheer instructions of the contract laboratory of the contract laboratory or cheer instructions of the contract laboratory or cheer instructions of the contract laboratory of the contract laboratory or cheer instructions of the contract laboratory						1	-		1					
mental accreditation in the State of Organ state above for amyyelschetschildren because and composition of the State of Organ state above for amyyelschetschildren because the samples supprent as throughout to Euroff to State of Organ state above for amyyelschetschildren because the samples are current to date, return the signed Chain of Custody afterting to said complicance to Euroff and Possible Hazard Identification Unconfirmed Disposal (A fee may be assessed if samples are retained longer than 1 month) Empty Kit Relinquished by. Empty Kit Relinquished by. Reinquished by. Date: Dat	Motor Sirves Inhoration accorditations are exhibited to chance Exceller To	of Breating aliabate the consequent	of months of											
N. Other (specify) Primary Deliverable Rank: 2 Special Instructions/OC Requirements: N. Other (specify) Primary Deliverable Rank: 2 Special Instructions/OC Requirements: Deliverable Rank: 2 Time: Time: Method of Strigment Deliverable Rank: 2 Time: Method of Strigment Deliverable Rank: 3 Company Received by: Date/Time: Date/Time: Company Received by: Date/Time: Date/Time: Company Received by: Date/Time: Company Confirmed by: Con	maintain accreditation in the State of Origin Isted above for analysishest TestAmerica attention immediately. If all requested accreditations are or	sometric peaces are ownerson similarity being analyzed, the su urrent to date, return the signed	mples must be Chain of Cust	shipped back to ody affesting to	o the Eurofins said complican	estAmeric ce to Eurof	a laborat fins Test/	tract laborate bry or other i America.	nes. This sa nstructions w	nple shipment is if be provided. A	forwarded un	oder cham-of- o accreditatio	custody. If the labora in status should be bri	liony does not currently ought to Eurofins
IV. Other (specify) Primary Deliverable Rank: 2 Special Instructions/OC Requirements: And thou of Shipment Date: Date: Time: Time: And Time: Date: Date: Company Received by: Date: Company Date: Company Received by: Date: Company Ody Seal No.: Cooler Temperature(s)*C and Other Remarks: Company	Possible Hazard Identification Unconfirmed					Samp	Return	posal (A I	ee may b	assessed if	samples	are retaine	ad longer than 1	month)
Date: Date: Time: Method of Stripment Date:	Deliverable Requested; I, II, III, IV, Other (specify)	Primary Deliver	able Rank: 2			Speci	al Instr	uctions/QC	Requiren	ents:				0
Company Comp	Empty Kit Relinquished by:		Date:			Time:	ı			Method	of Shipment			
Sals Intact: Custody Seai No.: Company Received by: DaterTime: DaterTime: DaterTime: DaterTime: DaterTime: DaterTime: A No.	7	Date Terrie	20 17	00	SER PH	8	d baylood	1	1		No.	14.3	101	7 AS
als Intact: Custody Seal No.: Configuration (S) C and Other Remarks:	Agentadores of	DateTime		0	ompany	ž	scewed b	*			Date/Tim	4		Сотралу
Custody Seal No.:		Date/Time:		0	ompany	R	peviese p	*			Date/Tim			Company
						8	ooler Ten	iperaturo(s)	C and Other	Remarks.				

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 = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Client: Southern Company Job Number: 180-102295-2

Login Number: 102295 List Source: Eurofins TestAmerica, St. Louis

List Number: 2 List Creation: 02/14/20 03:51 PM Creator: Harris. Lorin C

Creator: Harris, Lorin C		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

N/A

Residual Chlorine Checked.



Daily Instrument Calibration Log

SITE:	Plant Arkwright	
TECHNICIAN:	C. Parket	
WATER LEVEL:	Salant 101	
VATER LEVEL S/N:	Solinat 101 322101	
INSTRUMENT S/N:	024479	
NSTRUMENT TYPE:		
	ID: PH 4 LOT#: 96/28 ZEXP. DATE:	9/21
	ID: 7 LOT #: 96 H / 16 OEXP. DATE:	8/21
	ID: + 10 LOT#: 46A 1078 EXP. DATE:	1/21
	ID: SC LOT#: 96 176 EXP. DATE:	9/20
	ID: ORP LOT#: 96K14Z EXP. DATE: 5	1/20
	ID: LOT #: EXP. DATE:	′
	ID: LOT #: EXP. DATE:	
libration Date:	2/12/22	
ilibration Date:	100% sat. = 96.5 @ 97.2	
RDO:	100% sat. = 100% sat. = 700 - 100%	10.00 = 10,38
CONDUCTIVITY	4.00 = 4.85 7.00 = 7.61 1413 = 1343 y 5/em	10.00 = 10,00
	240 = 806	<u> </u>
OKF (IIIV)	240 - 800	_
alibration Date:	7/11/202	
	100% sat. = 96. D	
PH	4.00 = 4.94 7.00 = 7.82	10.00 = 10.49
CONDUCTIVITY	1413: 1356 y 3/cm	10.00 = 10 - 1
	236 = 178	_
Oral (mv)		
alibration Date:		
	100% sat. =	
	4.00 = 7.00 =	10.00 =
CONDUCTIVITY	/ 	
ORP (mV)		
10.1.00 W110.1		
alibration Date:		
RDO:	100% sat. =	
	4.00 = 7.00 =	10.00 =
elibuoti D-t		
alibration Date:	100% sat. =	
	4.00 = 7.00 =	10.00 =
		10.00 -
ORP (mV)		-
OKP (mv)		



Daily Instrument Calibration Log

SITE:		Plant Arkwright							
TECHNICIAN:	O. Parker								
INSTRUMENT S/N:	160 00005 Z Z Hach 2100 Q	=30 (fine)							
CAL. SOLUTION:	O NTU - LOT # NA	EXP. DATE: New DI wat							
	10 NTU-LOT # A9277	EXP. DATE: 01/21							
	20 NTU - LOT # A9037	EXP. DATE: 05/20							
Calibration Date:	2/10/20	WARRED HOLD TO BE AND A							
		Instrument Reading							
	0.0	0,24 NTU							
	10.0	10.6 NTU							
	20.0	20.7 NTU							
Calibration Date:	2/11/20								
	Calibation Solution	Instrument Reading							
	0.0	0.25 NTU							
	10.0	10.7 NTU							
	20.0	Zo . 7 NTU							
Calibration Date:	Calibation Solution	Instrument Reading							
	0.0								
	10.0	NTU NTU							
	20.0	NTU NTU							
	20.0	NIO							
Calibration Date:	Colliberion Solution								
	Calibation Solution	Instrument Reading							
	0.0	NTU NTU							
	20.0	NTU NTU							
	20.0	N10							
Calibration Date:									
	Calibation Solution	Instrument Reading							
	0.0	NTU							
	10.0	NTU							
	20.0	NTU							
Calibration Date:	Collination College	Continued Desires							
	Calibation Solution	Instrument Reading							
	0.0	NTU							
	10.0	NTU							

Product Name: Low-Flow System

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

Pump Information:

Project Information:

Operator Name C Parker
Company Name ACC
Project Name Plant Arkwright
Site Name Plant Arkwright
Latitude 0° 0' 0"

Hach 2100Q

Pump Model/Type Peri Pump
Tubing Type poly
Tubing Diameter .17 in
Tubing Length 28 ft

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 445707

Pump placement from TOC 23 ft

Well Information:

Turbidity Make/Model

Well IDARGWC-22Well diameter2 inWell Total Depth27.78 ftScreen Length10 ftDepth to Water12.18 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	рН	SpCond µS,	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"

Hach 2100Q

Pump Information:

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

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 445707

Pump placement from TOC 22 ft

Well Information:

Turbidity Make/Model

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	рН	SpCond µS	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



Environment Testing TestAmerica

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

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

veronica.bortot@testamericainc.com

Links

Review your project results through

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

2

1

5

6

8

9

11

12

Le

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-103434-1

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	10
QC Sample Results	12
QC Association Summary	14
Chain of Custody	16
Receipt Charklists	19

6

8

9

1 U

12

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.

2

3

4

5

6

6

9

10

12

R

Definitions/Glossary

Client: Southern Company Job ID: 180-103434-1

Project/Site: CCR - Plant Arkwright

Qualifiers

	-			
н	ы	(3/1	(:
•		_	•	•

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

B Compound was found in the blank and sample.

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

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
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)

9

4

5

6

7

8

12

1.

Accreditation/Certification Summary

Client: Southern Company

Job ID: 180-103434-1

Project/Site: CCR - Plant Arkwright

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

4

5

7

4.0

11

12

Sample Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Job ID: 180-103434-1

3

4

6

R

9

10

11

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

5

6

ė

0

10

11

Lab Chronicle

Client: Southern Company Job ID: 180-103434-1

Project/Site: CCR - Plant Arkwright

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

Duna Tama	Batch	Batch	Dun	Dil	Initial	Final	Batch	Prepared	Amalust	l -b
Total/NA	Type Analysis Instrument	Method EPA 300.0 R2.1 ID: CHIC2100A	Run	Factor 1	Amount	Amount	Number 310688	or Analyzed 03/21/20 22:48	Analyst SAC	Lab TAL PIT
Total/NA	Analysis Instrument	EPA 300.0 R2.1 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 Instrument	EPA 6020B 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 Instrument	EPA 6020B 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 Instrument	EPA 7470A ID: HGZ		1			310256	03/17/20 15:52	NAM	TAL PIT
Total/NA	Analysis Instrument	SM 2540C ID: NOEQUIP		1	100 mL	100 mL	309877	03/13/20 10:05	AVS	TAL PIT
Total/NA	Analysis Instrument	Field Sampling 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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrument	EPA 300.0 R2.1 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 Instrument	EPA 6020B 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 Instrument	EPA 6020B 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 Instrument	EPA 7470A ID: HGZ		1			310256	03/17/20 15:53	NAM	TAL PIT
Total/NA	Analysis Instrument	SM 2540C ID: NOEQUIP		1	100 mL	100 mL	309877	03/13/20 10:05	AVS	TAL PIT
Total/NA	Analysis Instrument	Field Sampling 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

Page 8 of 19

Lab Chronicle

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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

Job ID: 180-103434-1

2

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

Froject/Site. CON - Flant Arkwright

Client Sample ID: ARGWC-22

Lab Sample ID: 180-103434-1

Matrix: Water

Job ID: 180-103434-1

Date Collected: 03/09/20 16:21 Date Received: 03/11/20 09:00

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	
Chloride	11		1.0	0.32	mg/L			03/21/20 22:48	•
Sulfate	630		5.0	1.9	mg/L			03/21/20 23:03	
Method: EPA 6020B - Met	als (ICP/MS) - T	otal Recov	erable						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic	<0.0016		0.0050	0.0016	mg/L		03/17/20 11:48	03/23/20 16:56	
Barium	0.039		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:12	
Beryllium	0.00019	J B	0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:12	
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:12	
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:12	•
Cobalt	0.015		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:12	•
Molybdenum	0.00067	J	0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:12	
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:12	
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:12	•
Selenium	<0.0076		0.025	0.0076	mg/L		03/17/20 11:48	03/23/20 16:56	
Thallium	0.00035	JB	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:12	•
Lithium	0.0071		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:12	•
Calcium	180		2.5	0.64	mg/L		03/17/20 11:48	03/23/20 16:56	
Boron	2.7		0.40	0.19	mg/L		03/17/20 11:48	03/23/20 16:56	
Method: EPA 7470A - Mer	curv (CVAA)								
Analyte	• •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Mercury	<0.00010		0.00020	0.00010	mg/L		03/16/20 12:05	03/17/20 15:52	-
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Total Dissolved Solids	1200		10	10	mg/L			03/13/20 10:05	
Method: Field Sampling -	Field Sampling								
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fa
pH	5.97				SU			03/09/20 16:21	

Client Sample ID: ARGWC-23

Date Collected: 03/09/20 15:16

Date Received: 03/11/20 09:00

Lab Sample	ID: 180-103434-2
	Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.089	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

Job ID: 180-103434-1

Project/Site: CCR - Plant Arkwright

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

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	JB	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 - Mer	cury (CVAA)								
: Method: EPA 7470A - Mer	cury (CVAA)								
Analyte	Result	Qualifier	RL 0.00020		Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Analyte	• •	Qualifier	RL 0.00020	MDL 0.00010		<u>D</u>	Prepared 03/16/20 12:05	Analyzed 03/17/20 15:53	Dil Fac
Analyte Mercury	Result	Qualifier				<u>D</u>			Dil Fac
Analyte Mercury General Chemistry	Result <0.00010	Qualifier Qualifier		0.00010		<u>D</u>			1
Method: EPA 7470A - Merion Analyte Mercury General Chemistry Analyte Total Dissolved Solids	Result <0.00010		0.00020	0.00010	mg/L Unit	=	03/16/20 12:05	03/17/20 15:53	Dil Fac Dil Fac
Analyte Mercury General Chemistry Analyte			0.00020	0.00010 MDL	mg/L Unit	=	03/16/20 12:05	03/17/20 15:53 Analyzed	1
Analyte Mercury General Chemistry Analyte Total Dissolved Solids	Result	Qualifier	0.00020	0.00010 MDL	mg/L Unit	=	03/16/20 12:05	03/17/20 15:53 Analyzed	Dil Fac
Analyte Mercury General Chemistry Analyte	Result <0.00010 Result 210 Field Sampling	Qualifier	0.00020	0.00010 MDL	mg/L Unit mg/L	=	03/16/20 12:05	03/17/20 15:53 Analyzed	1

4/14/2020

3

5

7

9

10

12

Client: Southern Company Job ID: 180-103434-1

Project/Site: CCR - Plant Arkwright

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

MB MB

Lab Sample ID: MB 180-310688/6

Matrix: Water

Analysis Batch: 310688

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

Analyte	Result 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

Allalysis Batch. 310000	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%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

MB	MB							
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<0.0016		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 13:53	1
0.000183	J	0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 13:53	1
<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 13:53	1
<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 13:53	1
<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 13:53	1
<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 13:53	1
<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 13:53	1
<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 13:53	1
0.000349	J	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 13:53	1
<0.0034		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 13:53	1
	Result <0.0016 0.000183 <0.00022 <0.0015 <0.00013 <0.00061 <0.00013 <0.00034	0.000183 J <0.00022 <0.0015 <0.00013 <0.00061 <0.00013 <0.00038 0.000349 J	Result Qualifier RL <0.0016	Result Qualifier RL MDL <0.0016	Result Qualifier RL MDL Unit <0.0016	Result Qualifier RL MDL Unit mg/L D <0.0016	Result Qualifier RL MDL Unit D Prepared <0.0016	Result Qualifier RL MDL Unit D Prepared Analyzed <0.0016

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

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

, , , , , , , , , , , , , , , , , , , ,	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

Page 12 of 19

4/14/2020

Client: Southern Company Job ID: 180-103434-1

Project/Site: CCR - Plant Arkwright

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

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

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

LCS LCS

0.00210

Result Qualifier

Spike

Added

0.00250

Lab Sample ID: LCS 180-310061/2-A

Matrix: Water

Analyte

Mercury

Analysis Batch: 310256

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

Prep Batch: 310061

%Rec.

Unit %Rec Limits D 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

MB MB

MB MB

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

Lab Sample ID: LCS 180-309877/1

Matrix: Water

Analysis Batch: 309877

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

LCS LCS Spike %Rec. Analyte Added Result Qualifier Limits Unit %Rec **Total Dissolved Solids** 661 662 100 80 - 120 mg/L

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

F	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
7	180-103434-1	ARGWC-22	Total Recoverable	Water	3005A	
	180-103434-2	ARGWC-23	Total Recoverable	Water	3005A	
1	MB 180-310194/1-A	Method Blank	Total Recoverable	Water	3005A	
1	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

4/14/2020

Page 14 of 19

2

3

6

11

12

QC Association Summary

Job ID: 180-103434-1

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

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	

TestAmerica Pittsburgh	•								Test	TestAmerica
out April Different Communication Philosophy A 15239 Physical C 1279 963-7058 Fax (412) 963-7468	5	hain o	Chain of Custody Record	ody Re	COLC				THE LEADER IN	IN ENVIRONMENTAL TESTING
	Sampoler:	1111		Lab PM			Carrier Tr	Carrier Tracking No(s):	COC No:	
Client Information	CYAN.	\sim	PS.	Bortot	Bortot, Veronica	a	Т		400-73521-29	028.1
Clent Contact: Joju Abraham	-Ottoway	594-	5998		nica.Bor	E-Mail: <veronica.bortot@testamericainc.com></veronica.bortot@testamericainc.com>	4		Page: / a	1 t
Company: Southern Company						Analysis	Analysis Requested	P	Job #:	
Address: PO BOX 2641 GSC8	Due Date Requested	:90:							Preservation Codes:	odes:
City: Birmingham	TAT Requested (day	iys):				25400			B - NaOH C - Zn Acetate	M - hexame N - None O - AsNaO2
State, Zipc AL, 35291						'ayeyin			D - Nitric Acid E - NaHSO4	P - Na2O4S Q - Na2SO3
Phone:	PO#: SCS10347656				10	S & abi			G - Amchlor H - Ascorbic Acid	
Emai: JAbraham@southernco.com	WO #:					noul4				U - Acetone V - MCAA
Project Name: CCR Plant Arkwright - Ash Pond 2	Project #:				_	VI d			K-EDTA L-EDA	W - pH 4-5 Z - other (specify)
Site: Georgia	SSOW#:					10 - CF			of coi	
		Sample		Matrix (virwater, Sreold, Orwasteloll,	eld Filtered artorm MS/M	illi qqA elsta 07b7/020b Aq 62_M42AO_0 26_2 28_352 mulbi 6/2156 8b8-W			redmuN listo	
Sample Identification	Sample Date	Time	G=grab) et-thsse, A-v	3	_	DE Z				Special Instructions/Note:
4RGWC - 22	3-4-20	1621	9		12/2/	1			3 PH= 5,9	7
8	3-4-20	1516	9	Water	N	100			3 PH= 63	7
			9	Water					=Hd	
			9	Water					= Hd	
			9	Water					= Hd	
			9	Water						
			9	Water						
			Ø	Water						
			9	Water					180-103434 Chain of Custody	of Custody
			9	Water						
			9	Water					= Hd	
Possible Hazard Identification Non-Hazard — Flammable Skin Irritant Poison B	ison B Kunknown		Radiological		Samp	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Abisposal By Lab Archive For Month	ay be assesse	ed if samples are	retained longer tha Archive For	in 1 month) Months
Other (specify)					Speci	Special Instructions/QC Requirements:	uirements:			
Empty Kit Relinquished by:		Date:			Time:	0	W	Method of Shipment:		
Reinguished by:	3/10/2c		113.3	Company	œ \	Received by:	1	3 1/0/2	S. 11:3	3 Compacts
Refinquished by:	(a) 2-0 Cate/Time:	9	Ciel	Company	2 2	Received by Received by	Munder	Date/Time:	3-11-30	Company A
Custody Seals Intact Custody Seal No.:					0	Cooler Temperature(s) "C and Other Remarks:	Other Remarks:		7	
0110 0010					1					Ver. 08/04/2016

TestAmerica Pittsburgh 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468	Chain o	of Custoo	of Custody Record	Ę.		TestAmerica
	Sampler.	,	Lab PM:		Carrier Tracking No(s):	COC No:
Hauon	7-594	2668	E-Mail:	E-Mail: Alternative Bortoti@testamenicains com>		Page: / 2 /
Joju Apranami Company:		1	O CONTRACTOR OF THE PARTY OF TH			Job #:
Southern Company			-	Analysis Requested	uested	
Address: PO BOX 2841 GSC8	Due Date Requested:			-:5		8
Coh. Birmicham	TAT Requested (days):			52400		zo
State, Zip.				offate,		D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3
Phone:	PO#. SCS10347656		(c	S & 9b		5
Email: JAbraham@southernoo.com	WO #:			hould,		J - Di Water
Project Name: CCR Plant Arkwright - Ash Pond 2	Project #:			VI q		L-EDA
Silve: Georgia	SSOME			n - cu		of coi
	u)		Matrix (www.mir., percent) Percent (www.mir.) (www.mir.) (www.mir.)	e III .qqA alsae 07a7.0503 Aq: 82_M30.90_00 82_M30.90 84.050 84.050 85.0		nedmuM leso
Sample Identification	Sample Date	Preservation Code:	*	c z		Special instructions/Note:
8 4R CUC - 22	3-4-20 1621	9	Water NN	///		3 H= 5.47
148 GWC -		0	Water NN	///		3pt= 6,32
1		9	Water			=Hd
0		9	Water			= Hd
		9	Water			= Hd
		9	>			
343		9	v 180-103	180-103434-D-2		
BOHIG NO CONTRACTOR		9	Bottle No Co			
Sampled 3/9/2020 4/21 PM 180-3625212		9	Sampled 3/9	Sampled 3/9/2020 3 16 PM 180-3625213		180-103434 Chein of Custodi.
		9	Water			double of control of the control of
		o	Water			= Hd
aut	□ Poison B ★Unknown □	Radiological	es	mple Disposal (A fee may be	assessed if samples are i Oisposal By Lab	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Months Months
Deliverable Requested: I, II, III, IV, Other (specify)			Sp	Special Instructions/QC Requirements:	ents:	
Empty Kit Relinquished by:	Date:		Time:	0	Method of Shipment:	
Religioushed by:	2/10/25	1133 00	Company	Recophecytiv.	3 /0/12 Z	Jos 11:33 Com
di di	(ld) 2-0 Cate/Time:	6650	Company	Received by Received by Received by	Water Date Time	3-11-20 company
Custody Seals Intact: Custody Seal No.:				Cooler Temperature(s) "C and Other Remarks	r Remarks:	
						Ver. 08/04/2016

IF THIS SHIPMENT IS DELAYED IN TRANSIT STORE REFRIGERATED (2° TO 8° C / 36° T



ORIGIN ID:SAVA VERONICA BORTOT

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

BILL THIRD PARTY

TO VERONICA BORTOT

301 ALPHA DR

PÎTTSBURGH PA 15238



10 MAR 10:30A PRIORITY OVERNIGHT

TRK# 3909 8199 3408

15238 PIT

8/35/03/9/20895 XP 01/21

Temperature Controlled

e eurofins

Uncorrected temp 4.5

Thermometer ID

Initials



Client: Southern Company

Job Number: 180-103434-1

Login Number: 103434 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

eroniori italogrij Bodaro		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	
s 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	

TestAmerica

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:

💸 eurofins

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

Attn: Joju Abraham

Veronica Bortot

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

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

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	5
Certification Summary	6
Sample Summary	8
Method Summary	9
Lab Chronicle	10
Client Sample Results	11
QC Sample Results	13
QC Association Summary	15
Chain of Custody	16
Racaint Chacklists	20

Ę

6

8

3

10

12

Case Narrative

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 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.

3

Job ID: 180-103434-2

4

5

6

9

- -

12

1,

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 Job ID: 180-103434-2

Project/Site: CCR - Plant Arkwright Ash Pond 2

Qualifiers

Rad
Ouglifier

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

X Carrier is outside acceptance limits.

Qualifier Description

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)

4

-0

4

E

8

3

15

Accreditation/Certification Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright 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.

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 Illiniois 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 Kentucky (WW) State KY98043 12-31-20 Maine NELAP 04041 06-30-20 Minnesota NELAP 04041 06-30-20 Minnesota NELAP 042-999-482 12-31-20 Newada State PA00164 07-31-20 New Jork NELAP PA005 06-30-20 New York NELAP 11182 04-01-21 North Dakota State R-227 04-30-20 Oregon NELAP PA-2151 02-06-21	Authority	Program	Identification Number	Expiration Date
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 New Jersey NELAP 042-999-482 12-31-20 New Jersey NELAP PA00164 03-06-22 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	Arkansas DEQ	State	19-033-0	06-27-20
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 Newada State PA00164 07-31-20 New Jersey NELAP PA005 06-30-20 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	California	State	2891	04-30-20
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 LAO00362 12-31-20 <td>Connecticut</td> <td>State</td> <td>PH-0688</td> <td>09-30-20</td>	Connecticut	State	PH-0688	09-30-20
MELAP	Florida	NELAP	E871008	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 Jersey 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 PA-2151 02-06-21 Pennsylvania NELAP 02-00416 04-30-20 Routh Carolina State LAO00362 12-31-20 South Carolina State 89014 04-30-20 Texas NELAP T104704528 03-31-21	Georgia	State	PA 02-00416	04-30-20
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 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 Vennsylvania NELAP PA-2151 02-06-21 Pennsylvania NELAP D2-00416 04-30-20 South Carolina State LA000362 12-31-20 South Carolina State 89014 04-30-20 Texas NELAP T104704528 03-31-21 US Fish & Wildlife US Federal Programs 058448 <td>Illinois</td> <td>NELAP</td> <td>004375</td> <td>06-30-20</td>	Illinois	NELAP	004375	06-30-20
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 PA-2151 02-06-21 Pennsylvania NELAP PA-2151 02-06-21 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 US Federal Programs P-Soil-0	Kansas	NELAP	E-10350	01-31-21
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 P30-16-00211 06-26-22 Utah NELAP PA001462019-8 </td <td>Kentucky (UST)</td> <td>State</td> <td>162013</td> <td>04-30-20</td>	Kentucky (UST)	State	162013	04-30-20
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 USDA US Federal Programs P300-16-00211 06-26-22 Utah NELAP <	Kentucky (WW)	State	KY98043	12-31-20
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 <	Louisiana	NELAP	04041	06-30-20
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	Maine	State	PA00164	03-06-22
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	Minnesota	NELAP	042-999-482	12-31-20
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	Nevada	State	PA00164	07-31-20
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 03-31-21 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 USDA US Federal Programs PA001462019-8 05-31-20 Virginia NELAP PA001462019-8 05-31-20 West Virginia DEP State 142 02-01-21	New Jersey	NELAP	PA005	06-30-20
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	New York	NELAP	11182	04-01-21
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	North Carolina (WW/SW)	State	434	01-01-21
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	North Dakota	State	R-227	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	Oregon	NELAP	PA-2151	02-06-21
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	Pennsylvania	NELAP	02-00416	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	Rhode Island	State	LAO00362	12-31-20
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	South Carolina	State	89014	04-30-20
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	Texas	NELAP	T104704528	03-31-21
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	US Fish & Wildlife	US Federal Programs	058448	07-31-20
Utah NELAP PA001462019-8 05-31-20 Virginia NELAP 10043 09-15-20 West Virginia DEP State 142 02-01-21	USDA	Federal	P-Soil-01	06-26-22
Virginia NELAP 10043 09-15-20 West Virginia DEP State 142 02-01-21	USDA	US Federal Programs	P330-16-00211	06-26-22
West Virginia DEP State 142 02-01-21	Utah	NELAP	PA001462019-8	05-31-20
	Virginia	NELAP	10043	09-15-20
Wisconsin State 998027800 08-31-20	West Virginia DEP	State	142	02-01-21
	Wisconsin	State	998027800	08-31-20

Job ID: 180-103434-2

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 Dat
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
lowa	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

4

5

7

9

10

10

Sample Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 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

Job ID: 180-103434-2

3

4

C

R

9

10

15

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 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
PrecSen_21	Preparation Precipitate Separation (21-Day In-Growth)	None	TAI SI

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

Job ID: 180-103434-2

Lab Chronicle

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

Lab Sample ID: 180-103434-1 **Client Sample ID: ARGWC-22**

Date Collected: 03/09/20 16:21 Date Received: 03/11/20 09:00 **Matrix: Water**

Job ID: 180-103434-2

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			467299	04/09/20 05:45	CJQ	TAL SL
Total/NA	Prep	PrecSep_0			999.50 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			467126	04/08/20 12:38	KLS	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			467506	04/13/20 07:29	SMP	TAL SL

Lab Sample ID: 180-103434-2 **Client Sample ID: ARGWC-23**

Date Collected: 03/09/20 15:16 **Matrix: Water**

Date Received: 03/11/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			467299	04/09/20 05:45	CJQ	TAL SL
Total/NA	Prep	PrecSep_0			999.88 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1	1.0 mL	1.0 mL	467126	04/08/20 12:38	KLS	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			467506	04/13/20 07:29	SMP	TAL SL

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

Eurofins TestAmerica, Pittsburgh

4/30/2020

Client Sample ID: ARGWC-22

Date Collected: 03/09/20 16:21 Date Received: 03/11/20 09:00 Lab Sample ID: 180-103434-1

Matrix: Water

Job ID: 180-103434-2

Method: 9315 - I	Radium-226 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 -		(0.1.5)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	bined Rad	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Lab Sample ID: 180-103434-2 **Client Sample ID: ARGWC-23** Date Collected: 03/09/20 15:16 **Matrix: Water** Date Received: 03/11/20 09:00

Method: 9315 - F	Radium-226 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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		X	40 - 110					03/17/20 07:35	04/09/20 05:45	

Method: 9320 - R	adium-228 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Client Sample Results

Client: Southern Company Job ID: 180-103434-2

Project/Site: CCR - Plant Arkwright Ash Pond 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_Ra	228 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Q

9

11

12

Job ID: 180-103434-2

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-464489/23-A

Total

Count

Matrix: Water

Matrix: Water

Analysis Batch: 467244

Analysis Batch: 467244

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 464489**

MB MB Uncert. Uncert. Analyte Result Qualifier MDC Unit $(2\sigma + / -)$ $(2\sigma + / -)$ RI Prepared Analyzed Dil Fac Radium-226 0.04966 U 03/17/20 07:35 04/08/20 23:03 0.107 0.108 1.00 0.201 pCi/L

MB MB

Carrier Qualifier Limits %Yield Prepared Analyzed Dil Fac Ba Carrier 40 - 110 03/17/20 07:35 04/08/20 23:03 98.4

Total

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

10

Prep Batch: 464489

Spike LCS LCS Uncert. %Rec. Added RL Limits **Analyte** Result Qual $(2\sigma + / -)$ MDC Unit %Rec Radium-226 11.3 8.787 1.00 0.203 pCi/L 75 ₋ 125 1.13

LCS LCS

Carrier %Yield Qualifier I imits 40 - 110 Ba Carrier 106

Lab Sample ID: LCS 160-464489/1-A

Lab Sample ID: LCSD 160-464489/2-A **Client Sample ID: Lab Control Sample Dup Matrix: Water**

Analysis Batch: 467244

Prep Type: Total/NA **Prep Batch: 464489**

Total LCSD LCSD RER **Spike** Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL**MDC** Unit %Rec Limits RER Limit Radium-226 11.3 9.504 1.22 1.00 0.229 pCi/L 84 75 - 125 0.30

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

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-464492/23-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Prep Batch: 464492**

Analysis Batch: 467126 Count

Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-228 0.2712 Ū 0.240 0.242 1.00 0.384 pCi/L 03/17/20 07:51 04/08/20 12:38

MB MB Dil Fac Carrier %Yield Qualifier Limits Prepared Analyzed Ba Carrier 98.4 40 - 110 03/17/20 07:51 04/08/20 12:38 81.9 40 - 110 03/17/20 07:51 04/08/20 12:38 Y Carrier

4/30/2020

QC Sample Results

Client: Southern Company Job ID: 180-103434-2

Project/Site: CCR - Plant Arkwright Ash Pond 2

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

Lab Sample ID: LCS 160-464492/1-A Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 467264

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

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

 Carrier
 %Yield Plant
 Qualifier Plant
 Limits Plant

 Ba Carrier
 106
 40 - 110

 Y Carrier
 81.9
 40 - 110

Lab Sample ID: LCSD 160-464492/2-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Analysis Batch: 467264

Prep Type: Total/NA

Prep Batch: 464492

10

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

 Carrier
 %Yield Pack
 Qualifier Pack
 Limits

 Ba Carrier
 98.1
 40 - 110

 Y Carrier
 78.9
 40 - 110

4/30/2020

QC Association Summary

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

Job ID: 180-103434-2

TestAmerica

lescamenca Fittsburgii	•									TestA	TestAmerica
301 April Drive RIDO Fair. Pittsburgh, PA 16238 Phone (417) 963-7056 Fax (412) 963-2468	5	Chain o	ain of Custody Record	ody Re	cord					THE LENDER IN E	THE LEADER IN ENVIRONMENTAL TESTING
	Sampler	=		Lab PM			Carrie	Carrier Tracking No(s):		COC No:	
Client Information	15-YAN	\sim	PS .	Bortot	Bortot, Veronica		T			400-73521-290	128.1
Client Contact Joju Abraham	-Ottoney	594-	5998	E-Mail: <td>nica.Bort</td> <td>E-Mail: <veronica.bortot@testamericainc.com></veronica.bortot@testamericainc.com></td> <td>^e</td> <td></td> <td></td> <td>Page: / a</td> <td>t /</td>	nica.Bort	E-Mail: <veronica.bortot@testamericainc.com></veronica.bortot@testamericainc.com>	^e			Page: / a	t /
Company: Southern Company						Analysi	Analysis Requested	pa		-# qop	
Address: PO BOX 2841 GSC8	Due Date Requested:	:pa		Γ		-				Preservation Codes:	des:
City: Birmincham	TAT Requested (days	ays):				5240C				A - HCL B - NaOH C - Zn Acetate	M - Hexame N - None O - AsNaO2
State, Zipc AL, 35291						'estejine				D - Nitric Acid E - NaHSO4	P - Na204S Q - Na2SO3
Phone:	PO#: SCS10347656				(0	S & abi				G - Amchlor H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate
Emai: JAbraham@southernco.com	WO #:					noul4			\$J	I - Ice J - DI Water	U - Acetone V - MCAA
Project Name: CCR Plant Arkwright - Ash Pond 2	Project #:				_	VI qu		_	enistn	K-EDTA L-EDA	W - pH 4-5 Z - other (specify)
Sie. Georgia	SSOW				_	128 8D - CI		_	ot co	Other:	
Sample Identification	o la march	Sample	Sample Type (C=comp,	Matrix (virwater, 5=solid, O=vasteloll,	ield Filtered Perform MS/N	Metals App. III . FPA 60204 APP. 500 ORGEM_2 SQ1 Sadium 226 & 1			redmuM lsto	ei seco	Special Instructions Motor
Certific Rectification		X	- 0		-	Z			X	- Change	ingraphic and a second a second and a second a second and
ARGUC - 22	3-4-20	1621	o	Water	NN	1			8	PH= 5,97	7
1	3-4-20	1516	o	Water	N	1			N	PH= 6.33	-
			9	Water						= Hd	
			9	Water						= Hd	
			9	Water						= Hd	
			9	Water					100		
			9	Water							
			9	Water							
			9	Water					180-1	180-103434 Chain of Custody	of Custody
			g	Water							
			g	Water						= Hd	
Possible Hazard Identification Non-Hazard — Flammable — Skin Imtant — Poison B	ison B Cunknown	Ш	Radiological		Samp	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client	ay be asses	sed if sampl	les are retair	ned longer than	1 f month) Months
Other (specify)					Specie	Special Instructions/QC Requirements	uirements:				
Empty Kit Relinquished by:		Date:			Time:	0		Method of Shipment	ment		
Relinquished by:	3/10 /2c		113.3	Company	Re /	Received IN.	7	39	Merime 20	11:32	Company
Redinglusped by:	(a) 2-0	10	Cier 1	Company	E 6	Received by Ruy	Mille	1 has	James 3	11-20	Company LA
Reinfalsend by: Custody Spails Intach Custody Spail No.	Commune			fundania fundania	8 8	Received Q. Cooler Temperaturates 9°C and Other Bernartee	Other Remark		Coster little.	9:01	Company
					3	ordi reinperaturala) o din	and the control of th	1			New Nome And Address

Chain of Custody Record TestAmerica Pittsburgh 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468

TestAmerica

PROME (412) 803-7030 FBX (412) 803-2400				100 40 1				Paredor Transline Mafel.	-	OOO No.	
nation	PRA	Walkes	6	Bortot,	Bortot, Veronica			folia Binania	9.4	400-73521-29028.1	
	2	594-5	8668	E-Mail: <veror< td=""><td>ica.Borto</td><td>t@testame</td><td>E-Mail: <td></td><td>ū.</td><td>Je/ :abed</td><td>/</td></td></veror<>	ica.Borto	t@testame	E-Mail: <td></td> <td>ū.</td> <td>Je/ :abed</td> <td>/</td>		ū.	Je/ :abed	/
Company							Analysis Reguested	peter	2	Job #:	
	The second second			İ		-	and spars	nonenh		Denne marking Codes	
Address: PO BOX 2841 GSC8	Due Date Requested:					- 2				. M	Hexane
City. Birmingham	TAT Requested (days):					5240				B - NaOH N - C - Zn Acetate O -	- None - AsNaO2
State, 20c. AL, 35,291						etelius	_				Na2O4S Na2SO3
Phyone:	PO#. SCS10347656			(0		8 abi				or ole Acid	S - H2SO4 T - TSP Dodecahydrate
Emait: JAbraham@southernoo.com	WO #:			M to a		noul4 ,					U - Acetone V - MCAA
Project Name: CCR Plant Arkwright - Ash Pond 2	Project #:			eV) el	10 50,	op IV			_	L-EDA Z-	W - pH 4-5 Z - ather (specify)
Silve: Georgia	SSOWE			ome2	r) asi	3D - CI	250)			Other:	
		_	Sample Type (C=comp,	Matrix (Wewater, Sesolid, Dewasheolt,	M/SM miohi	A 6020/7470 PA 6020/7470 0 ORGFM_28 80 80 80 80 80 80 80 80 80 80 80 80 80	5 & 955 mulbi		redmuM last		
Sample Identification	Sample Date	e X	G=grab) BT-THENDA A-A Preservation Code:	7 IIII	u X	0C Z	s))1 ×	Special Instructions/Note:	actions/Note:
AR GUC - 22	3-4-20-1	1621	9		NN	1			N	PH = 5.47	
14 R	-	1516	0	Water	NN	/	\		i	PH= 6.32	
			9	Water					95	=Hd	
21			9	Water						= Hd	
			9	Water						= Hd	
			O	>							
180-103434-D-1			O	v 180-10	180-103434-D-2	4-D-2					
Bottle No Contained			o	1 Bottle	Bottle: No Container	à					
Sampled 3/9/2020 4/21 PM 150-3625212			9	Sample	Sampled 3/9/2020 3:16 PM	3.16 PM	180-3625213		180-1	80-103434 Chain of Custody	
			9	Water	_	=	_	_			(note)
			O	Water						= Hd	
Possible Hazard Identification Non-Hazard — Flammable Skin Irritant Poison B	ison B Ounknown		Radiological		Samp/	le Disposal (Al Return To Client	(A fee may b	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client ADisposal By Lab Archive For Mont	are retain	etained longer than 1 m Archive For	onth) Months
asted: I, II, III, IV, Other (specify)					Specia	I Instruction	Special Instructions/QC Requirements	ments:			
Empty Kit Relinquished by:		Date:			Time:	5		Method of Shipment	44		
Religguished by:	2/10/20	/	13.3	Company	Reco	. Jurooya	P	3 Deno/	326	11:33	The second
Selinguis	(a) 2-0	16:	120	Company	2 6	Received by	Saule	With Course	7	11-20	Company A. A.
	(Caraci IIII)			d political	2	Para)	Case		8,00	Company
Custody Seals Intact: Custody Seal No.:					S_	oler Tempera	Cooler Temperature(s) "C and Other Remarks:	er Remarks:			
1											Ver. 08/04/2016

IF THIS SHIPMENT IS DELAYED IN TRANSIT STORE REFRIGERATED (2° TO 8° C / 36° T



ORIGIN ID:SAVA VERONICA BORTOT

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

BILL THIRD PARTY

TO VERONICA BORTOT

301 ALPHA DR

PITTSBURGH PA 15238



FedEx Express

Temperature Controlled

e eurofins

TRK# 3909 8199 3408

PRIORITY OVERNIGHT

15238 PIT

Uncorrected temp 4.5

Thermometer ID



Cooler Temperature(s) "C and Other Remarks.

12 13

Micha Koninlingus

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Sampler			Bortot.	Lab PM. Bortot, Veronica	3			Carrier	Carrier Tracking No(s)	(8)	180-387589.1	7589.1	
Phone			E-Mail.	nica borto	A@test	E-Mail veronica.bortot@testamericainc.com	nc.com	State of Ongin Georgia	Ongin		Page:	1 10	
				Accreditate	ons Requ	Accrediations Required (See note)	(apo				Job #.	3434-2	
Due Date Requested: 4/6/2020	ij					A	Analysis Requested	Request	pe		Preserv	Code	
TAT Requested (days):	ike):										B - NaOt C - Zn Ac		ane e aO2
				000	0.050						D - Nimo E - NaHS		Na204S Na2503
PO.#.					-110						G.Amd H.Ason	7	R - Na2S203 S - H2S04 T - TSP Dodecahutrate
WOR				(0)	2000								lone
Project #. 18020201				N 10 80	N (2000)						_		W - pH 4-5 Z - other (specify)
SSOW#:				ab (x	1000	Od:					of con		
Sample Date	Sample		Matrix (www.ater, Sesoits, Ownesteins,	M\SM mrohaq	03.00.000.000	Ra226Ra228_G						pacial Instruction	Note
V	X	41.05	ion Code:	X	-							۱	
3/9/20	16:21 Fastern		Water		×	×					-		
3/9/20	15:16		Water		×	×					-		
								F	F	F			
					-		F	F	t	F			
					-		F	F		-			
					-		F	F	F				
					-			F	F				
Wite Since laboratory accreditations are subject to change. Everifins TestAmerica places the ownership maintain accreditation in the State of Origin Islaed above for analysis/testalmatrix being analyzed, the sast TestAmerica attention immediately. If all requisited accreditations are current to date, return the signed	p of method, a imples must b i Cham of Cus	salyte & accred r shipped back ody affesting to	tation compilar to the Eurofins said complicat	ce upon ou TestAmeno	it subcon a labora fes Testa	itract labora tory or other America.	tories. This similarity	ample shipro	ent is forwa ed. Any chi	rded unde	r chain-of-custody. I coreditation status st	If the laboratory does hould be brought to E	not currently urofins
				Samp	ole Dis	posal (A	fee may b	e assessi	nd if sam	ples are	retained longe	er than 1 month)	
]	Return	To Clier	1	Dispose	# By Lab	1	Archive For	Months	ths
Primary Delivera	ible Rank:			Speci	al Instr	uctions/C	C Require						
	Date:			ie.				N	dS to bodie	Dunent:			
Date/Time 3	7	17w	Sompany Company	1	poerwed b		N)		ō.	ste/Time:		Company	41
Z ≥ Z = S	Sample Date Sow# 3/9/20 3/9/20 3/9/20 3/9/20 3/9/20 3/9/20 3/9/20 3/9/20	Sample Date Time Sample Date Time 3/9/20 Eastern 3/9/20 Eastern 15:16 3/9/20 Eastern 15:16 Date: return the signed Chain of Cust	Sample Date Time Sample (C=comp. Type Sample Date Time G=grab) is 3/9/20 Eastern 15:16	Sample Date Sample Date Sample (C=Comp. Tirre (C=Comp. Sample (C=Comp. Sampl	Sample Date Sample Date Sample Date Time Sample Cecomp Sample Date Time Sample Cecomp Sample Cession Time Sample Cecomp Sample Cession Time Sample Cession Sample Cession Sample Cession Sample Cession Time Sample Cession Sample Cession Sample Cession Time Sample Cession Sample Cession Sample Cession Sample Cession Sample Cession Time Sample Cession Sam	Sample Date Sample (C=Comp. Sample (C=Comp. Sample (C=Comp. Sample Date Time G=grab) at these Areas (Newstern Mstinks Date (C=Comp. Sample (C=Comp. Sample Date Time G=grab) at these Areas (Newstern Times G=grab) at the Areas (New	Sample Date Time Sample Date Sample Date Time Sample Disposal (A Sample Date) Sample Date Time Time Time Time Time Time Time Time Time	Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Type Sample Date Type Sample Date Type Sample Date Sample Date Sample Date Threservation Code: X X X X X X X X X X X X X X X X X X X	O #. Sample Date Time Gagrab) structure. A X X X X X X X X X X X X X X X X X X	Sample Date National Parties Sample Natrix Type Natrix Natrix	Sample Matrix Sample Matrix Sample Matrix Sample Matrix Sample Cacomp C	Or # Sample Date Sample (Crecom) Sample (Crecom) Sample (Crecom) Sample (Crecom) Time (Grecom)	

Custody Seal No.:

Custody Seals Intact: A Yes A No

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 = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Client: Southern Company Job Number: 180-103434-2

Login Number: 103434 List Number: 2

103434 List Source: Eurofins TestAmerica, St. Louis

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

Creator: Korrinhizer, Micha L

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	



Daily Instrument Calibration Log

SITE:		Plant	Arkwright	
TECHNICIAN:		Ryan	Walke:	p.
			, , , , , , , , , , , , , , , , , , ,	
WATER LEVEL:		Heron		
WATER LEVEL S/N;	<u> </u>	24474		
With Edver Coll,		<u>~ ~ 1 -1 , Z - 1</u>		
INSTRUMENT S/N:		714293		
INSTRUMENT TYPE:	Insitu SmarTroll	71 10 10		
CAL. SOLUTION/S:	10: 044	LOT#:961003	EXP. DATE:	12/5/
ONE. OCEONOMO.	ID: 0H7	LOT#: 7808E52	<u> </u>	\$ 750
	<i>p</i> ··· <i>,</i>	LOT#: 965-D73	EXP. DATE:	00/20) [
	F1112	LOT#: 95-E1018	EXP. DATE:	05/)0
	1D: (OC.D	LOT#: 96-6592		00/20
	ID: O(CA)	LOT#: 16-5012	EXP. DATE:	07/2-0
	ID:	LOT#:	EXP. DATE:	
		LOT#.	EAP. DATE.	
Calibration Date:	3/9/20			
RDO:	100% sat. =	91.54		
	4.00 = 395	7.00 =	7.21	
CONDUCTIVITY:		1.191	10X1	10.00 = 1, 7
ORP (mV)		7243		
ORF (IIIV)		<u></u>		
Calibration Date:				
	4.000/			
	100% sat. =	——————————————————————————————————————		
	4.00 =	7.00 =		10.00 =
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 =			10.00 =
CONDUCTIVITY:	-			
ORP (mV)				
2.0 ()				
Calibration Date:				
RDO:	100% sat. =			
	4.00 =			10.00 =
ORP (mV)				



Daily Instrument Calibration Log

SITE:		Plant Arkwright	
TECHNICIAN:	1 10	n Walker	
		1,	
INSTRUMENT S/N: INSTRUMENT TYPE:	Hach 2100 Q	206063767	
CAL. SOLUTION:	O NTU - LOT # NA	EXP. DATE: Nev	v DI water
	10 NTU - LOT # A 810		7/2020
	20 NTU - LOT # # 85) [5] EXP. DATE: 6	<u>8/2020</u>
Callback and D	3/9/20		
Calibration Date:	Calibation Solution	Instrument Bending	
	0.0	Instrument Reading	
	10.0	905	—NTU
	20.0	102	NTU NTU
	20.0	1 1. 2	
Calibration Date:			
	Calibation Solution	Instrument Reading	
	0.0		━ NTU
	10.0	***	 NTU
	20.0		— NTU
			_
Calibration Date:			
	Calibation Solution	Instrument Reading	
	0.0		NTU
	10.0		NTU
	20.0		NTU
Calibration Date:	Calibation Solution	Instrument Reading	=
	0.0		NTU
	10.0		NTU
	20.0		NTU
Calibration Date:			
Gambianon Bato.	Calibation Solution	Instrument Reading	
	0.0		= NTU
	10.0	N 1841	— NTU
	20.0	11111	NTU
	-		<u> </u>
Calibration Date:	ı	1	
	Calibation Solution	Instrument Reading	<u>-</u>
	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

Test Notes:

Weather Conditions:

Cloudy, 70 s

Low-Flow Readings:

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
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	рН	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

Review your project results through

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

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	10
QC Sample Results	13
QC Association Summary	16
Chain of Custody	18
Receint Checklists	20

Case Narrative

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

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.

Job ID: 180-106373-1

2

3

L

J

6

Ŏ

12

Definitions/Glossary

Client: Southern Company Job ID: 180-106373-1

Project/Site: CCR - Plant Arkwright Ash Pond 2

Qualifiers

ЦΒ		חוי
ш	LU	

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.

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)

4

U

8

4 4

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-106373-1

Project/Site: CCR - Plant Arkwright 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	04-30-21
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

3

4

5

9

10

12

1:

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

Eurofins TestAmerica, Pittsburgh

Sample Summary

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

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset I
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	

Job ID: 180-106373-1

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

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

6

Job ID: 180-106373-1

3

4

5

7

8

9

10

10

Lab Chronicle

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 at 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 Instrumen	EPA 6020B at 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 Instrumen	EPA 6020B at 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 Instrumen	EPA 7470A at ID: HGZ		1			317535	06/04/20 17:41	NAM	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	316997	05/30/20 08:44	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling at ID: NOEQUIP		1			317243	05/27/20 16:23	FDS	TAL PIT

Lab Sample ID: 180-106373-2 **Client Sample ID: ARGWC-22**

Date Collected: 05/27/20 18:52 **Matrix: Water** Date Received: 05/29/20 08:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHIC2100A		1			317665	06/06/20 23:47	MJH	TAL PIT
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 7470A t ID: HGZ		1			317535	06/04/20 17:46	NAM	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	316997	05/30/20 08:44	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			317243	05/27/20 18:52	FDS	TAL PIT

Job ID: 180-106373-1

Lab Chronicle

Client: Southern Company Job ID: 180-106373-1

Project/Site: CCR - Plant Arkwright Ash Pond 2

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

Batch Batch Dil Initial Final **Batch** Prepared Method **Factor Prep Type** Type Run Amount **Amount** Number or Analyzed Analyst Lab 317665 Total/NA Analysis EPA 300.0 R2.1 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 317672 Total Recoverable Analysis **EPA 6020B** 06/05/20 21:36 RSK TAL PIT 1 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 7470A 50 mL 50 mL 06/03/20 19:40 NAM TAL PIT Prep 317376 Total/NA Analysis **EPA 7470A** 317535 06/04/20 17:46 NAM TAL PIT 1 Instrument ID: HGZ

Client Sample ID: EB Lab Sample ID: 180-106373-4

100 mL

100 mL

316997

05/30/20 08:44 AVS

Date Collected: 05/27/20 14:40 Matrix: Water

Date Received: 05/29/20 08:45

Analysis

SM 2540C

Instrument ID: NOEQUIP

Total/NA

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHIC2100A		1			317665	06/07/20 00:35	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: DORY		1			317672	06/05/20 21:40	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	317054	06/01/20 08:43	KEM	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: DORY		1			317940	06/06/20 18:19	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	317376	06/03/20 19:40	NAM	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A t ID: HGZ		1			317535	06/04/20 17:47	NAM	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	316997	05/30/20 08:44	AVS	TAL PIT

Laboratory References:

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

Analyst References:

Lab: TAL PIT

Batch Type: Prep

KEM = Kimberly Mahoney

NAM = Nicole Marfisi

Batch Type: Analysis

AVS = Abbey Smith

FDS = Sampler Field

MJH = Matthew Hartman

NAM = Nicole Marfisi

RSK = Robert Kurtz

Eurofins TestAmerica, Pittsburgh

Page 9 of 20

2

3

4

6

8

10

TAL PIT

46

Client: Southern Company Job ID: 180-106373-1

Project/Site: CCR - Plant Arkwright Ash Pond 2

Client Sample ID: ARGWC-23

Date Collected: 05/27/20 16:23 Date Received: 05/29/20 08:45 Lab Sample ID: 180-106373-1

Matrix: Water

Method: EPA 300.0 R2.1 - Ani	ons, Ion Ch	romatograp	hy						
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
_									

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	В	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	В	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 - Merc	ury (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 - F	ield Sampling								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.3				SU			05/27/20 16:23	1

Client Sample ID: ARGWC-22

Date Collected: 05/27/20 18:52

Lab Sample ID: 180-106373-2

Matrix: Water

Date Received: 05/29/20 08:45

Method: EPA 300.0 R	2.1 - Anions, Ion Ch	romatograp	hy						
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

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	В	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	В	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

Page 10 of 20

2

3

5

7

9

10

12

13

Client: Southern Company Job ID: 180-106373-1

Project/Site: CCR - Plant Arkwright Ash Pond 2

Client Sample ID: ARGWC-22 Lab Sample ID: 180-106373-2

Date Collected: 05/27/20 18:52

Date Received: 05/29/20 08:45

Matrix: Water

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 - Mer	curv (CVAA)								
Analyte	• • •	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									
General Chemistry Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result 1300	Qualifier	RL 10		Unit mg/L	D	Prepared	Analyzed 05/30/20 08:44	Dil Fac
Analyte Total Dissolved Solids	1300	Qualifier				<u>D</u>	Prepared		Dil Fac
Analyte	1300 Field Sampling	Qualifier Qualifier			mg/L	D_	Prepared Prepared		Dil Fac

Client Sample ID: DUP

Date Collected: 05/27/20 00:00

Lab Sample ID: 180-106373-3

Matrix: Water

Date Received: 05/29/20 08:45

Date Received: 05/29	/20 08:45								
Method: EPA 300.0	R2.1 - Anions, Ion Ch	romatograp	ohy						
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) - T	otal Recov	erable						
Analyte		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	В	0.010	0.0016	mg/L		06/01/20 08:43	06/05/20 21:36	1

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	В	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	В	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 Job ID: 180-106373-1

Project/Site: CCR - Plant Arkwright Ash Pond 2

Client Sample ID: DUP

Lab Sample ID: 180-106373-3

Date Collected: 05/27/20 00:00 Matrix: Water

Date Collected: 05/27/20 00:00 Matrix: Water Date Received: 05/29/20 08:45

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

Lab Sample ID: 180-106373-4

Date Collected: 05/27/20 14:40

Matrix: Water

Date Received: 05/29/20 08:45

Method: EPA 300.0 R2.1 - Ar	nions, Ion Chi	omatograp	hy						
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

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	В	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	JB	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

2

3

5

6

8

10

11

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

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

Lab Sample ID: MB 180-317665/54

Matrix: Water

Analyte

Chloride

Fluoride

Sulfate

Analysis Batch: 317665

Client Sample ID: Method Blank

Prep Type: Total/NA

Job ID: 180-106373-1

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 1.0 0.32 mg/L 06/06/20 22:44 <0.32 0.10 0.026 mg/L 06/06/20 22:44 < 0.026 06/06/20 22:44 < 0.38 1.0 0.38 mg/L

Lab Sample ID: LCS 180-317665/53

Matrix: Water

Analysis Batch: 317665

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

	Spike	LCS	LCS			%Rec.	
Analyte	Added	Result	Qualifier U	Jnit D	%Rec	Limits	
Chloride	50.0	53.6	r	ng/L	107	90 - 110	
Fluoride	2.50	2.46	r	ng/L	98	90 - 110	
Sulfate	50.0	48.3	r	ng/L	97	90 - 110	

Lab Sample ID: 180-106373-1 MS

Matrix: Water

Analysis Batch: 317665

Client Sample ID: ARGWC-23

Client Sample ID: ARGWC-23

Prep Type: Total/NA

Prep Type: Total/NA

Analysis Baton: 617666	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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 Ratch: 317665

Allalysis Batch. 317003	Sample	Sample	Spike	Men	MSD				%Rec.		RPD	
Analyte	•	Qualifier	Added	_	Qualifier	Unit	D	%Rec	Limits	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

MR	MR							
		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<0.00038		0.0020	0.00038	mg/L		06/01/20 08:43	06/05/20 20:44	1
< 0.00031		0.0010	0.00031	mg/L		06/01/20 08:43	06/05/20 20:44	1
0.00761	J	0.010	0.0016	mg/L		06/01/20 08:43	06/05/20 20:44	1
<0.00018		0.0025	0.00018	mg/L		06/01/20 08:43	06/05/20 20:44	1
0.0647	J	0.080	0.039	mg/L		06/01/20 08:43	06/05/20 20:44	1
<0.00022		0.0025	0.00022	mg/L		06/01/20 08:43	06/05/20 20:44	1
<0.13		0.50	0.13	mg/L		06/01/20 08:43	06/05/20 20:44	1
<0.0015		0.0020	0.0015	mg/L		06/01/20 08:43	06/05/20 20:44	1
<0.00013		0.0025	0.00013	mg/L		06/01/20 08:43	06/05/20 20:44	1
<0.00013		0.0010	0.00013	mg/L		06/01/20 08:43	06/05/20 20:44	1
< 0.0034		0.0050	0.0034	mg/L		06/01/20 08:43	06/05/20 20:44	1
< 0.00061		0.015	0.00061	mg/L		06/01/20 08:43	06/05/20 20:44	1
	Result <0.00038 <0.00031 0.00761 <0.00018 0.0647 <0.00022 <0.13 <0.0015 <0.00013 <0.00013	<0.00031 0.00761 J <0.00018 0.0647 J <0.00022 <0.13 <0.0015 <0.00013 <0.00013	Result Qualifier RL <0.00038	Result Qualifier RL MDL <0.00038	Result Qualifier RL MDL Unit <0.00038	Result Qualifier RL MDL Unit D <0.00038	Result Qualifier RL MDL Unit D Prepared <0.00038	Result Qualifier RL MDL mit D may Prepared mode/06/01/20 08:43 Analyzed 06/05/20 20:44 <0.00038

Eurofins TestAmerica, Pittsburgh

Project/Site: CCR - Plant Arkwright Ash Pond 2

MB MB

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**

Client Sample ID: Lab Control Sample

Prep Batch: 317054

Job ID: 180-106373-1

Analyte	Result	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 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total Recoverable Analysis Batch: 317672** Prep Batch: 317054 Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits 0.250 80 - 120 0.242 97

Analyte Antimony mg/L Arsenic 1.00 0.967 97 80 - 120 mg/L Barium 1.00 0.956 mg/L 96 80 - 120Beryllium 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 97 80 - 120 mg/L Cobalt 0.466 93 80 - 120 0.500 mg/L Lead 0.500 0.496 99 80 - 120 mg/L Lithium 0.500 0.473 95 80 - 120 mg/L 0.500 0.491 98 Molybdenum mg/L 80 - 120 Selenium 1.00 0.961 mg/L 96 80 - 120Thallium 1.00 1.06 mg/L 106 80 - 120

Lab Sample ID: LCS 180-317054/2-A

Matrix: Water					F	rep Typ	e: Total Recoverable
Analysis Batch: 317940							Prep Batch: 317054
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	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 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA **Analysis Batch: 317535 Prep Batch: 317376**

	IVID	IVID							
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 17:34	1

Lab Sample ID: LCS 180-317376/2-A **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA**

Analysis Batch: 317535 Prep Batch: 317376 Spike LCS LCS %Rec.

Analyte Added Result Qualifier Unit D %Rec Limits 0.00250 0.00233 93 80 - 120 Mercury mg/L

10

2

10

Client: Southern Company

Mercury

Project/Site: CCR - Plant Arkwright Ash Pond 2

Job ID: 180-106373-1

88

mg/L

75 - 125

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

<0.00013

Lab Sample ID: 180-106373-1 MS Client Sample ID: ARGWC-23 **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 317535** Prep Batch: 317376 Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits

0.000878

0.00100

Lab Sample ID: 180-106373-1 MSD Client Sample ID: ARGWC-23 **Matrix: Water** Prep Type: Total/NA Analysis Batch: 317535 **Prep Batch: 317376** Spike MSD MSD %Rec. **RPD** Sample Sample Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit < 0.00013 Mercury 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

Prep Type: Total/NA

Analysis Batch: 316997

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Total Dissolved Solids
 <10</td>
 10
 10
 mg/L
 05/30/20 08:44
 1

Lab Sample ID: LCS 180-316997/1

Matrix: Water

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

Analysis Batch: 316997

SpikeLCSLCS%Rec.AnalyteAddedResult Dissolved SolidsQualifier mg/LUnit mg/LD was properly with the proper

Lab Sample ID: 180-106373-3 DU

Matrix: Water

Client Sample ID: DUP

Prep Type: Total/NA

Analysis Batch: 316997

 Sample
 Sample
 DU
 DU
 RPD

 Analyte
 Result
 Qualifier
 Result
 Qualifier
 Unit
 D
 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

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

Page 16 of 20

2

Job ID: 180-106373-1

3

4

6

9

15

13

.

QC Association Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

1 Toject/Oile. COIX

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	

Job ID: 180-106373-1

2

6

8

10

11

12

Eurofins TestAmerica, Pittsburgh	, in the	1		681-Atlanta	eurofins 🤃
Pitsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2468	chain or	cnain of custody Record	ecord	100	America
Client Information	Bill award /N.	N. MeMILL Brown, Shall	M. m, Shali	Camer Tracking No(s):	CDC No: 180-60862-12387.1
Client Contact Joju Abraham		E-Mai Shali	E-Mait shali.brown@testamericainc.com		Page 1 of 1
Company Southern Company			Analysis Requested	equested	Job #.
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:	N.			Code
City. Atlanta					B - NaOH N - None C - Zn Acetate O - AsNaO2
State, Zp. GA, 30308					
Phone:	PO#: SCS10382606		µng ap		G-Amethor S-H2SO4 H-Ascorbic Acid T-TSP Dodecahudrale
Emai: JAbraham@southernco.com	*OM		(No)		I - Ice J - CI Water
Project Name: CCR - Plant Ankwright App III/IV	Project #: 18020201		228 58 228 59 228 50 258		K-EDTA L-EDA
Site Georgia	SSOWE		adium adium selium SD (V		Other:
	Sample		eldorm MS/M n15_Ra226 - Ri a226Ra228_GI n0_ORGFM_28 n0_ORGFM_28	pea1 - 9051	sedmuN late
Sample Identification	Sample Date Time G	G=grab) sr-Those Autr. Preservation Code:	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	79	Special Instructions/Note:
ARGWC-23	5/27/20 1623	2	×××××		0H=6,30
ARGWC-22	1852	3	××××××		A
DUP		3	×		
四路	1440	3	× × × ×		
ARGWC-10	0161	3		×	1 pH=5,98
Temp Blank					
		-			
				180-106373	80-106373 Chain of Custody
A second				-	
Possible Hazard Identification Non-Hazard Plemmable Skin Initant	Poisan B Unknown Radiological	ologica/	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Month	Coisposal By Lab	ained longer than 1 month)
ŏ			Special Instructions/QC Requirements	nents:	
Empty Kit Relinquished by:	Date:		Time:	Method of Shipment.	
Daniel & Horand	5/28/20/1415	Company	Received by Halle La	Jacks DaterTime S	- 34. 30 consorter
	DateTime	Company	Received by	Data/Time:	SS Company
Reinquished by:	DateTime	Company	Received by.	Date/Trne.	Company
Custody Seals Intact. Custody Seal No.			Cooler Temperature(s) "C and Other Remarks	r Remarks	
					Ver: 01/16/2019



Page 19 of 20

6/12/2020

1.

Client: Southern Company

Job Number: 180-106373-1

Login Number: 106373 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

Orditor: Watcom, Bossic		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	
s 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 TypeHDPTubing Diameter0.17 inTubing Length27.8 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
Total System Volume
Calculated Sample Rate
Stabilization Drawdown
Total Volume Pumped
150 mL/min
0.2140832 L
300 sec
4.92 in
15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	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 Project Name Site Name Nicholas McMillan Wood

Plant Arkwright Ash Pond 2

ARGWC-23 0° 0' 0"

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 601533

Turbidity Make/Model HACH

Pump Information:

Pump Model/Type PINE Peristaltic Pump

Tubing TypeHDPTubing Diameter.17 inTubing Length27.2 ft

Pump placement from TOC

22.2 ft

Well Information:

Well ID
Well diameter
Well Total Depth
Screen Length
Depth to Water

ARGWC-23 2 in 27.21 ft 10 ft 11.50 ft Pumping Information:

Final Pumping Rate
Total System Volume
Calculated Sample Rate
Stabilization Drawdown
Total Volume Pumped

200 mL/min 0.2114051 L 300 sec 0 in 4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	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

Environment Testing TestAmerica

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

LINKS

Review your project results through

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

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-101057-1

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	9
QC Sample Results	10
QC Association Summary	11
Chain of Custody	12
Receipt Checklists	13

_

5

7

10

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.

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

Definitions/Glossary

Client: Southern Company Job ID: 180-101057-1

Project/Site: CCR - Plant Arkwright

Glossary

Ciocoaiy	
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)
DI RARE 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 MLMinimum 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)

Reporting Limit or Requested Limit (Radiochemistry) RL

Relative Percent Difference, a measure of the relative difference between two points RPD

TEF Toxicity Equivalent Factor (Dioxin) TEQ Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-101057-1

Project/Site: CCR - Plant Arkwright

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

4

5

7

10

11

12

1:

Sample Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

 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

Job ID: 180-101057-1

3

4

9

10

1:

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Madhad	Mathad Description	Duetees	l abanatam.
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

Job ID: 180-101057-1

3

4

5

7

0

10

11

Lab Chronicle

Client: Southern Company Job ID: 180-101057-1

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-101057-1 **Client Sample ID: ARAMW-1**

Date Collected: 01/14/20 13:20 **Matrix: Water** Date Received: 01/16/20 08:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumen	t ID: M								

Lab Sample ID: 180-101057-2 **Client Sample ID: ARAMW-2** Date Collected: 01/14/20 14:39 **Matrix: Water**

Date Received: 01/16/20 08:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumen	nt 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

1/20/2020

Page 8 of 13

Client Sample Results

Client: Southern Company Job ID: 180-101057-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARAMW-1 Lab Sample ID: 180-101057-1

Date Collected: 01/14/20 13:20 **Matrix: Water**

Date Received: 01/16/20 08:30

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

Lab Sample ID: 180-101057-2 **Client Sample ID: ARAMW-2 Matrix: Water**

Date Collected: 01/14/20 14:39

Date Received: 01/16/20 08:30

Method: EPA 6020B - Metals (ICP/MS) - To	otal Recove	erable						
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 Job ID: 180-101057-1

Project/Site: CCR - Plant Arkwright

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

Client Sample ID: Lab Control Sample

Client Sample ID: ARAMW-1

Client Sample ID: ARAMW-1

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.0050 0.0034 mg/L 01/16/20 11:43 01/18/20 00:36 <0.0034 0.039 mg/L 01/16/20 11:43 01/18/20 00:36 < 0.039 0.080

Lab Sample ID: LCS 180-304164/2-A

Analyte

Lithium

Boron

Matrix: Water Prep Type: Total Recoverable Analysis Batch: 304363 Prep Batch: 304164

Spike LCS LCS %Rec. **Analyte** Added Result Qualifier D %Rec Limits Unit Lithium 0.500 0.490 98 80 - 120 mg/L Boron 1.25 1.11 mg/L 89 80 - 120

Lab Sample ID: 180-101057-1 MS

Matrix: Water

Prep Type: Total Recoverable Analysis Batch: 304363 Prep Batch: 304164 MS MS Sample Sample Spike %Rec. D %Rec Analyte Result Qualifier Added Result Qualifier Limits Unit Lithium 0.0090 0.500 0.539 75 - 125 mg/L 106 Boron 1.1 1.25 2.23 75 - 125 mg/L 91

Lab Sample ID: 180-101057-1 MSD

Matrix: Water							P	rep Ty	pe: Total l	Recove	rable
Analysis Batch: 304363									Prep Ba	atch: 30)4164
_	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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 Job ID: 180-101057-1

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

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

9

3

4

5

0

10

11

12

Chain of Custody Record

TestAmerica Pittsburgh301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-2468

TestAmerica

Client Information	Ruga Chelles	ب	Lab PM.	Verenies.	Batal	Carrier Tracking No(s):	COC No: 400-73521-29028.1
Client Contact:	,	0000	E-Mail:				Page:
Joju Abraham	770 594	594-5998	Verac	ica, Borto	Werenica, Bo-tato to to accomiscion		Page
Campany: Southern Company					Analysis Requested	equested	Job #:
Address: PO BOX 2841 GSC8	Due Date Requested:						ion Code
City. Birmingham	TAT Requested (days):	2 DAY TAT					A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2
State, Zip: AL, 35291							pg st
Phone	PO#: SCS10347656			lo			G - Amehler S - H2SO4 H - Ascorbic Acid T - TSP Dedecalwdrate
Email: JAbraham@southernco.com	WO#:			_		87	1 - loe J - Dl Water
Project Name: CCR Plant Arkwright - Ash Pond 2	Project #: 40007712			JO \$8,		enistn	L-EDA
Site: Georgia	SSOW			v) ası		01 00	Other:
Sample Identification	Sample Date Time	Sample Type (C=comp, G=grab)	Matrix (vvewater, S=solid, Owwasteloli, ST=Tissos, A+Ate)	Field Filtered Perform MS/N		nedmuM IsboT	Special Instructions/Note:
	/ \	1	Preservation Code:	°			
ARAMW-1	1-14-20 1320	9	Water	N			
ARAMW-2	1-14-20 1439		Water	1			
			Water				
			Water				
			Water				
			Water				
			Water				
			Water			180-101057 Chain of Custody	Sustody
			Water				
			Water				
			Water				
Possible Hazard Identification Non-Hazard — Flammable — Skin Irritant — Poison B	Unknown	Radiologica/		Sample Dit	sposal (A fee may b	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client A Disposal By Lab Mont	ined longer than 1 month) Months
Other (specify)				Special Inst	Special Instructions/QC Requirements	nents:	
Empty Kit Relinquished by:	Date:			Time:		Method of Shipment:	
Relipouished by: Un	Date/Time:	(430)	Company	Roccingatory	Pey:	Dajerrime.	1430 CEN
Reinfluished by X	Date/Time: 11572	13	A Service	Received By	N	pate/Tim/6	Company
	Date/Times		Company	Received Day	June 1	Date/Tirge	20 830 Company
Custody Seals Intact. Custody Seal No.:				Cooler T	Cooler Temperature(s) "C and Other Remarks	ir Remarks:	
							Ver. 08/04/2016

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 = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

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" -83° -42' -7.91" Longitude

Sonde SN 369557

Turbidity Make/Model Hach 2100Q Pump placement from TOC

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

Pump Information:

Pump Model/Type Peristaltic pump

40 ft

Tubing Type poly Tubing Diameter .17 in Tubing Length 45 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	рН	SpCond µS	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
Plant Arkwright

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 TypepolyTubing Diameter.17 inTubing Length24 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	рН	SpCond µS	/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



Environment Testing TestAmerica

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

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

veronica.bortot@testamericainc.com

LINKS

Review your project results through

Have a Question?



Visit us at: 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.

2

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Sample Summary	5
Client Sample Results	6
Definitions	7
QC Association	8
QC Sample Results	9
Chronicle	10
Method Summary	11
Certification Summary	12
Chain of Custody	14
Receipt Checklists	15

A

5

6

8

40

11

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.

5

6

0

9

10

10

13

Detection Summary

Client: Southern Company

Job ID: 400-184345-1 Project/Site: CCR - Plant Arkwright 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

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	

Client Sample Results

Client: Southern Company Job ID: 400-184345-1 Project/Site: CCR - Plant Arkwright 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									
Analyte	Result	Qualifier	RL	MDL U	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.19	F2 F1	0.0050	0.0019 r	mg/L		02/25/20 15:15	02/26/20 19:20	5

Definitions/Glossary

Client: Southern Company

Job ID: 400-184345-1

Project/Site: CCR - Plant Arkwright

SDG: Ash Pond 2

Qualifiers

8.4	-4-	
IVI	eta	IS

Qualifier	Quai	mer	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 r	may not be present in this report
Abbreviation	These confinionly used appreviations may of i	nay not be present in this report.

Eisted 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)

6

4

5

6

Ö

10

11

12

15

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

Job ID: 400-184345-1 Project/Site: CCR - Plant Arkwright 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 MB MB

Unit

mg/L

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Lithium 0.0050 02/25/20 15:15 02/26/20 19:09 <0.0019 0.0019 mg/L

0.0500

LCS LCS

0.0472

Result Qualifier

Lab Sample ID: LCS 400-479414/2-A ^5

Matrix: Water

Lithium

Analysis Batch: 479706

Spike Added Analyte

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 479414

%Rec.

80 - 120

Limits D %Rec

Lab Chronicle

Client: Southern Company

Project/Site: CCR - Plant Arkwright **Client Sample ID: ARAMW-2** Job ID: 400-184345-1 SDG: Ash Pond 2

Lab Sample ID: 400-184345-1

Matrix: Water

Date Collected: 02/24/20 10:11 Date Received: 02/25/20 09:33

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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

2

3

4

5

7

8

10

11

12

Accreditation/Certification Summary

Client: Southern Company

Job ID: 400-184345-1 Project/Site: CCR - Plant Arkwright

Laboratory: Eurofins TestAmerica, Pensacola

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

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 Georgia State E81010(FL) 06-30-20 Illinois NELAP 004586 10-09-19 * Illinois NELAP 004586 10-09-19 * Illinois NELAP 004586 10-09-20 Ilowa State 367 08-01-20 Kansas NELAP E-10253 08-16-20 Kansas NELAP E-10253 08-16-20 Kentucky (UST) State 53 06-30-20 Kentucky (WW) State 54 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 Minnesota NELAP 012-999-481 12-31-20 Minnesota NELAP 12115 04-30-20 Minnesota NELAP 12115 04-30-20 New York NELAP 68-00467 01-31-21 North Carolina (WW/SW) State 140-00307 12-30-20 Nem York NELAP 68-00467 01-31-21 Rhode Island State P60-00467 01-31-21 Rhode Island State P70-00468 09-30-20 Pennsylvania NELAP 68-00467 01-31-21 Rhode Island State P70-006-00-00-00-00-00-00-00-00-00-00-00-0	Authority	Program	Identification Numbe	r Expiration Date
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 Karsas NELAP 004586 10-09-20 Karsas 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 Maryland State LAO17 12-31-20 Massa	Alabama	State	40150	07-01-20
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 Mertucky (WW) State KY98030 12-31-20 Maryland State KY98030 12-31-20 Maryland State LAO17 12-31-20 Maryland State 233 09-30-20 Massachusetts State M-FL094 06-30-20 Michigan State 9912 05-06-20 M	ANAB	ISO/IEC 17025	L2471	02-23-23
California State 2510 07-01-20 Florida NELAP E81010 06-30-20 Georgia State E81010(FL) 06-30-20 Illilinois NELAP 004586 10-09-19* Illilinois NELAP 004586 10-09-20 Illinois NELAP 004586 10-09-20 Illinois NELAP 60-0253 08-16-20 Kansas NELAP E-10253 08-16-20 Kentucky (UST) State 53 06-30-20 Kentucky (WW) State 53 06-30-20 Kentucky (WW) State KY98030 12-31-20 Louisiana NELAP 30976 06-30-20 Kentucky (WW) State LA017 12-31-20 Maryland State LA017 12-31-20 Maryland State M-FL094 06-30-20 Michigan State 9912 06-30-20 Michigan State 9912 05-06-20 M	Arizona	State	AZ0710	01-13-21
Florida	Arkansas DEQ	State	88-0689	09-01-20
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 40-70 06-30-20 Massachusetts State 9912 05-06-20 Minnesota NELAP 1012-999-481 12-31-20 Minnesota NELAP 1012-999-481 12-31-20 New Jersey NELAP 120-0 06-30-20 New York NELAP 12115 04-01-20 New York NELAP 12115 04-01-20	California	State	2510	07-01-20
Illinois	Florida	NELAP	E81010	06-30-20
Illinois NELAP 004586 10-09-20 10wa State 367 08-01-20 10wa State 367 08-01-20 10wa State 367 08-01-20 10wa State 367 08-01-20 10wa State 53 08-16-20 10wa 10-09-20 10wa 10wa	Georgia	State	E81010(FL)	06-30-20
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 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 LA000307 12-30-20	Illinois	NELAP	004586	10-09-19 *
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 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 LA000307 12-30-2	Illinois	NELAP	004586	10-09-20
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 Mischigan State M-FL094 06-30-20 Minnesota NELAP 912 05-06-20 Minnesota NELAP 012-999-481 12-31-20 New Jersey NELAP FL006 06-30-20 New York NELAP FL006 06-30-20 New York NELAP 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 LA000307 12-30-20 South Carolina State TN02907 06-30-20<	lowa	State	367	08-01-20
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 Minchigan 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 LA000307 12-30-20 South Carolina State TN02907 06-30-20 Tennessee State TN02907 06-30-20 Texas NELAP T104704286	Kansas	NELAP	E-10253	08-16-20
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 3810-186 08-31-20 Pennsylvania NELAP 68-00467 01-31-21 Rhode Island State LAO00307 12-30-20 South Carolina State 1002907 06-30-20 Tennessee State TN02907 06-30-20 Texas NELAP T104704286 09-30-20 US Federal Programs 058448 07-31-20	Kentucky (UST)	State	53	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 LA000307 12-30-20 South Carolina State 96026002 06-30-20 Tennessee State 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<	Kentucky (WW)	State	KY98030	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 14000307 12-30-20 South Carolina State 1704704286 09-30-20 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	Louisiana	NELAP	30976	06-30-20
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 <td>Louisiana (DW)</td> <td>State</td> <td>LA017</td> <td>12-31-20</td>	Louisiana (DW)	State	LA017	12-31-20
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	Maryland	State	233	09-30-20
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	Massachusetts	State	M-FL094	06-30-20
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	Michigan	State	9912	05-06-20
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	Minnesota	NELAP	012-999-481	12-31-20
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	New Jersey	NELAP	FL006	06-30-20
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	New York	NELAP	12115	04-30-20
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	New York	NELAP Secondary AB	12115	04-01-20
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	North Carolina (WW/SW)	State	314	12-31-20
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	Oklahoma	State	9810-186	08-31-20
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	Pennsylvania	NELAP	68-00467	01-31-21
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	Rhode Island	State	LAO00307	12-30-20
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	South Carolina	State	96026002	06-30-20
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	Tennessee	State	TN02907	06-30-20
USDA US Federal Programs P330-18-00148 05-17-21 Virginia NELAP 460166 06-14-20 Washington State C915 05-15-20	Texas	NELAP	T104704286	09-30-20
Virginia NELAP 460166 06-14-20 Washington State C915 05-15-20	US Fish & Wildlife	US Federal Programs	058448	07-31-20
Washington State C915 05-15-20	USDA	US Federal Programs	P330-18-00148	05-17-21
3	Virginia	NELAP	460166	06-14-20
	Washington	State	C915	05-15-20
	West Virginia DEP	State	136	06-30-20

SDG: Ash Pond 2

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

Eurofins TestAmerica, Pensacola

Accreditation/Certification Summary

Client: Southern Company

Job ID: 400-184345-1 Project/Site: CCR - Plant Arkwright

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
llinois	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
_ouisiana	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
Гexas	NELAP	T104704528	03-31-20
JS Fish & Wildlife	US Federal Programs	058448	07-31-20
JSDA	Federal	P-Soil-01	06-26-22
JSDA	US Federal Programs	P330-16-00211	06-26-22
Jtah	NELAP	PA001462019-8	05-31-20
/irginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Visconsin	State	998027800	08-31-20

SDG: Ash Pond 2

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

Eurofins TestAmerica, Pensacola

400-184345 COC Special Instructions/Note: 681-Atlanta T - TSP Dodecahyd U - Acetone V - WCAA W - pH 4-5 Z - other (specify) Sept. A Months S-H2S04 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Month eU COC No. 400-73521-29028.1 reservation Codes: A - HCL B - NaOH C - Zn Acetate C - Zn Acetate E - NaHSO4 F - Machier G - Amchier H - Ascorbic Acet 2130 J - DI Water K - EDTA 0 Archive Far Page Job F. DS-SE-F 02420 Total Number of containers ethod of Shipment arrier Tracking No(s) Analysis Requested coler Temperature(s) "C and Other Remarks Special instructions/QC Requirements E-Mail

«Veronica Bortot@testamericainc.com» W1:44:7 0 Metais App. III and (EPA 6020/7470) - G85_M3090_00E 200 804 Lab PM: Bortot, Veronica Time Perform MS/MSD (Yes or No) 配 Company Water Water Water Water Water Water Preservation Code Water Water Water Water Water Matrix Radiological G=grab) (C=comp, Sample 6:00 Type 0 12.30 0 0 O 9 0 0 0 0 0 0 DAY 370-548-3448 Sample Time 101 Date: Unknown AT Requested (days): Due Date Requested: N Benghal 2/24/20 Date Turn Sample Date 325/4 2/14/20 PO#. SCS10347656 Project #: 40007712 SSOW NO#: Paison B Physical 983-7058 Fax (412) 883-2468 Prosecula, Skin Imitant Deliverable Requested: I, II, III, IV, Other (specify) Custody-Seal No. ARAMS-7 Flammable CCR Plant Arkwright - Ash Pond 2 Possible Hazard Identification JAbraham@southernco.com Empty Kit Relinquished by: Custody Seals Infact: Sample Identification Client Information A Yes A No Pittsburgh PA-15298 PO BOX 2841 GSC8 Non-Hazard Company: Southern Company linquished by: Joju Abraham Birmingham State, Zp: AL, 35291 Georgia Page 14 of 15

TestAmerica

Chain of Custody Record

SOLADO DIVE RIDCHER 3355 Mclemare D

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

Creator. Comady, mank w		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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:

LOW-FIOW R	eadings:								
Date Time	Elapsed Time	рН	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	56:11	5.03 pH	14.80 °C	1,061.4	0.58 mg/L	4.63 NTU	119.6 mV	12.30 ft	350.00 ml/min
9:56 AM	30.11	5.03 pH		μS/cm	0.56 mg/L	4.03 1010	119.01110	12.50 11	350.00 1111/111111
2/24/2020	01:01:11	5.07 pH	15.14 °C	1,061.8	0.57 mg/L	4.35 NTU	118.5 mV	12.30 ft	350.00 ml/min
10:01 AM	01.01.11	3.07 pm	15.14 C	μS/cm		4.33 1110	110.51110	12.50 10	
2/24/2020	01:06:11	01:06:11 5.02 pH	15.19 °C	1,058.8	0.56 mg/L	4.54 NTU	117.4 mV	12.30 ft	350.00 ml/min
10:06 AM	01.00.11			μS/cm					
2/24/2020	01:11:11	01:11:11 5.05 pH	14.98 °C	1,053.0	0.56 mg/L	4.64 NTU	116.8 mV	12.30 ft	350.00 ml/min
10:11 AM	01:11:11	3.03 pm		μS/cm	0.50 mg/L	4.04 1410	110.0111	12.50 10	330.00 1111/111111
2/24/2020	01:11:35	01:11:35 5.06 pH	14.95 °C	1,053.6	0.56 mg/L	4.64 NTU	145.7 mV	12.30 ft	350.00 ml/min
10:11 AM				μS/cm	0.56 mg/L	4.04 N TO			330.00 1111/111111

Samples

Sample ID:	Description:
•	·

Created using VuSitu from In-Situ, Inc.

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:

🔅 eurofins

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

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

veronica.bortot@testamericainc.com

Links

Review your project results through

Have a Question?



Visit us at: 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.

2

2

4

5

0

8

9

10

15

13

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 400-184504-1

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Sample Summary	5
Client Sample Results	6
Definitions	7
QC Association	8
QC Sample Results	9
Chronicle	10
Method Summary	11
Certification Summary	12
Chain of Custody	14
Receipt Checklists	15

A

5

0

10

12

13

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.

6

2

4

5

e

8

9

10

12

13

Detection Summary

Client: Southern Company

Job ID: 400-184504-1

Project/Site: CCR - Plant Arkwright

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	56020B	Total
					Recoverable

4

5

9

10

12

13

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	

Client Sample Results

Client: Southern Company Job ID: 400-184504-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARAMW-1 Lab Sample ID: 400-184504-1

Date Collected: 02/26/20 13:40

Date Received: 02/27/20 09:25

Matrix: Water

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

 Analyte
 Result Lithium
 Qualifier J
 RL St.
 MDL unit ug/L
 D ug/L
 Prepared D2/28/20 10:17
 Analyzed Dil Fac D2/28/20 10:17
 D D2/29/20 14:56
 5

4

5

6

ŏ

10

12

13

Definitions/Glossary

Client: Southern Company Job ID: 400-184504-1

Project/Site: CCR - Plant Arkwright

Qualifiers

M	eta	ls
•••		•

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)

4

5

6

7

8

10

11

13

QC Association Summary

Job ID: 400-184504-1

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

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 Job ID: 400-184504-1

Project/Site: CCR - Plant Arkwright

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

Prep Batch: 479853

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Lithium 5.0 02/28/20 10:17 02/29/20 14:45 <1.9 1.9 ug/L

Lab Sample ID: LCS 400-479853/2-A ^5

Matrix: Water

Analyte

Lithium

Analysis Batch: 480057

MB MB

Spike Added 50.0

48.0

LCS LCS Result Qualifier

Unit ug/L

D %Rec 96 Limits 80 - 120

%Rec.

Prep Type: Total Recoverable

Client Sample ID: Lab Control Sample

Client: Southern Company

Job ID: 400-184504-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARAMW-1 Lab Sample ID: 400-184504-1

Date Collected: 02/26/20 13:40

Date Received: 02/27/20 09:25

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	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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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

2

3

4

7

9

10

12

13

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

MethodMethod DescriptionProtocolLaboratory6020BMetals (ICP/MS)SW846TAL PEN3005APreparation, Total Recoverable or Dissolved MetalsSW846TAL 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

Job ID: 400-184504-1

Л

5

6

8

9

11

12

13

Accreditation/Certification Summary

Client: Southern Company

Job ID: 400-184504-1

Project/Site: CCR - Plant Arkwright

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
lowa	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

3

4

5

8

10

11

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

Accreditation/Certification Summary

Client: Southern Company Job ID: 400-184504-1

Project/Site: CCR - Plant Arkwright

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

7

Ö

10

12

13

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

TestAmerica

estamerica Pittsburgh

Other Information Service House First Other Information Service	Fright (412) 963-7036 Fax (412) 863-2468							The Market
Supplementaries Supplement	Client Information	Sampler	100	8.0	ortot, Veronica	Carrier Tracking No(s):	50C No. 400-73521-29028,1	
Color Colo	Clent Contact. Joju Abraham	Phone: 770-	+		Mail: Veronica Bortot@testamericainc com>		Page Page	
March Marc	Company Southern Company				Analysis R	quested	Job #	
All the stands form)	Address: PO BOX 2541 GSC8	Due Date Requests	.p.				ě	
Supplement Com Note Supplement Com Supp	Cay Birmingham Sate Zio	TAT Requested (da		TAT				- 04 00
Comparison Commander Comparison Commander Comparison Commander Comparison Commander Comparison Commander Comparison Comp	AL 35291		- 1		2	200		28
Sample Date Time Sample Date	Phone:	PO# SCS10347656			(0)		n	Gecahydrata
A R A M W - A R A M W -	Email: JAbraham@southernco.com	WOR			(ov)	7	1 - loe J - DI Water	
ARA M.W— 2-1y-20 1241 G Water N N D Sample Date Sample Date Sample Matrix Sample Matrix Sample Matrix Sample Date Time Cognetion Sample Date Time Cognetion Sample Date Time Cognetion Sample Date Time Cognetion Sample Date Sample Date	Project Name CCR Plant Arkwright - Ash Pond 2	Project #: 40007712			JO 58	84504 COC	K-EDTA L-EDA	(Kpad
Sample Date Time Company Type Water Type Typ	Site: Georgia	SSGW			A) asi		_	
NWater N N	Sample identification	Sample Date	. 60		leld Filtered Perform MS/M			Mote
NW-		X		-11781	X			altone.
Construction Contract Contr	ARAMW-1	2-32-20	2 100					340
Constraint Con								
Content Cont								
G Water G Wa								
G Water G Wa								
G Water G Wa								
G Water Sample Disposal (A fee may ba assessed if Samples are retained tonger than 1 month)					4			
filtration G. Water G. Water G. Water G. Water G. Water G. Water Feature Disposal (A fee may be assessed if samples are retained langer than 1 month) Flattin IV. Other (specify) Date: ate: Date:								
Titration Sample Disposal (A fee may be assessed if samples are retained langer than 1 month) Feature To Client Disposal By Lab Archive For Months I, II, IV, Other (specify) Date: Time: Date: Time: Date:								
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Flammable					h			
High In It In In It In In It In								
by. Date: Date: Time: Date: Time: Date: Time: Date: Time: Date: Date: Time: Date: Date: Date: Time: Date:	Possible Hazard Identification Non-Hazard Plammable Skin Imfant	20	-	ologica/	Sample Disposal (A fee may the may th	Disposal By Lab	s are retained longer than 1 month) Archive For Month	52
by: Time: Time: Method of Shipment 2-2u-2u 15 4 o Accepted by: Date/Time: Company 2-2u-2u 15 4 o Accepted by: Date/Time: Company 2-2u-2u 15 4 o Accepted by: Date/Time: Company Custody Seal No.: Cooler Temperature(s) "Carld Other Remarks: 3, 5 2, 7, 8	Deliverable Requested: I, II, III, IV, Other (specify)				Special Instructions/OC Require	ments		
	Empty Kit Relinquished by:		Date:		Time:	Method of Shipme	int	
Custody Seal No. Carbony Received by Conform Received by Cand Other Remarks 3,6 2 //	Reinnquished by, A. M. M.	Date/Time: 2-2.0-	1/02			Date/T	02-9	3
Contract Custody Seal No.: Contract Contract Contract Contract Contract Custody Seal No.: 3, 6 / //	Relinquished by	Date/Time. 2-26-	100	75	1	Date/T		~
Custody Seal No.		Date/Time		Company		X	2-30 9:25	
				e.	Cooler Temperature(s) "C and Ott	er Remarks:	3.6 c 1RQ	

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 = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	
OC is filled out with all pertinent information.	True	
the Field Sampler's name present on COC?	True	
nere are no discrepancies between the containers received and the COC.	True	
amples are received within Holding Time (excluding tests with immediate Ts)	True	
ample containers have legible labels.	True	
ontainers are not broken or leaking.	True	
ample collection date/times are provided.	True	
propriate sample containers are used.	True	
ample bottles are completely filled.	True	
ample Preservation Verified.	True	
here is sufficient vol. for all requested analyses, incl. any requested IS/MSDs	True	
containers requiring zero headspace have no headspace or bubble is 6mm (1/4").	N/A	
ultiphasic samples are not present.	True	
amples do not require splitting or compositing.	True	
esidual 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	рН	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

0/00/0000									
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:

Created using VuSitu from In-Situ, Inc.



Environment Testing America

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:

Workst Workst

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

Review your project results through

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

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	11
QC Sample Results	16
QC Association Summary	18
Chain of Custody	20
Receint Checklists	23

Case Narrative

Client: Southern Company

Job ID: 180-104442-1 Project/Site: CCR - Plant Arkwright Ash Pond 2

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.

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 Job ID: 180-104442-1

Project/Site: CCR - Plant Arkwright Ash Pond 2

Qualifiers

ш				/1	^
п	Г	Ľ	U	ш	U

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

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	y used abbreviations ma	v 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)

4

Δ

6

7

8

9

10

12

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

3

4

5

9

10

11

Sample Summary

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

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-104442-1	ARGWA-19	Water		04/09/20 08:20	ASSECTE
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	

Job ID: 180-104442-1

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

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

Job ID: 180-104442-1

4

7

8

9

4 4

10

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

Client Sample ID: ARGWA-19

Date Collected: 04/07/20 10:08

Lab Sample ID: 180-104442-1

Lab Sample ID: 180-104442-2

Lab Sample ID: 180-104442-3

Matrix: Water

Matrix: Water

Matrix: Water

Job ID: 180-104442-1

Date Received: 04/09/20 08:20

D T	Batch	Batch		Dil	Initial	Final	Batch	Prepared	A L 4	1 -1-
Total/NA	Type Analysis Instrumen	Method EPA 300.0 R2.1 t ID: CHIC2100A	Run	Factor 1	Amount	Amount	Number 313124	or Analyzed 04/17/20 23:21	Analyst SAC	Lab TAL PIT
Total Recoverable Total Recoverable	Prep Analysis Instrumen	3005A EPA 6020B t ID: A		1	50 mL	50 mL	312570 313140	04/10/20 08:53 04/16/20 21:51		TAL PIT TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			312629	04/07/20 10:08	FDS	TAL PIT

Client Sample ID: ARGWA-20

Date Collected: 04/06/20 16:22

Date Received: 04/09/20 08:20

Duan Trus	Batch	Batch	Done	Dil	Initial	Final	Batch	Prepared	A a l a 4	1 -1-
Prep Type Total/NA	Type	Method EPA 300.0 R2.1	Run	Factor	Amount	Amount	Number 313124	or Analyzed 04/17/20 23:36	Analyst	Lab TAL PIT
i otal/NA	Analysis 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 Instrument	EPA 6020B :ID: A		1			313140	04/16/20 21:54	WTR	TAL PIT
Total/NA	Analysis Instrument	SM 2540C ID: NOEQUIP		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT
Total/NA	Analysis Instrument	Field Sampling		1			312629	04/06/20 16:22	FDS	TAL PIT

Client Sample ID: ARGWC-21

Date Collected: 04/07/20 16:19

Date Received: 04/09/20 08:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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 Instrumer	EPA 6020B nt ID: A		1			313140	04/16/20 21:57	WTR	TAL PIT
Total/NA	Analysis Instrumer	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT
Total/NA	Analysis Instrumer	Field Sampling at ID: NOEQUIP		1			312629	04/07/20 16:19	FDS	TAL PIT

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

Client Sample ID: EB-2-4-7-20 Lab Sample ID: 180-104442-4

Date Collected: 04/07/20 14:45

Date Received: 04/09/20 08:20

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			313124	04/17/20 22:04	SAC	TAL PIT
	Instrumer	t 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 22:07	WTR	TAL PIT
	Instrumer	t ID: A								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	312559	04/10/20 07:50	AVS	TAL PIT
	Instrumer	t 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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			313124	04/17/20 22:19	SAC	TAL PIT
	Instrumer	t 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 22:10	WTR	TAL PIT
	Instrumer	it ID: A								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	312562	04/10/20 07:53	AVS	TAL PIT
	Instrumer	t 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 Total/NA	Batch Type Analysis Instrumer	Batch Method EPA 300.0 R2.1 at ID: CHIC2100A	Run	Pactor 1	Initial Amount	Final Amount	Batch Number 313124	Prepared or Analyzed 04/17/20 22:35	Analyst SAC	Lab TAL PIT
Total Recoverable Total Recoverable	Prep Analysis Instrumer	3005A EPA 6020B at ID: A		1	50 mL	50 mL	312570 313140	04/10/20 08:53 04/16/20 22:14		TAL PIT TAL PIT
Total/NA	Analysis Instrumer	SM 2540C at 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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at ID: CHIC2100A		1			313124	04/18/20 02:24	SAC	TAL PIT
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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 Instrumer	EPA 6020B nt ID: A		1			313140	04/16/20 22:17	WTR	TAL PIT

 ${\bf Eurofins\ TestAmerica,\ Pittsburgh}$

2

Job ID: 180-104442-1

3

4

6

8

10

40

13

5/11/2020 (Rev. 2)

Client: Southern Company Job ID: 180-104442-1

Project/Site: CCR - Plant Arkwright Ash Pond 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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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	t 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

Batch Batch Dil Initial Final Batch Prepared **Prep Type** Method **Factor Amount** Amount Number or Analyzed Analyst Type Run Lab Total/NA Analysis EPA 300.0 R2.1 313124 04/17/20 21:18 SAC TAL PIT Instrument ID: CHIC2100A Total Recoverable 50 mL 312570 04/10/20 08:53 KEM TAL PIT Prep 3005A 50 mL Total Recoverable Analysis **EPA 6020B** 1 313140 04/16/20 22:20 WTR TAL PIT Instrument ID: A Total/NA Analysis SM 2540C 100 mL 312559 04/10/20 07:50 AVS TAL PIT 1 100 mL Instrument ID: NOEQUIP Total/NA Analysis 312629 04/07/20 12:00 FDS TAL PIT Field Sampling

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

Instrument ID: NOEQUIP

Batch Type: Analysis

AVS = Abbey Smith

FDS = Sampler Field

SAC = Shawn Clemente

WTR = Bill Reinheimer

Eurofins TestAmerica, Pittsburgh

Client Sample ID: ARGWA-19

Date Collected: 04/07/20 10:08 Date Received: 04/09/20 08:20

Lab	Sample	ID:	180-104442-1
			Matrix: Water

Matrix: Water

Job ID: 180-104442-1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride			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 - Meta	als (ICP/MS) - T	otal Recove	erable						
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 10 mg/L 04/10/20 07:50 120 10 Method: Field Sampling - Field Sampling

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac SU 04/07/20 10:08 рН 5.72

Lab Sample ID: 180-104442-2 **Client Sample ID: ARGWA-20** 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

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

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

Job ID: 180-104442-1

Gener	al Chemistry
Analyte	

Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac 10 04/10/20 07:50 **Total Dissolved Solids** 10 mg/L

Method: Field Sampling - Field Sampling

Analyte Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac 5.53 SU 04/06/20 16:22 pН

Client Sample ID: ARGWC-21 Lab Sample ID: 180-104442-3

Date Collected: 04/07/20 16:19 Date Received: 04/09/20 08:20

Matrix: Water

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	Chemi	istry

RL **MDL** Unit Analyzed Analyte Result Qualifier D Prepared Dil Fac **Total Dissolved Solids** 460 10 10 mg/L 04/10/20 07:50

Method: Field Sampling - Field Sampling

Analyte Result Qualifier **MDL** Unit Prepared RL D Analyzed Dil Fac SU pН 5.96 04/07/20 16:19

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: EPA 300 0 R2 1 - Anions, Ion Chromatography

method. El A 500.0 K2.1 - Allions, for officinatography								
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	,	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 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

Job ID: 180-104442-1

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

Date Collected: 04/06/20 15:20

Date Received: 04/09/20 08:20

Lab Sample ID: 180-104442-5

Matrix: Water

Mothod: EDA 200 0 D2 1 Anione Ion Chromotography

Wethod: EPA 300.0 R2.1 - Ani	ons, ion Unromatograp	ony						
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

<u> </u>			4.0
General	(: r	1em	ISTEV
Ochlora	•		ıvı,

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

Date Collected: 04/07/20 00:00

Date Received: 04/09/20 08:20

Lab	Sample	ID:	180-104442-6

Matrix: Water

Mothod: EDA 200 0 D2 1 - Anione Jon Chromatography

Method. EPA 300.0 Kz. i - Amons, fon 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 ID: DUP-2

Date Collected: 04/07/20 00:00 Date Received: 04/09/20 08:20

Lab Sample ID: 180-104442-6

Matrix: Water

Method: EPA 6020B - Met	als (ICP/MS) - Total R	ecoverable						
Analyte	Result Qualif	ier 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 Qualif	ier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	130	10	10	mg/L			04/10/20 07:50	1

Lab Sample ID: 180-104442-7 **Client Sample ID: ARGWC-22** 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 1.0 0.32 mg/L 04/18/20 02:24 1 8.1 **Fluoride** 0.068 J 0.10 0.026 mg/L 04/18/20 02:24 1 **Sulfate** 10 3.8 mg/L 04/18/20 02:39 10

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 Qu	ıalifier RL	MDL (Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300	10	10 r	mg/L			04/10/20 07:50	1

Method: Field Sampling - Field	Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
рН	5.84				SU	_ -		04/07/20 14:18	1

Client Sample Results

Client: Southern Company Job ID: 180-104442-1

Project/Site: CCR - Plant Arkwright Ash Pond 2

Client Sample ID: ARGWC-23

Lab Sample ID: 180-104442-8

Date Collected: 04/07/20 12:00
Date Received: 04/09/20 08:20 **Matrix: Water**

Method: EPA 300.0 R2.1 - Analyte	•	Qualifier	Pily RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.8	Qualifier	1.0		mg/L			04/17/20 21:18	DII Fac
Fluoride	0.18		0.10	0.026	-			04/17/20 21:18	
Sulfate	0.16 58		1.0		mg/L			04/17/20 21:18	,
Method: EPA 6020B - Met Analyte		otal Recov Qualifier	erable RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic	<0.00031	Quanner	0.0010	0.00031	mg/L		04/10/20 08:53	04/16/20 22:20	
Barium	0.00031		0.0010	0.00031	Ū		04/10/20 08:53	04/16/20 22:20	
Boron	0.16		0.010	0.0010	•		04/10/20 08:53		
Cadmium	<0.00022		0.0010	0.00022	J		04/10/20 08:53		
Calcium	<0.000 <u>2</u> 2		0.50		mg/L		04/10/20 08:53		,
Chromium	<0.0015		0.0020	0.0015	•		04/10/20 08:53		
Cobalt	0.0016		0.00050	0.00013				04/16/20 22:20	
Lead	<0.0018		0.00030	0.00013	•			04/16/20 22:20	
Lithium	0.00013		0.0010	0.0034	•		04/10/20 08:53		
Selenium	<0.0015		0.0050	0.0034				04/16/20 22:20	
Silver	<0.0018		0.0030	0.0013	-			04/16/20 22:20	
General Chemistry	Desul	Qualifier	D.		J		Duamanad	Analyzad	D:I F-
Analyte		Qualifier	RL -	MDL		D	Prepared	Analyzed	Dil Fa
Total Dissolved Solids	290		10	10	mg/L			04/10/20 07:50	
Method: Field Sampling -	•	O P.C	ъ.	MDI	1114	_	D	A	D'' E-
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fa
рН	6.40				SU			04/07/20 12:00	

5/11/2020 (Rev. 2)

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

	MB	MR							
Analyte	Result	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

MB MB

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

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	INIB	MB							
Analyte	Result	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			Prep Type: Total/NA
Analysis Batch: 313124			
	Spike	LCS LCS	%Rec.

	Spike	LCS	LUJ				/OINEC.	
Analyte	Added	Result	Qualifier	Unit	D	%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	
	Chloride Fluoride	Analyte Added Chloride 50.0 Fluoride 2.50	Analyte Added Result Chloride 50.0 48.8 Fluoride 2.50 2.51	Analyte Added Chloride Result 48.8 Qualifier 48.8 Fluoride 2.50 2.51	Analyte Added Chloride Result 50.0 Qualifier 48.8 Unit mg/L mg/L mg/L Fluoride 2.50 2.51 mg/L	Analyte Added Chloride Result 50.0 Qualifier Mg/L Unit mg/L D mg/L Fluoride 2.50 2.51 mg/L	Analyte Added Chloride Result Solution Qualifier Mg/L Unit Mg/L D 98 %Rec Mg/L 98 Fluoride 2.50 2.51 mg/L 100	Analyte Added Chloride Result Solution Qualifier Mg/L Unit Mg/L D MRec Dimits Limits Fluoride 2.50 2.51 mg/L 100 90 - 110

Lab Sample ID: LCS 180-313124/74

Matrix: Water

Analysis Batch: 313124

7 mm, 7 co = 2 co = 2	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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	Result	Qualifier R	_ MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031	0.001	0.00031	mg/L		04/10/20 08:53	04/16/20 21:28	1
Barium	<0.0016	0.01	0.0016	mg/L		04/10/20 08:53	04/16/20 21:28	1
Boron	<0.039	0.08	0.039	mg/L		04/10/20 08:53	04/16/20 21:28	1
Cadmium	<0.00022	0.002	0.00022	mg/L		04/10/20 08:53	04/16/20 21:28	1
Calcium	<0.13	0.5	0.13	mg/L		04/10/20 08:53	04/16/20 21:28	1
Chromium	<0.0015	0.002	0.0015	mg/L		04/10/20 08:53	04/16/20 21:28	1
Cobalt	<0.00013	0.002	0.00013	mg/L		04/10/20 08:53	04/16/20 21:28	1
Lead	<0.00013	0.001	0.00013	mg/L		04/10/20 08:53	04/16/20 21:28	1
Lithium	< 0.0034	0.005	0.0034	mg/L		04/10/20 08:53	04/16/20 21:28	1
Selenium	<0.0015	0.005	0.0015	mg/L		04/10/20 08:53	04/16/20 21:28	1
Silver	<0.00018	0.001	0.00018	mg/L		04/10/20 08:53	04/16/20 21:28	1

Eurofins TestAmerica, Pittsburgh

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

Lab Sample ID: LCS 180-312570/2-A

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

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Job ID: 180-104442-1

10

Analysis Batch: 313140	Spike	LCS LCS	2		. ,.	Prep Batch: 312570 %Rec.
Analyte	Added	Result Qua		D	%Rec	Limits
Arsenic	1.00	1.01	mg/L	_ =	101	80 - 120
Barium	1.00	0.978	mg/L		98	80 - 120
Danas	4.05	4.40	/I		00	00 400

Ars Bar Boron 1.25 1.16 mg/L 93 80 - 120 Cadmium 0.500 0.508 mg/L 102 80 - 120Calcium 25.0 27.9 mg/L 112 80 - 120Chromium 0.500 0.488 mg/L 98 80 - 120 0.506 101 Cobalt 0.500 mg/L 80 - 120 100 Lead 0.500 0.502 mg/L 80 - 120 0.500 0.456 Lithium 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 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water Analysis Batch: 312559

Matrix: Water

MB MB RL **MDL** Unit Analyte Result Qualifier Prepared Analyzed Dil Fac 10 04/10/20 07:50 **Total Dissolved Solids** <10 10 mg/L

Lab Sample ID: LCS 180-312559/1 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 312559

Spike LCS LCS %Rec. Result Qualifier Analyte Added Unit %Rec Limits **Total Dissolved Solids** 242 286 mg/L 118 80 - 120

Lab Sample ID: MB 180-312562/2 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 312562

MB MB Result Qualifier RL **MDL** Unit Prepared Analyte Analyzed Dil Fac 10 04/10/20 07:53 **Total Dissolved Solids** <10 10 mg/L

Lab Sample ID: LCS 180-312562/1 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 312562

LCS LCS Spike %Rec. Added **Analyte** Result Qualifier Unit %Rec Limits Total Dissolved Solids 242 262 108 80 - 120 mg/L

Eurofins TestAmerica, Pittsburgh

5/11/2020 (Rev. 2)

QC Association Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

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

Job ID: 180-104442-1

J

4

6

<u>۾</u>

9

11

40

Ш

QC Association Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

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 180-104442-5	Client Sample ID FB-2-4-6-20	Prep Type Total/NA	Matrix Water	Method SM 2540C	Prep Batch
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	

Job ID: 180-104442-1

Detected APP1V: Arsenie, Barium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium. Selenium. Rodium

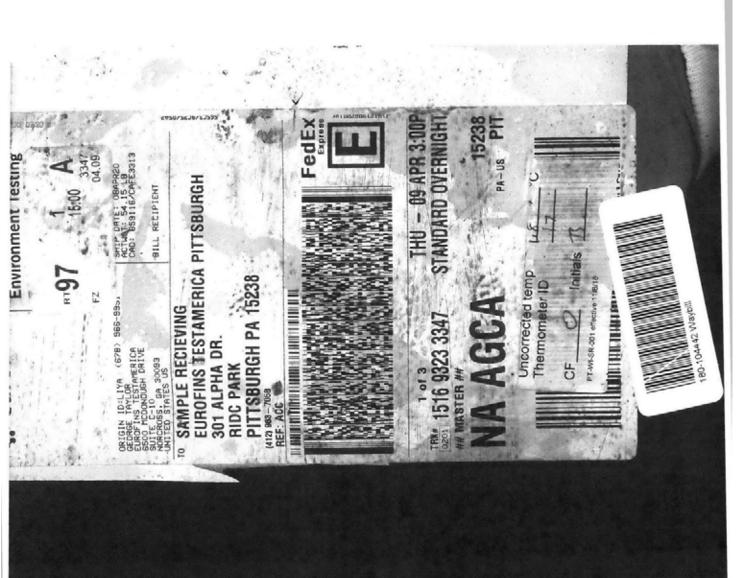
COC No. 400-73521-29028.1	Page 1 of 1	Job #	8				G - Arrentor S - H2SQ4 H - Ascorbic Acid T - TSP Dedecathydrate		K-EDTA L-EDA	of co Other:	nedmuM lato		2 PH=5.72	3 PH=5.53	3 PH=5.96	- Hd 2	- = Hd 5	3 pH=	3 pH=5,84	5 PH = 6,40	p-4-				180-104442 Chain of Custody	Shipment	S/Tiledono CZ-6-Shared	Deportule Company			Ver 0804/2016
Carrier Tracking No(s)	Low Y	Analysis Requested	pu	e '30A		mbe	J.mui	6, Bari	226 & S	320) adium	cate Metals (A.) election A4: R W-846 931 5/9 elected A4: M	S) FO FO FO FO FO FO FO FO FO FO FO FO FO	1	7	7	7 7 7	7 / /	7 0 0	7 7 7	NV				Sample Disposal (A fee may be assesse	. 1	Method of Shipment	1	>		Cooler Temperature(s) °C and Other Remarks:	
Veronica Bartot	E-Mail: Versice, Bo-tot @ tests mericainco			- 5091	92 '90	ellins		(oN	es or	r) asi	Matrix (Verwark)	W APP	Water WN	Water NN C	Water NN	Water NN V	Water NN /	Water N N V	Water NN Y	Water N V	Water	Water	Water	Sample Dispos	Special Instruct	Time:	Received by:	Company Recarded By	Company Received by:	Cooler Tempe	
Golde, 12 (Ves	7-594-		ate Requested:	ednested (days):			10347656		12		Sample Type (C=comp.	Time G=grab)	7-20 100 K G	6-20 1623 6	-	7-20 1445 G	6-20 1520 G	7-20 - 6	0 81H1 05-F	7-20 (200 0	9	9	9	(Joknown Radiological	1	Date:	8-20 / 15/5	4151 02			
Sampler.	Phone	Company. Southern Commany	O and	TATR	Birmingham State Zin-		Phone: Poor: Poor: SCS1034	Emait JAbraham@southernco.com	Project Name: Project Name: CCR Plant Arkwright - Ash Pond 2 - 1st 2020 SA GWM 40007712	She: Georgia		Sample Identification	DRC, 14-19	-20 -4-	4-71	4-4-1-20	M 05-3	7	4 CC-22	ARGUE- 23				Backer		Empty Kit Relinquished by:	DateTime	Reinfustred by	Relipeushed by:	Custody Seals Infact. Custody Seal No.:	D 160 D IV

TestAmerica

Chain of Custody Record

681-Atlanta

TestAmerica



Page 21 of 23

5/11/2020 (Rev. 2



12 13



2 01 3

301 ALPHA DR.

16:00 3358 04:09

RIDC PARK

412) 963 - 7058

REF: ACC

S

Client: Southern Company

Job Number: 180-104442-1

Login Number: 104442 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

orcator. Say, momas s		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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

Veronica Bortot

Authorized for release by:

5/11/2020 1:47:54 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

Review your project results through

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

3

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	7
Method Summary	8
Lab Chronicle	9
Client Sample Results	12
QC Sample Results	17
QC Association Summary	19
Chain of Custody	20
Pagaint Chacklists	24

-

4

6

<u>۾</u>

9

10

12

Case Narrative

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 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.

Job ID: 180-104442-2

<u></u> 3

4

_

6

7

_

10

19

13

Definitions/Glossary

Client: Southern Company Job ID: 180-104442-2

Project/Site: CCR - Plant Arkwright Ash Pond 2

Qualifiers

Rad

Qualifier **Qualifier Description**

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**

Detection Limit (DoD/DOE) DΙ

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)

Estimated Detection Limit (Dioxin) **EDL** Limit of Detection (DoD/DOE) LOD LOQ Limit of Quantitation (DoD/DOE)

Minimum Detectable Activity (Radiochemistry) MDA Minimum Detectable Concentration (Radiochemistry) MDC

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**

Relative Error Ratio (Radiochemistry) **RER**

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 Dat
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
lowa	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

5/11/2020

Sample Summary

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

Job ID: 180-104442-2

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 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

Job ID: 180-104442-2

4

5

O

7

Ö

9

4 4

12

13

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 2

Lab Sample ID: 180-104442-1 **Client Sample ID: ARGWA-19**

Date Collected: 04/07/20 10:08 Date Received: 04/09/20 08:20 **Matrix: Water**

Job ID: 180-104442-2

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			469778	05/07/20 04:15	KLS	TAL SL
Total/NA	Prep	PrecSep_0			1000.58 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPROTE	AN	1			469238	04/30/20 12:36	KRR	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			469788	05/07/20 09:21	SMP	TAL SL

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			469778	05/07/20 04:15	KLS	TAL SL
Total/NA	Prep	PrecSep_0			1000.14 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPROTEA	۸N	1			469238	04/30/20 12:36	KRR	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			469788	05/07/20 09:21	SMP	TAL SL

Client Sample ID: ARGWC-21 Lab Sample ID: 180-104442-3 Date Collected: 04/07/20 16:19

Date Received: 04/09/20 08:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			469778	05/07/20 04:15	KLS	TAL SL
Total/NA	Prep	PrecSep_0			1000.65 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPROTEA	N	1			469238	04/30/20 12:36	KRR	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			469788	05/07/20 09:21	SMP	TAL SL

Client Sample ID: EB-2-4-7-20 Lab Sample ID: 180-104442-4

Date Collected: 04/07/20 14:45 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
	Instrumer	t ID: GFPCRED								

Eurofins TestAmerica, Pittsburgh

Page 9 of 25

Matrix: Water

Matrix: Water

Lab Sample ID: 180-104442-4

Lab Sample ID: 180-104442-5

Lab Sample ID: 180-104442-6

Lab Sample ID: 180-104442-7

Matrix: Water

Matrix: Water

Matrix: Water

Job ID: 180-104442-2

Client Sample ID: EB-2-4-7-20 Date Collected: 04/07/20 14:45

Date Received: 04/09/20 08:20

Batch		Batch	D	Dil	Dil Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9320 nt ID: GFPCPROTE	AN	1			469238	04/30/20 12:36	KRR	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			469788	05/07/20 09:21	SMP	TAL SL

Client Sample ID: FB-2-4-6-20

Date Collected: 04/06/20 15:20

Date Received: 04/09/20 08:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			469778	05/07/20 06:06	KLS	TAL SL
Total/NA	Prep	PrecSep_0			1000.23 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCORANGE	Ē	1			469237	04/30/20 12:31	KRR	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			469788	05/07/20 09:21	SMP	TAL SL

Client Sample ID: DUP-2

Date Collected: 04/07/20 00:00 Date Received: 04/09/20 08:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			469778	05/07/20 06:06	KLS	TAL SL
Total/NA	Prep	PrecSep_0			1000.43 mL	1.0 g	467811	04/15/20 08:04	RBR	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCORANGE	Ē	1			469237	04/30/20 12:31	KRR	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			469788	05/07/20 09:21	SMP	TAL SL

Client Sample ID: ARGWC-22

Date Collected: 04/07/20 14:18

Date Received: 04/09/20 08:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 SI
	Instrumen	t 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 SI
	Instrumen	t ID: GFPCORANG	SE .							

Eurofins TestAmerica, Pittsburgh

Page 10 of 25

Matrix: Water

Lab Chronicle

Client: Southern Company Job ID: 180-104442-2

Project/Site: CCR - Plant Arkwright Ash Pond 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

Batch Batch Dil Initial Final **Batch** Prepared Method Factor or Analyzed **Prep Type** Type Run Amount Amount Number Analyst Lab Total/NA 469788 05/07/20 09:21 SMP Analysis Ra226_Ra228 TAL SL

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumen	t 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
	Instrumen	t ID: GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228		1			469788	05/07/20 09:21	SMP	TAL SL
	Instrumen	t 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

5/11/2020

Client Sample ID: ARGWA-19

Lab Sample ID: 180-104442-1

Matrix: Water

Job ID: 180-104442-2

Date Collected: 04/07/20 10:08 Date Received: 04/09/20 08:20

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	nbined Rad	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Date Collected: 04/06/20 16:22

Date Received: 04/09/20 08:20

Lab Sample ID: 180-104442-2

Matrix: Water

	Radium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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)								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

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

Job ID: 180-104442-2

Method: Ra226_	Ra228 - Combined	Radium-226 a	and Radium-228
----------------	------------------	--------------	----------------

П	mothod: rtuzzo_rtuz		ibilioa ita	alaili LL O a	na naanan						
				Count	Total						
				Uncert.	Uncert.						
	Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Combined Radium 226 + 228	0.0720	Ū	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)

Miction. 3010 - 1		J. 1 J,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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)

			Count Uncert.	Total Uncert.						5 11.5
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.407	Ū	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

Method: Nazzo_Na	22 0 - 0011	ibilied its	didili-220 a	na itaanan	11-220					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226	0.433	U	0.335	0.338	2.00	0.525	pCi/L		05/07/20 09:21	1
+ 228										

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 - Ra	adium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Client Sample ID: EB-2-4-7-20 Lab Sample ID: 180-104442-4

Date Collected: 04/07/20 14:45 Date Received: 04/09/20 08:20

Matrix: Water

Job ID: 180-104442-2

Method: 9320 - I	Radium-228 ((GFPC)	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 Count Total Uncert. Uncert. Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ **MDC** Unit Analyte RL Prepared Analyzed Dil Fac 0.196 U 0.270 0.270 2.00 0.447 pCi/L 05/07/20 09:21 Combined Radium 226 + 228

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 - R	Radium-226 (GFPC)								
	·	,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.104	Ū	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) Count Total Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-228 0.0661 U 0.208 0.363 pCi/L 04/15/20 08:04 04/30/20 12:31 0.207 1.00 Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 99.1 40 - 110 04/15/20 08:04 04/30/20 12:31 Y Carrier 83.0 40 - 110 04/15/20 08:04 04/30/20 12:31

Method: Ra226 Ra228 - Combined Radium-226 and Radium-228 Count Total Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac 0.170 U 0.223 0.224 2.00 0.363 pCi/L 05/07/20 09:21 Combined Radium 226 + 228

Job ID: 180-104442-2

Matrix: Water

Client Sample ID: DUP-2 Lab Sample ID: 180-104442-6

Date Collected: 04/07/20 00:00

Date Received: 04/	/09/20 08:20									
Method: 9315 - Ra	adium-226 (GFPC)								
		•	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0 104		0.0653	0.0660	1 00	0.0804	nCi/l	04/15/20 06:56	05/07/20 06:06	

 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 Ba Carrier
 Qualifier 40 - 110
 Limits 40 - 110
 Prepared 04/15/20 06:56
 Analyzed 05/07/20 06:06
 Dil Fac 04/15/20 06:56

Method: 9320 - Radium-228 (GFPC) Count Total Uncert. Uncert. Result Qualifier **MDC** Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Analyzed Dil Fac 0.000 U 0.338 pCi/L 04/15/20 08:04 04/30/20 12:31 Radium-228 0.185 0.185 1.00 Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 98.5 40 - 110 04/15/20 08:04 04/30/20 12:31 Y Carrier 81.9 40 - 110 04/15/20 08:04 04/30/20 12:31

Method: Ra226 Ra228 - Combined Radium-226 and Radium-228 Count Total Uncert. Uncert. Analyte Result Qualifier **MDC** Unit $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Analyzed Dil Fac 0.104 U 05/07/20 09:21 0.196 0.196 2.00 0.338 pCi/L Combined Radium 226 + 228

Client Sample ID: ARGWC-22

Date Collected: 04/07/20 14:18

Lab Sample ID: 180-104442-7

Matrix: Water

Date Received: 04/09/20 08:20

Method: 9315 - F	Radium-226 ((GFPC)								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - F	Radium-228 ((GFPC)								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Project/Site: CCR - Plant Arkwright Ash Pond 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

Job ID: 180-104442-2

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Count	Total	
Uncert.	Uncert.	
(2σ+/-)	(2σ+/-)	

226 + 228

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) Total Count Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac 0.0693 0.0702 1.00 0.0810 pCi/L 04/15/20 06:56 05/07/20 06:06 Radium-226 0.120 Carrier **%Yield Qualifier** Limits Prepared Analyzed Dil Fac 99.1 40 - 110 04/15/20 06:56 05/07/20 06:06 Ba Carrier

Method: 9320 - Radium-228 (GFPC) Count Total Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-228 0.176 U 04/15/20 08:04 04/30/20 12:32 0.253 0.253 1.00 0.423 pCi/L Carrier **%Yield Qualifier** Limits Prepared Analyzed Dil Fac Ba Carrier 40 - 110 04/15/20 08:04 04/30/20 12:32 99.1 Y Carrier 85.6 40 - 110 04/15/20 08:04 04/30/20 12:32

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228
Count Total

			Count	Total						
			Uncert.	Uncert.						
Analyte	Result Q	ualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226	0.296 U		0.262	0.263	2.00	0.423	pCi/L		05/07/20 09:21	

+ 228

Job ID: 180-104442-2

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

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-467807/23-A

Lab Sample ID: LCS 160-467807/1-A

Matrix: Water

Analysis Batch: 469778

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 467807

MB MB Uncert. Uncert. Analyte Result Qualifier RL MDC Unit $(2\sigma + / -)$ $(2\sigma + / -)$ Prepared Analyzed Dil Fac Radium-226 0.01854 U 0.0875 pCi/L 04/15/20 06:56 05/07/20 06:07 0.0461 0.0461 1.00

Total

MB MB

Carrier Qualifier Limits %Yield Ba Carrier 40 - 110 97.6

Spike

Added

11.3

Count

LCS LCS

Result Qual

10.00

Client Sample ID: Lab Control Sample

04/15/20 06:56 05/07/20 06:07

Prep Type: Total/NA

Prep Batch: 467807

Total

Analysis Batch: 469778

Matrix: Water

Analyte

Radium-226

Uncert. $(2\sigma + / -)$ 1.06

RL

1.00

MDC Unit 0.0930 pCi/L %Rec 88

Prepared

%Rec.

Limits 75 ₋ 125

Analyzed

LCS LCS

Carrier %Yield Qualifier I imits 40 - 110 Ba Carrier 91.5

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

LCSD LCSD **Spike** Uncert.

RER %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL**MDC** Unit %Rec Limits RER Limit Radium-226 11.3 9.993 1.06 1.00 0.128 pCi/L 88 75 - 125 0.01

Total

LCSD LCSD

Carrier %Yield Qualifier Limits 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

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-228 04/15/20 08:04 04/30/20 12:32 0.03821 Ū 0.223 0.223 1.00 0.395 pCi/L

> MB MB

Dil Fac Carrier %Yield Qualifier Limits Prepared Analyzed Ba Carrier 97.6 40 - 110 04/15/20 08:04 04/30/20 12:32 78.5 40 - 110 04/15/20 08:04 04/30/20 12:32 Y Carrier

Eurofins TestAmerica, Pittsburgh

5/11/2020

Dil Fac

10

QC Sample Results

Client: Southern Company Job ID: 180-104442-2

Project/Site: CCR - Plant Arkwright Ash Pond 2

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

Lab Sample ID: LCS 160-467811/1-A **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 469238

Prep Type: Total/NA **Prep Batch: 467811**

Total Spike LCS LCS Uncert. %Rec. Analyte Added RL **MDC** Unit Limits Result Qual (2σ+/-) %Rec Radium-228 1.00 0.552 pCi/L 75 - 125 8.88 9.602 1.16 108

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 40 - 110 91.5 Y Carrier 82.2 40 - 110

Lab Sample ID: LCSD 160-467811/2-A **Client Sample ID: Lab Control Sample Dup**

Matrix: Water

Analysis Batch: 469238

Prep Type: Total/NA **Prep Batch: 467811** Total

LCSD LCSD Uncert. %Rec. **RER** Spike Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits RER Limit Radium-228 1.10 8.88 9.120 1.00 0.457 pCi/L 103 75 - 125 0.21

LCSD LCSD Carrier %Yield Qualifier Limits Ba Carrier 95.1 40 - 110 82.6 40 - 110 Y Carrier

10

QC Association Summary

Client: Southern Company Project/Site: CCR - Plant Arkwright Ash Pond 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 Dun	Total/NA	Water	PrecSen 0	

Job ID: 180-104442-2

Eurofins TestAmerica, Pittsburgh

5/11/2020

Detected APP1V: Arsenie, Barium, Cadmium, Chromium, Cobalt, Fluoride, Lead. Lithium. Solonium. Parlium

TestAmerica	TA 400-73521-29028.1	Job #:	Š		E - NaHSO4 Q - Na2SO3	32	I - Ice J - Di Water	L-EDA	oo to oo	nedmuM Isto	Special Instructions/Note:	2 PH=5.72	3 PH=5.53	3 pH=5.96	Z pH= -	5 pH= -	3 pH=	3 pH=5,84	5 PH = 6,40	= Hd				80-104442 Chain of Custody	ıt.	5/5/co	of 12 522 Company		
	Version Carter Acc to T	Analysis Requested		Silver,	read,	mium,	m, Gad	Barlui 226 &	rsenic, adium (320)	25. ORGEM_21 25. Metals (A. A. B.	8) 80 88 88 88	7	7	7	7 7 7 7	7 7 7 7	000	7 7 7	NNN				Sample Disposal (A fee may be assesse	-1	Method of Shipment	Sate Contention	Date Control	d by.	Cooler Temperature(s) "C and Other Remarks:
Chain of Custody Record	00						(oN	es or	r) ask	Matrix (versel) (vers	w X	G Water W.N	G Water NN	G Water NN	G Water NN V	G Water NN	G water N N	G Water NN	G Water NW	G Water	G Water	G Water			Time:	Company Received by	Company Recorded	Company Received by	Cooler Te
Chain of C	Tiboble / Bualler Pront 770-594-599		Due Date Requested:	TAT Requested (days):		Po#: SCS10347656	WO#:	Project#: 40007712	SSOWII:	Sample	Sample Date Time G=g	4-7-20 100K	1623	1619	0 1445	H-6-20 1530	7000	81H1 05-	4-7-20 (200				M	OURHOWN	Date:	Date/Time: 9-20 / 15/5	SI CZ-Somboo	Date/Time:	
TestAmerica 681-Atlanta	Client Information Client Contact Joju Abraham	Company. Southern Company	Address: PO BOX 2641 GSC8	City: Birmingham	State, Zip; AL, 35291	Phone:	Email JAbraham@southemco.com	Project Name: CCR Plant Arkwright - Ash Pond 2 - 1st 2020 SA GWM	She: Georgia		Sample Identification	DR/C114-19	ARKUA	ARKUR	17	FB-2-4-6-20	1	ARGUC-22	-				Possible Hazard Identification	Other (specify)	Empty Kit Relinquished by:	Religioushed by:	Reinflushed by:	Reijpeushed by:	Custody Seals Intact: Custody Seal No.:







12 13



SHIP DATE: 08APR20 ACTWGT: 54.15 LB ACTWGT: 859116/CAFE3313

BILL RECIPIENT

ORIGIN ID:LIYA (678) 966-9991. GEORGINS TESTAMERICA EUROFINS TESTAMERICA GSOO MCDONGUGH DRIVE SUITE C-10. NORCROSS. TO GA 30093 UNITED STATES US

EUROFINS TESTAMERICA PITTSBURGH

TO SAMPLE RECIEVING

301 ALPHA DR.

RIDC PARK

PITTSBURGH PA 15238

412) 963 - 7058

REF: ACC

vironment Testing

و

tAmerica

16:00 3358 04:09

Initials

S

Thermometer ID

2 01 3

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

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2468

Seurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)				Bord	Bortot, Veronica	538		Comer (1909)	(sjow grand)	180-390690.1	
Client Contact. Shipping/Receiving	Phone:			E-Mail	1	0				Page	
Company				VBIC	Acces Don	ougule	veronica bortotigitestamencainc.com	Georgia		Page 1 of 1	
TestAmerica Laboratories, Inc.					Accredita	ions Re	drived (See note):			Job# 180-104442-2	
Address: 13715 Rider Trail North,	Due Date Requested: 5/7/2020	.pe					Analys	Analysis Requested		Preservation Codes	des:
Cry Earth City	TAT Requested (days):	:(ske				\vdash				A - HCL B - NaOH C - Zn Acetate	M - Hexane N - None O - AshaDo
State: Zip: MO, 63045										D - Nitric Acid E - NaHSO4	P 1 4
Phone 314-298-8566(Tel) 314-298-8757(Fax)	#0d				(0	_				G - Amphips H - Assorbie Acid	R - Na2S203 S - H2SO4 T - TSD Protection and and and and and and and and and an
Email	*OM										U - Acetone V - MCAA
Project Name: CCR - Plant Arkwright Ash Pond 2	Project # 18020201									tainer L-EDA	W - pH 4-5 Z - other (specify)
Site: Arkwright	SSOW#						_			of con	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample	Sample Type (C=comp, G=grab) o	Matrix (versatar, Sradist, Oresatatori, OTTERNA, ANAI)	Field Filtered S MiSM mrohed	9320_Ra228/Pre	R*226R*228_GF			Total Number o	Special Instructions/Note:
	X	X	Preservation Code:	on Code:	X					\times	V
ARGWA-19 (180-104442-1)	4/7/20	10:08 Eastern		Water		×	×			1	
ĀRĞWA-20 (180-10442-2)	4/6/20	16:22 Eastern		Water		×	×			-	
ARGWC-21 (180-10442-3)	4/7/20	16:19 Eastern		Water		×	×			-	
EB-2-4-7-20 (180-104442-4)	4/7/20	14:45 Eastern		Water		×	×			•	
FB-2-4-6-20 (180-104442-5)	4/6/20	15:20 Eastern		Water		×	×			1	
DUP-2 (180-104442-6)	4/7/20	Eastern		Water		×	×			1	
ARGWC-22 (180-10442-7)	4/7/20	14:18 Eastern		Water		×	×			-	
ARGWC-23 (180-104442-8)	4/7/20	12:00 Eastern		Water		×	×			+	
Note: Since laboratory accreditations are subject to change. Eurolins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin fisted above for analysis/hists/matrix being analyzed, the samples must be shipped back to the Eurolins TestAmerica attention immediately. It all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurolins TestAmerica.	America places the ownershi matrix being analyzed, the si rent to date, return the signer	o of method, a mples must bi Chain of Cust	halyte & accredit shipped back to ody attesting to	ation compila o the Eurofins said compiles	ce upon o TestAmeri sce to Euro	ut subco	whitact laboratories. Talory or other instruct	his sample shipment is for ons will be provided. Any	orwarded under cha y changes to accred	inn-of-custody. If the labor dilation status should be b	atory does not currently rought to Eurofins
Possible Hazard Identification					Sam	ole Di	sposal (A fee m.	ny be assessed if s	amples are ret	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	month)
Unconfirmed					_	Retu	Return To Client	Disposal By Lab	, ab ab	Archive For	Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Delivera	ible Rank: 2			Spec	al lus	Special Instructions/QC Requirements	uirements:			
Empty Kit Relinquished by:		Date:			Time:			Method of	Method of Shipment:		
Helimpaished	15 Jan 19	(10	00	1 Umo	7	Received by	(3 CED E)	35	Date/Time:		Company
Relinquence of FED EX	Date(Tme.		8	pany	02.	Received	Inl.	7.	VIII Za Ec	61:00	ErA set.
- 1	Date/Time		0	Company	d) Ju		Date/Time.		Company
Custody Seals Infact: Custody Seal No.: A Yes A No					0	ooler Te	Cooler Temperature(s) "C and Other Remarks	Other Remarks			
					1	ı					

Client: Southern Company Job Number: 180-104442-2

Login Number: 104442 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

Creator. Say, monias C		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Eurofins TestAmerica, Pittsburgh

Page 24 of 25

5/11/2020

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.</td <td>True</td> <td></td>	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:		PI	ant Arkwright	
TECHNICIAN:		T. 60	ble	
WATER LEVEL:		Solinst 236		
WATER LEVEL S/N:		236	986	
		30-111		
INSTRUMENT S/N:		325476	,	
NSTRUMENT TYPE:	Insitu SmarTroll	0000	1 1 EVE DATE:	00/01
CAL. SOLUTION/S:	-	OT#: 9612		09/21
		OT#: 9GK7		11/2/
		OT#: 96K6		0122
		OT#: 96-11		8/20
	10: ORP 240 L		THE RESERVE AND ADDRESS OF THE PARTY OF THE	8/20
		OT#:	EXP. DATE:	
	ID: L	OT #:	EXP. DATE:	
alibration Date:	4-6-20			
RDO	: 100% sat. = 98.5	-		
	: 4.00 = 4.65		1.53	10.00 =
	: 1413 = 1415		1.02	
ORP (mv	228-177.			
Calibration Date:	11 7-20			
	0: 100% sat. = 101.3			
	1: 4.00 = 4.71	7.00 =	7.44	10.00 = 10.28
		7,00 -	1,55	10.00
	: 1413 = 150ce			
ORP (mV	1 233 = 195.1			
Calibration Date:	4-2-20			
alibration Date:): 100% sat. = 99 - 2			
		7,00 =	1 44	10.00 = 10.21
	1: 4.00 = 41.77			10.41
	1413 -1544			
ORP (m)	1) 235=198.4	3		
Calibration Date:	4-9-20			
	0: 100% sat. = 100 - 3			THE STREET
	1: 4.00 = 4.74		7.44	10.00 = 10 24
	1: 1413 = 15	96		
ORP (m\	1) 234 - 194	0.5		
Calibration Date:				
	D: 100% sat. =			
	1: 4.00 =	7.00 =		10.00 =
CONDUCTIVITY				
ORP (m)				
O. v. / / /	. /			



Daily Instrument Calibration Log

SITE:		PI	ant Arkwright		
TECHNICIAN:		Ryan Wa	1Ker		
		,			
		110			
WATER LEVEL:		Heron 24424			
WATER LEVEL S/N:		24424			
INSTRUMENT S/N:		7+924	3 71	4293	
INSTRUMENT TYPE:	Insitu SmarTroll				
CAL. SOLUTION/S:	10: PH4	LOT#: 96 LOO :	S EXP. DATE:	12/21	
	1D: p/47	LOT#:2808E		08/20	
	ID: pH10	LOT#: 96 FO7	3 EXP. DATE:	06/21	
	ID: ORP	LOT#: 96 L59		09/20	
	ID: Con	LOT#: 96E101	8 EXP. DATE:	05/20	
	ID:	LOT#:	EXP. DATE:	71.47.77	
	ID:	LOT#:	EXP. DATE:		
Calibration Date:	1/1/2.				
	100% sat. =	99,40			
	4.00 = 4.02	7.00 =	7.02	10.00 =	9.74
CONDUCTIVITY		1308	1.00	10.00 -	10 7 1
ORP (mV)		219 9		_	
Calibration Date: L	1/7/20 100% sat. =	100, 7 7.00 = 1425	2		
	4.00 = 4,01	7.00 =	6.99	10.00 =	10.06
CONDUCTIVITY:		1425		100	
ORP (mV)		234.3			
	- 385 47				
Calibration Date: L	1/8/20	0			
RDO:	100% sat. =	99.8	3		
PH:	4.00 = 4,01	7.00 =	7,03	10.00 =	10.05
CONDUCTIVITY:		172			
ORP (mV)		235,0			
al extended from the	1 1-				
Calibration Date:	/ //	000	^		
	100% sat. =	99.90	9		
	4.00 = 3.99	7.00 =	7.01	10.00 =	10.02
CONDUCTIVITY:		1386	TAIL	_	
ORP (mV)		252,1			
Calibration Date:					
RDO:	100% sat. =				
PH:	4.00 =	7.00 =		10.00 =	
CONDUCTIVITY:					
ORP (mV)					



Daily Instrument Calibration Log

SITE:		Plant Arlowight	
TECHNICIAN:	0	Plant Arkwright	_
CONTROL OF	- 4700	WALKE	_
INSTRUMENT S/N: INSTRUMENT TYPE:	Hach 2100 Q	206063767	
CAL. SOLUTION:	O NTU - LOT # NA	EXP. DATE: New DI wa	_ at
	10 NTU - LOT # A 8 194		
	20 NTU - LOT # A & 2-1		Ĺ
Calibration Date:	1/6/20	Linkwich and Daniffer	
	Calibation Solution	Instrument Reading	
	0.0	0,39 NTU	
	10.0	9,35 NTU	
	20.0	19,1 NTU	
Calibration Date:	4/7/20		
	Calibation Solution	Instrument Reading	
	0.0	0.43 NTU	
	10.0	9,3 1 NTU	
	20.0	<u> "Д1, 5 </u>	
Calibration Date:	4/8/20		
	Calibation Solution	Instrument Reading	
	0.0	0,39 NTU	
	10.0	9,06 NTU	
	20.0	19.8 NTU	
Calibration Date:	4/9/20		
	Calibation Solution	Instrument Reading	
	0.0	0.39 NTU	
	10.0	10,9 NTU	
	20.0	21, \(\sum_{\text{NTU}}\)	
Calibration Date:			
	Calibation Solution	Instrument Reading	
	0.0	NTUNTU	
	10.0	NTU	
	20.0	NTU	
Calibration Date:	r		
	Calibation Solution	Instrument Reading	
	0.0	NTUNTU	
	10.0	NTUNTU	
	20.0	NTU	

Date: 2020-04-07 10:09:46

Pump Information:

Project Information:

Operator Name Pump Model/Type **Taylor Goble**

QED Bladder Pump Company Name ACC Tubing Type poly Project Name Plant Arkwright Ash Pond 2 Tubing Diameter .17 in Plant Arkwright Ash Pond 2 Tubing Length Site Name 53 ft

0° 0' 0" Latitude 0° 0' 0" Longitude Sonde SN 369807

Turbidity Make/Model HACH Pump placement from TOC 48 ft

Pumping Information: Well Information:

Final Pumping Rate 200 mL/min Well ID ARGWA-19 Well diameter Total System Volume 0.3265614 L 2 in Calculated Sample Rate Well Total Depth 52.74 ft 300 sec Stabilization Drawdown Screen Length 10 ft 0 in Depth to Water 8 L 23.80 ft **Total Volume Pumped**

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	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

Date: 2020-04-06 16:23:48

Pump Information:

Project Information:

Operator Name Taylor Goble Pump Model/Type

QED Bladder Pump Company Name ACC **Tubing Type** poly Project Name Plant Arkwright Ash Pond 2 Tubing Diameter .17 in Plant Arkwright Ash Pond 2 Tubing Length Site Name 38 ft

0° 0' 0" Latitude 0° 0' 0" Longitude Sonde SN 369807

Turbidity Make/Model HACH Pump placement from TOC 33 ft

Pumping Information: Well Information:

Final Pumping Rate 250 mL/min Well ID ARGWA-20 Well diameter Total System Volume 0.2596101 L 2 in Calculated Sample Rate Well Total Depth 37.70 ft 300 sec Stabilization Drawdown Screen Length 10 ft 4 in Depth to Water 11.32 ft **Total Volume Pumped** 25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	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

Date: 2020-04-07 16:20:25

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

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

HACH Pump placement from TOC

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

QED Bladder Pump

poly

.17 in

28 ft

23 ft

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	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

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 IDARGWC-22Well diameter2 inWell Total Depth27.54 ftScreen Length10 ftDepth to Water13.88 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	рН	SpCond µS	/cm Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization	1		+/- 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

Date: 2020-04-07 12:01:11

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

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 placement from TOC

23 ft

poly

.17 in

28 ft

QED Bladder Pump

Well Information:

Well IDARGWC-23Well diameter2 inWell Total Depth27.85 ftScreen Length10 ftDepth to Water11.05 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	рН	SpCond μS	/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

WELL CONDITION SUMMARY

Site: Plant Arkwright

Date(s): 4/6 - 4/9/20

Personell: 12/

Page: of 3

ATLANTIC COAST CONSULTING, INC.

_						_															
Notes	NOTES .											are heller show									
Vent	Hole	ZYes	<u>₽</u>	Z Yes	№	Z Yes	№	Z Yes	№	Yes	№	Yes	<u>8</u>	∑ Yes	<u>8</u>	Z Yes	<u></u>	Z/es	oN \square	Z, es	□
Weep	Hole	Z Yes	ջ □	∑ Yes	≗	☑ Yes	₽	☐ Yes	Ñ	Z zes	2,	Yes	2	√ Yes	8 □	Z Yes	<u>&</u>	∑ Yes	ջ □	Z Yes	° □
Well Pad	P 1011	Ž.	Damaged	Ζœ	Damaged	Ŋ Ş	☐ Damaged	ž Ž	☐ Damaged	Z	Damaged	Z œ	Damaged	X _o X	Damaged	X X	☐ Damaged	¥	Damaged	Z K	☐ Damaged
J.C.F.	רכפו	ĭ₫Yes	<u>8</u>	Z	<u>8</u> □	Z	№	Z Yes	%	☑ Yes	<u>&</u>	∑′Yes	% □	ZYes	№	Z Yes	№	∑ Yes	<u>\$</u>	Ź Yes	8
Rollards		Zok	Deficient	Z Š	Deficient	⊿ ok	Deficient	ХoД	Deficient	Zox	☐ Deficient	<i>\$</i> .□	☑ Deficient	Zok	☐ Deficient	¥	☐ Deficient	Z Š	☐ Deficient	Ž	☐ Deficient
lade l		\$	☐ Deficient	*	☐ Deficient	Z Z	Deficient	₹	☐ Deficient	₩ Z	☐ Deficient	¥ Z	☐ Deficient	Z Z	☐ Deficient	8	Deficient	* Z	Deficient	₩Z	☐ Deficient
Well Casing	9	× Q	☐ Damaged	¥	☐ Damaged	Ĭ,oĸ	☐ Damaged	Ζœ	☐ Damaged	¥,	Damaged	Ζğ	☐ Damaged	ž.	☐ Damaged	Z Ş	☐ Damaged	Дœ	☐ Damaged	Σœ	☐ Damaged
Protective	Casing	Š	☐ Damaged	Zœ	☐ Damaged	Zœ	☐ Damaged	Z ¥	Damaged	Z S	Damaged	χοχ	Damaged	Z	☐ Damaged	Z	☐ Damaged	Ø ok	☐ Damaged	Д ş	☐ Damaged
Well ID			ARGWA-3		ARGWA-5		ARGWA-12		ARGWA-13		ARGWA-14		ARGWC-7		ARGWC-8		ARGWC-9		ARGWC-10		ARGWC-15

WELL CONDITION SUMMARY

Site: Plant Arkwright

Date(s):

Personell: トレ/丁G

ATLANTIC COAST CONSULTING, INC.

Notes Hole Vent Z ≺es No Z S S S × Z S N S S ∑ Yes □ № ∑ ≺es Ne Se 7 2 8 8 Weep Hole Z □ 2 5 8 □ Z □ S S Z Yes S Z Yes **≗** OK Damaged Well Pad OK Damaged ∑ OK □ Damaged OK Damaged 🗌 Damaged Damaged Damaged ☐ Damaged Damaged Damaged š Š Š Ž Lock Ž S S Yes □ № Ž □ Š ≅ Z Yes □ № \ \> \> \> \> \> \> \> \> \> \> \> Bollards ☑ ok □ Deficient Q. □ Deficient ∑ OK □ Deficient OK □ Deficient Z OK □ Deficient |Z/OK |□ Deficient ∑ OK □ Deficient OK Deficient OK Deficient Deficient ∑ **§** □ Deficient ☐ Deficient ∑**S** □ Deficient Label _____**©** □ Deficient ☑ **ØK** □ Deficient Z **ØK** □ Deficient ∑ **≪** □ Deficient ∑**≪** □ Deficient ☑ **©**K □ Deficient Well Casing ☑ Ox □ Damaged ☐ Damaged ☐ Ox ☐ Damaged ☑ OK □ Damaged ∑OK □ Damaged ☐ Damaged Damaged Damaged Damaged Ż Z Ż Protective Z OK □ Damaged ☑ ok □ Damaged Casing Damaged | Damaged Damaged Damaged Damaged Damaged Damaged Damaged ☐ Damaged š χoΚ Zœ X Z Zex Ž Š Ž Š ARAMW-23 ARGWC-16 ARGWA-19 ARAMW-22 Well ID ARGWC-18 ARGWA-20 ARGWC-17 ARGWC-21 ARAMW-1

☐ Damaged

Damaged

Damaged

ARAMW-2

WELL CONDITION SUMMARY

Site: Plant Arkwright

16/h - 9/h Date(s):

Personell:

ō

Page:

ATLANTIC COAST CONSULTING, INC.

Notes Vent Hole Z Kes Ž □ Ž ₹ □ T % % ☐ Yes □ 8 8 8 □ Yes ☐ Yes □ □ % % § □ Weep Hole Yes □ □ ☐ Xes Д № 8 Z Æ ____ No Ses □ Yes ☐ Yes **₽** □ **ջ** □ Well Pad ☐ Ox ☐ Damaged П ОК П Damaged Damaged Damaged Damaged Damaged □ Dатадеd Damaged Damaged š Š | Š ŏ □ Ž Š <u>≽</u> ŏ **8** □ Lock ☐ Yes ☐ Yes ☐ № ∏ Yes ∏ Yes S Ses \(\angle \) \(\bar{\angle} \) ☐ Yes ☐ Yes □ № Bollards OK Deficient ☐ Deficient ☑ OK □ Deficient OK Deficient OK Deficient ☐ OK ☐ Deficient OK Deficient OK Deficient OK Deficient OK Deficient Label ☐ **※** ☐ Deficient ☐ **©K** ☐ Deficient ☑**Ş** □ Deficient ☑ **&** □ Deficient ☐ **0%** ☐ Deficient ☐ **0K** ☐ Deficient ☐ **○** ☐ Deficient ☐ **ØK** ☐ Deficient ☐ **©K** ☐ Deficient Well Casing Damaged ☐ OK ☐ Damaged Damaged Damaged 🗌 Dатадеd □ Dатаged Damaged Damaged Damaged **8** □ Ż š Ż š ¥ ŏ □ □ ĕ Protective Casing Damaged Damaged Damaged Damaged Damaged Damaged Damaged Damaged 🗌 Damaged abla ok ĕ □ š Ż χок š 8 Š Well ID ARAMW-3 **ARAMW-6 ARAMW-4**

Damaged

Damaged

Damaged

Name : Plant Arkwrig			Date: 4/6 - 4/9/20
Well ID	Sample Date	Sample Time	Additional Comments
	W=	AS	SH 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	21-9-20		pH= 6.42
ARGWC-9	4-9-20	1025	pH=5.90 EB-1 here
ARGWC-10	4-8-20	709	pH= 5,95
ARGWC-15	4-8-20	1615	pH= 6.26
ARGWC-16	4-8-20	1115	pH= 507
ARGWC-17	4-8-20	1430	pH= 5.02
ARGWC-18	4-9-20	0940	pH= 5.98
EB-1-4-9-10	4-9-20	1040	Equipment type: しし
Dup-1	4-8-20	1115	Parent Sample: ARGWC-16
FB-1-4-7-20	4-7-20	1600	Poured at: ARAWA-13
	170		SH 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-2-4-7-10	4-7-20	1445	Equipment type: Per: Pump
Dup-2	4-7-20	1008	Parent Sample: ARGWA-19
FB-2-46-20	4-6-20	1520	Poured at: ARGUM-20
ional comments :			the desired of the second



Environment Testing America

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

Review your project results through

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

	•

i abie c	of Cor	itents
----------	--------	--------

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	
Certification Summary	
Sample Summary	7
Method Summary	8
Lab Chronicle	9
Client Sample Results	11
QC Sample Results	14
QC Association Summary	15
Chain of Custody	16
Receipt Checklists	10

Case Narrative

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 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.

Job ID: 180-106373-2

Definitions/Glossary

Client: Southern Company Job ID: 180-106373-2

Project/Site: CCR - Plant Arkwright Ash Pond 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
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

_

_

-

G

0

10

11

12

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

6/30/2020

^{*} 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
lowa	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

5

7

0

10

111

Sample Summary

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

Job ID: 180-106373-2

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright Ash Pond 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

Job ID: 180-106373-2

Project/Site: CCR - Plant Arkwright Ash Pond 2

Client Sample ID: ARGWC-23

Date Collected: 05/27/20 16:23 Date Received: 05/29/20 08:45 Lab Sample ID: 180-106373-1

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			474575	06/26/20 07:56	AJD	TAL SL
Total/NA	Prep	PrecSep_0			1000.22 mL	1.0 g	472397	06/04/20 07:33	RBR	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPROTE	AN	1			474543	06/25/20 13:03	KLS	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			474653	06/26/20 10:41	SMP	TAL SL

Client Sample ID: ARGWC-22

Date Collected: 05/27/20 18:52

Date Received: 05/29/20 08:45

Lab Sample ID: 180-106373-2

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumen	t 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
	Instrumen	t ID: GFPCPROTE	ΑN							
Total/NA	Analysis	Ra226_Ra228		1			474653	06/26/20 10:41	SMP	TAL SL

Client Sample ID: DUP

Date Collected: 05/27/20 00:00

Date Received: 05/29/20 08:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 at ID: GEPCRED		1			474575	06/26/20 07:56	AJD	TAL SL
Total/NA	Prep	PrecSep_0			1000.51 mL	1.0 g	472397	06/04/20 07:33	RBR	TAL SL
Total/NA	Analysis Instrumer	9320 at ID: GFPCPROTEA	N	1		_	474543	06/25/20 13:03	KLS	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			474653	06/26/20 10:41	SMP	TAL SL

Client Sample ID: EB

Date Collected: 05/27/20 14:40

Date Received: 05/29/20 08:45

Prep Type Total/NA	Batch Type Prep	Batch Method PrecSep-21	Run	Dil Factor	Initial Amount 1000.69 mL	Final Amount	Batch Number 471996	Prepared or Analyzed 06/04/20 07:18	Analyst	Lab TAL SL
Total/NA	Analysis	9315		1	1000.09 1112	1.0 g	474575	06/26/20 07:16		TAL SL
	Instrumen	t ID: GFPCRED								

Eurofins TestAmerica, Pittsburgh

Page 9 of 20

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

Lab Sample ID: 180-106373-4

Matrix: Water

Client: Southern Company Job ID: 180-106373-2

Project/Site: CCR - Plant Arkwright Ash Pond 2

Client Sample ID: EB Lab Sample ID: 180-106373-4

Date Collected: 05/27/20 14:40

Date Received: 05/29/20 08:45

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9320 nt ID: GFPCPROTE	EAN	1			474543	06/25/20 13:04	KLS	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			474653	06/26/20 10:41	SMP	TAL SL

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

3

Л

5

6

8

9

10

12

1:

Client Sample ID: ARGWC-23

Date Collected: 05/27/20 16:23 Date Received: 05/29/20 08:45

Lab Sample ID: 180-106373-1

Matrix: Water

Job ID: 180-106373-2

Method: 9315 - I	Radium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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) Count Total Uncert. Uncert. Result Qualifier Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac 06/04/20 07:33 06/25/20 13:03 Radium-228 0.0574 U 0.243 0.243 1.00 0.423 pCi/L Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 97.9 40 - 110 06/04/20 07:33 06/25/20 13:03 Y Carrier 86.7 40 - 110 06/04/20 07:33 06/25/20 13:03

Method: Ra226 Ra228 - Combined Radium-226 and Radium-228 Count Total Uncert. Uncert. Analyte Result Qualifier **MDC** Unit $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Analyzed Dil Fac 0.192 U 0.271 0.271 5.00 0.423 pCi/L 06/26/20 10:41 Combined Radium 226 + 228

Lab Sample ID: 180-106373-2 Client Sample ID: ARGWC-22 Date Collected: 05/27/20 18:52 **Matrix: Water**

Date Received: 05/29/20 08:45

Method: 9315 - F	Radium-226 (GFPC)	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.129	Ū	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)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Client Sample ID: ARGWC-22

Date Collected: 05/27/20 18:52 Date Received: 05/29/20 08:45 Lab Sample ID: 180-106373-2

Matrix: Water

Method: Ra226	_Ra228 - Combined	Radium-226	and Radium-228
---------------	-------------------	------------	----------------

			Count Uncert.	Total Uncert.	-				
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.143	Ū	0.274	0.274	5.00	0.431 pCi/L	L	06/26/20 10:41	1

Client Sample ID: DUP Lab Sample ID: 180-106373-3

Date Collected: 05/27/20 00:00 Date Received: 05/29/20 08:45

Matrix: Water

Method: 9315 - Radium-226 (GFPC) Count Total Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-226 0.157 U 0.125 06/04/20 07:18 06/26/20 07:56 0.126 1.00 0.171 pCi/L Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 103 40 - 110 06/04/20 07:18 06/26/20 07:56

Method: 9320 -	Radium-228 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226	0.392	U	0.287	0.288	5.00	0.423	pCi/L		06/26/20 10:41	1
+ 228										

Lab Sample ID: 180-106373-4 Client Sample ID: EB

Date Collected: 05/27/20 14:40 Date Received: 05/29/20 08:45

Method: 9315 - R	Radium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Matrix: Water

Client: Southern Company Job ID: 180-106373-2

Project/Site: CCR - Plant Arkwright Ash Pond 2

Client Sample ID: EB Lab Sample ID: 180-106373-4

Date Collected: 05/27/20 14:40 Date Received: 05/29/20 08:45

Matrix: Water

Method: 9320 - I	Radium-228 ((GFPC)								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	nbined Ra	dium-226 a	nd Radiun	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

10

Job ID: 180-106373-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-471996/8-A

Count

Matrix: Water

Matrix: Water

Analysis Batch: 474575

Analysis Batch: 474575

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

Prep Batch: 471996

MB MB Uncert. Uncert. Result Qualifier **MDC** Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RI Prepared Analyzed Dil Fac Radium-226 -0.06856 U 0.229 pCi/L 06/04/20 07:18 06/26/20 07:56 0.0865 0.0867 1.00

Total

MB MB

Carrier Qualifier Limits %Yield Prepared Analyzed Dil Fac Ba Carrier 40 - 110 06/04/20 07:18 06/26/20 07:56 102

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 471996

Total

Spike LCS LCS Uncert. %Rec. Added RL**Analyte** Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits Radium-226 9.482 1.00 0.184 pCi/L 75 - 125 11.3 1.15 84

LCS LCS

Lab Sample ID: LCS 160-471996/1-A

Carrier %Yield Qualifier I imits 102 40 - 110 Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-472397/8-A Client Sample ID: Method Blank **Matrix: Water**

Prep Type: Total/NA Analysis Batch: 474543 Prep Batch: 472397 Count Total

MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac 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

MB MB %Yield Qualifier

Carrier Limits Prepared Analyzed Dil Fac Ba Carrier 40 - 110 06/04/20 07:33 06/25/20 13:04 102 Y Carrier 88.2 40 - 110 06/04/20 07:33 06/25/20 13:04

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

Total **Spike** LCS LCS Uncert. %Rec. Added RL Analyte Result Qual $(2\sigma + / -)$ MDC Unit %Rec Limits Radium-228 1.00 8.72 8.515 1.01 0.421 pCi/L 98 75 - 125

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 102 40 - 110 Y Carrier 86.7 40 - 110

QC Association Summary

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

Job ID: 180-106373-2

Rad

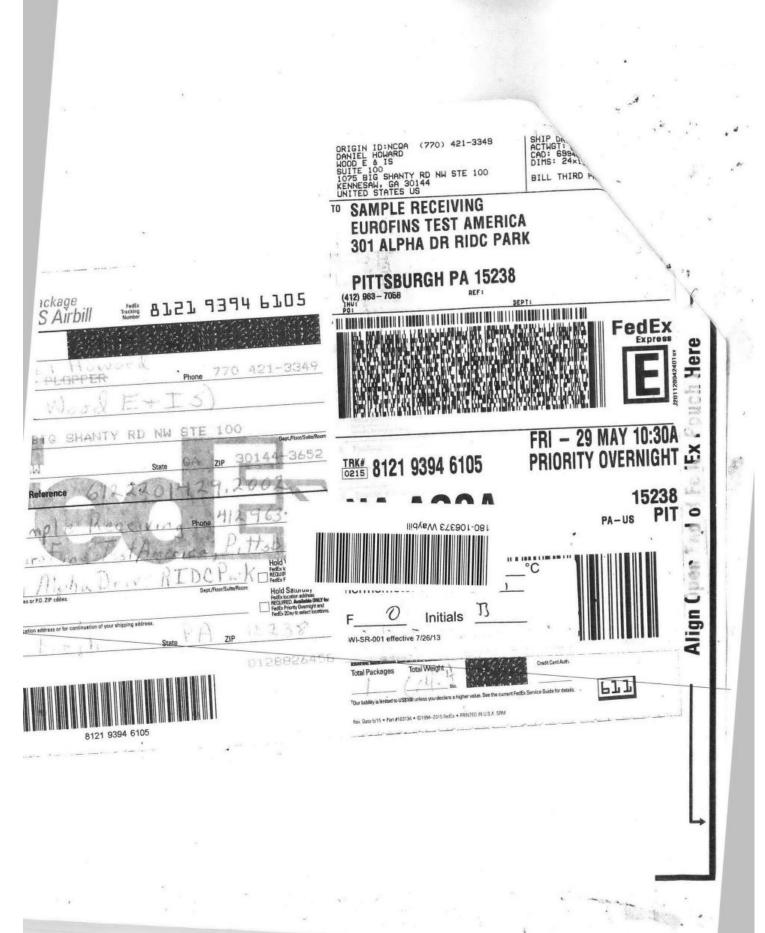
Prep Batch: 471996

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	

301 Alpha Drive RIDC Park Pittsburgh PA 15238 Phone: 412-963-7058 Fax: 412-963-2468 Client Contact Joju Abraham Southern Company Address 241 Raiph McGill Blvd SE B10185 Glory Allany State, Zip.	Chain of Custody Record Sampler Phone Due Date Requested: TAT Requested (days):	Custody Record Lab PM Lab PM E-Mail Shall brown@testamericainc.com	ysis Red	Garrier Tracking Nots):	COC No. 180-60862-12387,1 Page Page Page 1 of 1 Job # Preservation Codes: A - HCL B - NaCH C - 2 A Actada C - 2 A Actada D - Nitro Acid
GA, 30308 Phone: Email: JAbraham@southernco.com Project Name: CCR - Plant Arkwright App III/IV Georgia	PO# SCS10382606 WO # Project# 18020201 SSOW#	B GEFC - Ra 226/228 5 - Radium 226 Fig. (Yes of No.)	d - Solids, Total Dissolved (TDS)		E - NatiScy Q - NazSco3 F - MeOH G - Amchior G - Amchior F - MeOH H - Ascorbic Acid T - TSP Dodecahydrate U - Accidence U - Control H - Control U - Control H - Control U - Co
Sample Identification	2 0	Field Filte	2 2640C_Ca		Special Instructions/Note:
ARGWC-23	5/27/20 1623 6	×	×××××××××××××××××××××××××××××××××××××××		oH = 6.30
ARGWC-22 DUP		3 3	× × × × ×		
ARGWC-10	1918 6	33	× × ×		1 H = 5.98
Temp Black				180-10637	of Custody
Possible Hazard Identification Non-Hazard Flammable Skin Irritant Deliverable Requested: I, II, III, N, Other (specify)	Poison B Unknown Radiological	Special Instru	Sample Disposal (A fee may be ass Sample Disposal (A fee may be ass Calent	sessed if samples are n	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Special Instructions/QC Requirements:
Empty Kit Relinquished by:	Date	Time;		Method of Shipment	
Reinquished by.	S/28/20/1415	Company Received by	Lule Wo	SAA Date/Time S	TH' 30 Company
1 1	Daie/Tune.	Company Received by	λ.	Date/Time.	C Company
Custody Seals Infact: Custody Seal No.		Cooler Tem	Cooler Temperature(s) °C and Other Remarks	narks.	



Page 17 of 20

6/30/2020

STC

ETA

0805

615/2020

h

Date/Time:

coler Temperature(s) °C and Other Remarks

Seurofins .

Environment Toslins

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238

Phone: 412-963-7058 Fax: 412-963-2468

N - None
O - Ashaoz
P - Na2O4S
O - Na2SO3
R - Na2S2O3
S - HZSO4
T - TSP Dodecahydrat Jobe: Since abboratory accreditations are subject to change. Eurofins TastAmerica places the ownership of method, analyze & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not ourselfly accreditation in the State of Origin listed above for analysis/fasts/matrix being analyzed, the samples must be shipped tack to the Eurofins TestAmerica laboratory of other instructions will be provided. Any changes to accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica. Special Instructions/Note: Z - other (specify) U - Acetone V - MCAA W-PH 4-5 Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Mon Preservation Codes: G - Amehler H - Ascorbic Acid 180-106373-2 COC No: 180-396159,1 A - HCL B - NaOH C - Zh Aostate D - Nitric Acid E - NaHSO4 F - MeOH Page 1 of 1 1 - loe J - Di Water K-EDTA L-EDA Total Number of containers N N 2 Aethod of Shipment. Carrier Tracking No(s); State of Origin: Georgia Analysis Requested Special Instructions/QC Requirements FED EX shall.brown@testamericainc.com Accreditations Required (See note): × Ra226Ra228_GFPC × × × scerved by: × 3320 RazzarPrecSep_0 Radium 228 × × × × × × 3315 RazzelPrecSep_21 Radium 226 Brown, Shali Perform MS/MSD (Yes or No) Time Field Fillered Sample (Yes or No) Company A BT-Tusue, A.A. Preservation Code: Matrix Water Water Water Water G=grab) (C=comp, Sample Type Primary Deliverable Rank: 2 Eastern 18:52 Sample Eastern Eastern Eastern 14:40 2020 (AT Requested (days) Due Date Requested 6/30/2020 Sample Date 5/27/20 5/27/20 5/27/20 5/27/20 18020201 roject # Client Information (Sub Contract Lab) Deliverable Requested: I, II, III, IV, Other (specify) Sol Sample Identification - Client ID (Lab ID) 314-298-8566(Tel) 314-298-8757(Fax) FED EX Possible Hazard Identification TestAmerica Laboratories, Inc. 4RGWC-23 (180-106373-1) ARGWC-22 (180-106373-2) Empty Kit Relinquished by: 13715 Rider Trail North CCR - Plant Arkwright DUP (180-106373-3) Shipping/Receiving EB (180-106373-4) yd bartsinbri State, Zip: MO, 63045 Inconfirmed raulshed by. Earth City **Arkwright**

yd baysinbu

Custody Seal No.

Custody Seals Intact:

A Yes A No

Client: Southern Company Job Number: 180-106373-2

Login Number: 106373 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

Creator. Watson, Debbie		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Client: Southern Company

Job Number: 180-106373-2

Login Number: 106373

List Number: 2

Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis

ist ooulce.	Editing 1030America, ot. Eodis
	List Creation: 06/03/20 02:10 PM

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

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 TypeHDPTubing Diameter0.17 inTubing Length27.8 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
Total System Volume
Calculated Sample Rate
Stabilization Drawdown
Total Volume Pumped
150 mL/min
0.2140832 L
300 sec
4.92 in
15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	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 Project Name Site Name Nicholas McMillan Wood

Plant Arkwright Ash Pond 2

ARGWC-23 0° 0' 0"

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 601533

Turbidity Make/Model HACH

Pump Information:

Pump Model/Type PINE Peristaltic Pump

Tubing TypeHDPTubing Diameter.17 inTubing Length27.2 ft

Pump placement from TOC

22.2 ft

Well Information:

Well ID
Well diameter
Well Total Depth
Screen Length
Depth to Water

ARGWC-23 2 in 27.21 ft 10 ft 11.50 ft Pumping Information:

Final Pumping Rate
Total System Volume
Calculated Sample Rate
Stabilization Drawdown
Total Volume Pumped

200 mL/min 0.2114051 L 300 sec 0 in 4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	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



Environment Testing America

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

Review your project results through

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

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	11
QC Sample Results	15
QC Association Summary	18
Chain of Custody	20
Receipt Checklists	22

Λ

5

6

8

10

11

| 4

Case Narrative

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

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.

1

Job ID: 180-107491-1

2

3

5

<u>_</u>

12

Definitions/Glossary

Client: Southern Company Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

Qualifiers

шо		
пг	LU	ı

Qualifier Qualifier Description

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

Metals

Qualifier Qualifier Description

B Compound was found in the blank and sample.

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

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
CFU Colony Forming Unit
CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MPN Most Probable Number
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent
POS Positive / Present

PQL Practical Quantitation Limit

PRES Presumptive QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

4

6

0

10

11

12

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

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

E

6

8

9

10

12

1.

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

Eurofins TestAmerica, Pittsburgh

Sample Summary

Client: Southern Company Project/Site: Plant Arkwright AP3 Alternate Source

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	

Job ID: 180-107491-1

Method Summary

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatgraphy	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

Job ID: 180-107491-1

3

4

5

7

8

9

10

Client: Southern Company Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: ARGWC-22

Date Collected: 06/24/20 10:05 Date Received: 06/25/20 09:00

Lab Sample ID: 180-107491-1

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 t ID: CHIC2100A		1		711104111	319460	06/26/20 02:36		TAL PIT
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 9034 t ID: NOEQUIP		1			320175	07/01/20 07:33	CMR	TAL PIT
Total/NA	Analysis Instrumen	SM2320 B t ID: PCTITRATOR		1			320796	07/07/20 10:05	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling		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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrument	EPA 300.0 R2.1 ID: CHIC2100A		1		_	319460	06/26/20 03:08	MJH	TAL PIT
Total/NA	Analysis Instrument	EPA 300.0 R2.1 t 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 Instrument	EPA 6020B t 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 Instrument	EPA 6020B t 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 Instrument	EPA 9034 t ID: NOEQUIP		1			320175	07/01/20 07:34	CMR	TAL PIT
Total/NA	Analysis Instrument	SM2320 B		1			320796	07/07/20 10:11	AVS	TAL PIT

7/8/2020

Client: Southern Company Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: ARAMW-1

Date Collected: 06/24/20 12:45 Date Received: 06/25/20 09:00 Lab Sample ID: 180-107491-3

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHIC2100A		1			319460	06/26/20 03:39	MJH	TAL PIT
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 9034 t ID: NOEQUIP		1			320175	07/01/20 07:36	CMR	TAL PIT
Total/NA	Analysis Instrumen	SM2320 B t ID: PCTITRATOR		1			320519	06/30/20 15:12	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling		1			320074	06/24/20 12:45	NJD	TAL PIT

Client Sample ID: ARAMW-2

Date Collected: 06/24/20 16:40 Date Received: 06/25/20 09:00 Lab Sample ID: 180-107491-4 Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrument	EPA 300.0 R2.1 t ID: CHIC2100A		1			319460	06/26/20 03:55	MJH	TAL PIT
Total/NA	Analysis Instrument	EPA 300.0 R2.1 t 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 Instrument	EPA 6020B t 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 Instrument	EPA 6020B t 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 Instrument	EPA 9034 t ID: NOEQUIP		1			320175	07/01/20 07:37	CMR	TAL PIT
Total/NA	Analysis Instrument	SM2320 B t ID: PCTITRATOR		1			320519	06/30/20 15:19	AVS	TAL PIT
Total/NA	Analysis Instrument	Field Sampling		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

Page 9 of 22

5

3

5

8

9

11

12

7/8/2020

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

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

Job ID: 180-107491-1

3

4

5

6

8

9

10

11

12

1:

Client: Southern Company Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: ARGWC-22

Date Collected: 06/24/20 10:05 Date Received: 06/25/20 09:00

Carbonate Alkalinity as CaCO3

Analyte

рН

Method: Field Sampling - Field Sampling

Lab Sample ID: 180-107491-1

Matrix: Water

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 (IC	P/MS) - T	otal Recov	erable						
Analyte		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 (IC	P/MS) - D	issolved							
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 4.4	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

5.0

RL

5.0 mg/L

MDL Unit

SU

D

Prepared

Result Qualifier

< 5.0

5.82

7/8/2020

07/07/20 10:05

Analyzed

06/24/20 10:05

Dil Fac

Client: Southern Company Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: DUP#2

Lab Sample ID: 180-107491-2 Date Collected: 06/24/20 00:00

Matrix: Water

Date	Conected.	00/24/20	00.00
Date	Received:	06/25/20	09:00

Manganese

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) - T	otal Recove	erable						
Analyte		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) - D	issolved							
Analyte	•	Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac
Allalyte	itesuit	auo.			•	_	opa.oa	7a.y = 0 a	2

General Chemistry Analyte	Result Qualifie	r 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	ma/L			07/07/20 10:11	1

0.0050

16

0.00087 mg/L

06/26/20 08:36 07/02/20 08:58

Client: Southern Company Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: ARAMW-1

Date Collected: 06/24/20 12:45 Date Received: 06/25/20 09:00 Lab Sample ID: 180-107491-3

Matrix: Water

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

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) - D	issolved							
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 - Fiel Analyte	d Sampling Result Qualifier	r RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
рН	6.31		SU		•	06/24/20 12:45	1

2

3

5

9

11

12

1.

Client: Southern Company Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: ARAMW-2

Date Collected: 06/24/20 16:40

Lab Sample ID: 180-107491-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anion Analyte		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 (IC	P/MS) - T	otal Recove	erable						
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 (IC	P/MS) - D	issolved							
Analyte	Result	Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Iron	9.7	В	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		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		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.19				SU			06/24/20 16:40	

Client: Southern Company Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

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

Lab Sample ID: MB 180-319460/50

Matrix: Water

Analysis Batch: 319460

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

	1410	1410							
Analyte	Result	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
<u></u>									

Lab Sample ID: LCS 180-319460/49

Matrix: Water

Analysis Batch: 319460

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

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Chloride 50.0 mg/L 90 - 110 55.2 110 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 - 110Sulfate 50.0 52.3 mg/L 105 90 - 110

Lab Sample ID: MB 180-319945/6

Matrix: Water

Analysis Batch: 319945

MB MB

MR MR

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Sulfate <0.38 1.0 0.38 mg/L 06/30/20 05:56

Lab Sample ID: LCS 180-319945/5

Matrix: Water

Analysis Batch: 319945

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

140								
MB	MB							
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<0.039		0.080	0.039	mg/L		06/26/20 08:36	07/02/20 07:40	1
<0.020		0.050	0.020	mg/L		06/26/20 08:36	07/02/20 07:40	1
<0.13		0.50	0.13	mg/L		06/26/20 08:36	07/02/20 07:40	1
<0.00087		0.0050	0.00087	mg/L		06/26/20 08:36	07/02/20 07:40	1
<0.00013		0.0025	0.00013	mg/L		06/26/20 08:36	07/02/20 07:40	1
< 0.0034		0.0050	0.0034	mg/L		06/26/20 08:36	07/02/20 07:40	1
<0.083		0.50	0.083	mg/L		06/26/20 08:36	07/02/20 07:40	1
< 0.00061		0.015	0.00061	mg/L		06/26/20 08:36	07/02/20 07:40	1
<0.16		0.50	0.16	mg/L		06/26/20 08:36	07/02/20 07:40	1
<0.35		0.50	0.35	mg/L		06/26/20 08:36	07/02/20 07:40	1
	Result <0.039 <0.020 <0.13 <0.00087 <0.00013 <0.00034 <0.083 <0.00061 <0.16	<0.020 <0.13 <0.00087 <0.00013 <0.0034 <0.083 <0.00061 <0.16	Result Qualifier RL <0.039	Result Qualifier RL MDL <0.039	Result Qualifier RL MDL Unit <0.039	Result Qualifier RL MDL Unit D <0.039	Result Qualifier RL MDL Unit D Prepared <0.039	Result Qualifier RL MDL Unit D Prepared Analyzed <0.039

Eurofins TestAmerica, Pittsburgh

Page 15 of 22

10

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

Prep Type: Total/NA

Client Sample ID: Method Blank

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	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

MB MB Result Qualifier **MDL** Unit Analyte RL **Prepared** Analyzed Dil Fac Boron <0.039 0.080 0.039 mg/L 06/26/20 08:47 07/01/20 22:00 06/26/20 08:47 07/01/20 22:00 Iron 0.0422 0.050 0.020 mg/L Calcium 0.13 mg/L 06/26/20 08:47 07/01/20 22:00 < 0.13 0.50 Cobalt 0.00050 06/26/20 08:47 07/01/20 22:00 < 0.00013 0.00013 mg/L 06/26/20 08:47 07/01/20 22:00 Lithium < 0.0034 0.0050 0.0034 mg/L Magnesium < 0.083 0.50 0.083 mg/L 06/26/20 08:47 07/01/20 22:00 Molybdenum < 0.00061 0.0050 0.00061 mg/L 06/26/20 08:47 07/01/20 22:00 Potassium 0.50 0.16 mg/L 06/26/20 08:47 07/01/20 22:00 < 0.16 0.50 06/26/20 08:47 07/01/20 22:00 Sodium < 0.35 0.35 mg/L

Lab Sample ID: MB 180-319684/1-A

Matrix: Water

Analysis Batch: 320376

Prep Type: Total Recoverable Prep Batch: 319684 MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.0050 06/26/20 08:47 07/02/20 00:55 Manganese <0.00087 0.00087 mg/L

Lab Sample ID: LCS 180-319684/2-A

Matrix: Water

Analysis Batch: 320456

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

Client Sample ID: Method Blank

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 1.25 Boron mg/L 80 - 120 1.13 91 Iron 5.00 5.03 mg/L 101 80 - 120 25.0 26.9 Calcium mg/L 108 80 - 120 Manganese 0.500 0.524 mg/L 105 80 - 120 Cobalt 0.500 0.504 mg/L 80 - 120 101 Lithium 0.500 0.503 mg/L 101 80 - 120Magnesium 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

Page 16 of 22

Prep Batch: 319684

Job ID: 180-107491-1

Project/Site: Plant Arkwright AP3 Alternate Source

Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

MB MB

Lab Sample ID: MB 180-320115/1-A

Matrix: Water

Analysis Batch: 320175

Client: Southern Company

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 320115

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 3.0 2.1 mg/L Sulfide 07/01/20 06:00 07/01/20 07:13 <2.1

Added

11.9

LCS LCS

10.5

Result Qualifier

Unit

mg/L

Lab Sample ID: LCS 180-320115/2-A

Matrix: Water

Analyte

Sulfide

Analysis Batch: 320175

Spike

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

Prep Batch: 320115

%Rec.

85 - 115

D %Rec Limits

89

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

MB MB **MDL** Unit Analyte Result Qualifier RL 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 Bicarbonate Alkalinity as CaCO3 <5.0 5.0 5.0 mg/L 06/30/20 13:11 Carbonate Alkalinity as CaCO3 <5.0 5.0 5.0 mg/L 06/30/20 13:11

Lab Sample ID: LCS 180-320519/4

Matrix: Water

Analysis Batch: 320519

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits D 250 233 mg/L 93 90 - 110 Total Alkalinity as CaCO3 to pH

Lab Sample ID: MB 180-320796/5

Matrix: Water

Analysis Batch: 320796

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

MB MB Analyte Result Qualifier RL MDL Unit 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 Bicarbonate Alkalinity as CaCO3 <5.0 5.0 5.0 mg/L 07/07/20 08:32 Carbonate Alkalinity as CaCO3 <5.0 5.0 5.0 mg/L 07/07/20 08:32

Lab Sample ID: LCS 180-320796/4

Matrix: Water

Analysis Batch: 320796

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

Spike LCS LCS %Rec. Added Result Qualifier Analyte Unit %Rec Limits 250 235 94 90 - 110 Total Alkalinity as CaCO3 to pH mg/L

4.5

Eurofins TestAmerica, Pittsburgh

10

QC Association Summary

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

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

Page 18 of 22 7/8/2020

2

Job ID: 180-107491-1

5

7

ŏ

9

10

11

12

13

QC Association Summary

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

Metals (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
İ	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	

Eurofins TestAmerica, Pittsburgh

Page 19 of 22

2

Job ID: 180-107491-1

3

6

Q

9

11

12

13

7/8/2020

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh 301 Alpha Drive RIDC Park Pritsburgh, PA 15238 Phone: 412-963-7058 Fax. 412-963-2468

Seurofins Environment Testing America

Client Information	Sample Terrell Va	Varker	Brown, Shali	Shali		Camer Irackin	Iracking No(s).	180-61590-12490.1	
Clean Contact Joju Abraham	Phone		shall.b	E-Mait shali.brown@testamericainc.com	ericainc.com			Page 1 of 3	
Company: Southern Company					Analysi	Analysis Requested		# QOP	
Address: 241 Baich McGill Blvd SF R10185	Due Date Requested:							Cod	
Gry Atlanta	TAT Requested (days):		T					A - HCL M - Hexane B - NaOH N - None C - Zn Acetale O - AsNaO2	
State Zp: GA, 30308				(efs)	(Si				
Phone:	PO#: SCS10382606				JT) b9v			G - Amehler S - H2SO4 H - Ascorbic Acid T - TSP Dodecahyd	ecahydrate
Emai: JAbraham@southernco.com	WO#:		N 10 s	(oN			814	J - DI Water	
Project Name. Plant Arkwright A.P.3 Alternate Source	Project # 18020201		o XI ol	10 50,	lstoT.		enistn	L-EDA	ecify)
Site. Georgia	SSOWE		omeR	OFMS	spilos		oo to	Other	
Sample Identification	Sample Date Time	Sample Type (C=comp, G=grab)	Matrix or (Wewater (Wewater Community or Com	Perform MS/N 23208, 300_OR 60208 - (MOD)	9034_Calcd - 100		redmuM IsloT	Special Instructions/Note:	Note:
	X	Preservation Code	ion Code:	o N	D N CB		X		1
ARGWC-22	6/24/20 1005		Water	×	×		4	1 pH=5.82	
Dup#2	1	S	Water	×××	×		7		
ARAMW-1	1245	S	Water		×		1	1 AH = 6.31	
ARAMW-2	162		Water	XX	×		I	DHO	
			Water				000		
			Water						
			Water						
			Water						
			Water				180 10740		
			Water				84.01-00	oc-10/491 Chain of Custody	1
			Water						
Possible Hazard Identification Non-Hazard Planmable Skin Imtant Po	Poison B Unknown	☐ Radiological		Sample Dis	posal (A fee m n To Client	X Disposal By	samples are retair	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Months	
Deliverable Requested 1, III, IV, Other (specify)				Special Inst	Special Instructions/QC Requirements	uirements:			
Empty Kit Relinquished by:	Date:			ime:		Method	thod of Shipment.		
Configuration by Three	(5/24/20)	1815	Company	Received by	my		Date (7.1/2)	que Company	Nin
1	Date/Time:	2	Company	Received by	100		Date/Time	Company	
Reimquished by	Date/Time:		Company	Received by	Dy.		Date/Time:	Company	
Custody Seals Infact: Custody Seal No.:				Cooler Te	Cooler Temperature(s) °C and Other Remarks	Other Remarks:			
								Ver: 01/16/2019	8/2019

SHIP DATE: 24JUN20 ACTMGT: 44.15 LB CAD: 6994493/SSFE2110 DIMS: 20x16x13 IN fedex.com 1800.GoFer BILL THIRD PARTY Handling and Delivery Signature Options 1000 d Oversight, FedSx ZBey A.M., or FedSx Depress Sever ORIGIN~ID:MCNA (770) 421-3400 OANIEL-HOUARD AMEC (MODD E-15) 1075 BIG SHANTY RD NW STE 100 KENNESAM, GA 30144 UNITED STATES US

Other |

- FedEx

FedEx

FedEx Pak*

FedEx Express Saver hard-bashess day. Secrety Delivery NOT wallab

Second business sharroon -will be debured on Monday a Delivery is selected.

FedEx 2Day A.M. Second-bathes monity.

EUROFINS TEST AMERICA PITTSBURGH PA 15238 TO SAMPLE RECIEVING 301 ALPHA DR

DEPTI

180-107491 Waybill

A AGCA

DSR AHS

Uncorrected temp Thermometer ID

HU-

Client: Southern Company Job Number: 180-107491-1

Login Number: 107491 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1 Creator: Say, Thomas C

• 4	ā	
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Page 22 of 22 7/8/2020



Environment Testing America

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

LINKS

Review your project results through

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

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	11
QC Sample Results	16
QC Association Summary	20
Chain of Custody	22
Receint Checklists	24

Case Narrative

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

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.

Job ID: 180-107562-1

Definitions/Glossary

Client: Southern Company Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

Qualifiers

	_		_		_
ш	О		г.	/1	_
п	_	_		•	

Qualifier **Qualifier Description**

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**

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**

Detection Limit (DoD/DOE) DL

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)

Estimated Detection Limit (Dioxin) **EDL** 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 Minimum Level (Dioxin) ML 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)

Too Numerous To Count **TNTC**

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

2

3

-

7

8

10

11

12

Sample Summary

Client: Southern Company Project/Site: Plant Arkwright AP3 Alternate Source

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	

Job ID: 180-107562-1

Method Summary

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatgraphy	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

Job ID: 180-107562-1

3

4

5

7

8

9

10

1.

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: EB#2 Lab Sample ID: 180-107562-1

Date Collected: 06/25/20 09:10 Date Received: 06/26/20 09:00

Matrix: Water

Job ID: 180-107562-1

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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 Instrumer	EPA 6020B at 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 Instrumer	EPA 6020B at 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 Instrumer	EPA 9034 at ID: NOEQUIP		1			320175	07/01/20 07:42	CMR	TAL PIT
Total/NA	Analysis Instrumer	SM2320 B at 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

Prop Type	Batch	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis Instrument	EPA 300.0 R2.1 ID: CHICS2100B	Kuii	1	Amount	Amount	319637	06/26/20 17:45		TAL PIT
Dissolved Dissolved	Prep Analysis Instrument	3005A EPA 6020B ID: DORY		1	50 mL	50 mL	319816 320452	06/27/20 13:54 07/02/20 22:01	JL RSK	TAL PIT
Total Recoverable Total Recoverable	Prep Analysis Instrument	3005A EPA 6020B ID: DORY		1	50 mL	50 mL	319816 320452	06/27/20 13:54 07/02/20 22:25		TAL PIT
Total/NA Total/NA	Prep Analysis Instrument	9030B EPA 9034 ID: NOEQUIP		1	50 mL	50 mL	320115 320175	07/01/20 06:00 07/01/20 07:43		TAL PIT
Total/NA	Analysis Instrument	SM2320 B ID: PCTITRATOR		1			320519	06/30/20 17:05	AVS	TAL PIT
Total/NA	Analysis Instrument	Field Sampling ID: NOEQUIP		1			320074	06/25/20 11:18	NJD	TAL PIT

Client Sample ID: ARGWC-21

-		
Date Received: 06/26/20 09:00		
Date Collected: 06/25/20 13:15		Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHIC2100A		10	1 mL	1.0 mL	320882	07/08/20 20:44	MJH	TAL PIT
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHICS2100B		1			319637	06/26/20 16:40	MJH	TAL PIT

Lab Sample ID: 180-107562-3

Page 8 of 24

7/9/2020

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

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

Job ID: 180-107562-1

Batch Batch Dil Initial Final Batch Prepared Factor or Analyzed Method Amount Number **Prep Type** Type Run **Amount** Analyst Lab Dissolved 319816 TAL PIT Prep 3005A 50 mL 50 mL 06/27/20 13:54 JL Dissolved Analysis **EPA 6020B** 320452 07/02/20 22:04 RSK TAL PIT 1 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** 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 320175 07/01/20 07:45 CMR TAL PIT Instrument ID: NOEQUIP Total/NA Analysis SM2320 B 06/30/20 17:24 AVS TAL PIT 320519 Instrument ID: PCTITRATOR Total/NA Analysis Field Sampling 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

Batch Batch Dil Initial Final **Batch** Prepared Method **Prep Type** Type **Factor** Number or Analyzed Run **Amount** Amount **Analyst** Lab Total/NA Analysis EPA 300.0 R2.1 319637 06/26/20 16:56 TAL PIT Instrument ID: CHICS2100B Dissolved Prep 3005A 50 mL 50 mL 319816 06/27/20 13:54 JL TAL PIT 320452 Dissolved Analysis **EPA 6020B** 07/02/20 22:08 RSK TAL PIT 1 Instrument ID: DORY TAL PIT Total Recoverable 3005A 50 mL 50 mL 319816 06/27/20 13:54 JL Prep Total Recoverable Analysis **EPA 6020B** 1 320452 07/02/20 22:32 RSK TAL PIT Instrument ID: DORY Total/NA 9030B Prep 50 mL 50 mL 320341 07/02/20 11:40 CMR TAL PIT Total/NA 320374 07/02/20 13:00 CMR TAL PIT Analysis **EPA 9034** Instrument ID: NOEQUIP Total/NA Analysis SM2320 B 320519 06/30/20 17:36 AVS TAL PIT Instrument ID: PCTITRATOR Total/NA Analysis Field Sampling 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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			319637	06/26/20 17:13	MJH	TAL PIT
	Instrumen	t 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
	Instrumen	t ID: DORY								

Eurofins TestAmerica, Pittsburgh

Lab Sample ID: 180-107562-5

Matrix: Water

7/9/2020

Page 9 of 24

Lab Chronicle

Client: Southern Company Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: ARGWA-20

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 Total Recoverable	Prep Analysis	3005A EPA 6020B tt ID: DORY		1	50 mL	50 mL	319816 320452	06/27/20 13:54 07/02/20 22:36	JL	TAL PIT
Total/NA Total/NA	Prep Analysis Instrumen	9030B EPA 9034 tt ID: NOEQUIP		1	50 mL	50 mL	320341 320374	07/02/20 11:40 07/02/20 13:05	•	TAL PIT TAL PIT
Total/NA	Analysis Instrumen	SM2320 B at ID: PCTITRATOR		1			320519	06/30/20 17:43	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling at 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

Lab Sample ID: 180-107562-5

Client: Southern Company Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: EB#2

Lab Sample ID: 180-107562-1 Date Collected: 06/25/20 09:10

Matrix: Water

Date Received: 06/26/20 09:00

Method: EPA 300.0 R2	.1 - Anions, Ion Chromat	tgraphy						
Analyte	Result Qualit	fier 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
-								

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

7/9/2020

Client: Southern Company Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

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

Method: EPA 300.0 R2 Analyte	Result (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

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 Analyte	l Sampling Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
pH	6.37		SU			06/25/20 11:18	1

Client: Southern Company

Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

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

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

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 4.4	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
рН	5.98				SU			06/25/20 13:15	1

7/9/2020

Client: Southern Company

Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client Sample ID: ARGWA-19

Date Collected: 06/25/20 10:15

рН

Lab Sample ID: 180-107562-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anio Analyte		romatgraph Qualifier	ny 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 (I	CP/MS) - T	otal Recove	erable						
Analyte		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 (I	CP/MS) - D	issolved							
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		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1		3.0	2.1	U		07/02/20 11:40	07/02/20 13:00	1
Total Alkalinity as CaCO3 to pH 4.	33		5.0		mg/L			06/30/20 17:36	1
Bicarbonate Alkalinity as CaCO3	33		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 Analyte		Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac

5.80

SU

06/25/20 10:15

<u>ی</u>

5

7

9

11

12

13

Client: Southern Company

Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

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

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

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 C	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
рН	5.61				SU			06/25/20 12:30	1

2

Л

8

9

11

12

7/9/2020

Client: Southern Company Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

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

Lab Sample ID: MB 180-319637/6

Analysis Batch: 319637

Analyte

Chloride

Fluoride

Sulfate

Nitrate as N

Nitrite as N

Matrix: Water

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

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 1.0 0.32 mg/L 06/26/20 07:33 <0.32 < 0.026 0.10 0.026 mg/L 06/26/20 07:33 < 0.023 0.10 0.023 mg/L 06/26/20 07:33 0.029 mg/L < 0.029 0.050 06/26/20 07:33 0.38 mg/L < 0.38 1.0 06/26/20 07:33

Lab Sample ID: LCS 180-319637/5

Matrix: Water

Analysis Batch: 319637

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

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: ARGWC-21

Client Sample ID: ARGWC-21

10

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Sulfate 1.0 0.38 mg/L 07/08/20 13:49 <0.38

Lab Sample ID: LCS 180-320882/5

Matrix: Water

Analysis Batch: 320882

	Spike	LCS LCS			%Rec.	
Analyte	Added	Result Qualifier	Unit D	%Rec	Limits	
Sulfate	50.0	50.3	ma/L	101	90 - 110	 _

Lab Sample ID: 180-107562-3 MS

Matrix: Water

Analysis Batch: 320882

_	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Sulfate	210		500	709		mg/L		101	90 - 110

Lab Sample ID: 180-107562-3 MSD

Matrix: Water

Analysis Ratch: 320882

Analysis Batch: 320882											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Sulfate	210		500	713		mg/L		101	90 - 110	1	20

Eurofins TestAmerica, Pittsburgh

7/9/2020

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

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

Job ID: 180-107562-1

	MB	MB							
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 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

Prep Type: Total Recoverable

Prep Batch: 319816

Client Sample ID: Lab Control Sample

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

Prep Type: Dissolved Prep Batch: 319816

Analysis Batch: 020402	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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									Prep Type	e: Diss	olved
Analysis Batch: 320452									Prep Ba	atch: 3	19816
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Boron	0.042	J	1.25	1.27		mg/L		98	75 - 125	3	20

Eurofins TestAmerica, Pittsburgh

Page 17 of 24

Client Sample ID: EB#2

Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

Client: Southern Company

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

Lab Sample ID: 180-107562-1 MSD									Client Sample ID: EB#2					
Matrix: Water									Prep Type	e: Diss	olved			
Analysis Batch: 320452									Prep Ba	itch: 31	19816			
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD			
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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			

	oup.o	oup.o	Opino						/011001		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA **Analysis Batch: 320175 Prep Batch: 320115**

MB MB

Analyte	Result Qualifier	RL	MDL U	nit	D	Prepared	Analyzed	Dil Fac
Sulfide	<2.1	3.0	2.1 m	ıg/L		07/01/20 06:00	07/01/20 07:13	1

Lab Sample ID: LCS 180-320115/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Prep Batch: 320115** Analysis Batch: 320175 Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Sulfide 11.9 10.5 mg/L 89 85 - 115

Lab Sample ID: MB 180-320341/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA Analysis Batch: 320374 Prep Batch: 320341

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Sulfide <2.1 3.0 2.1 mg/L 07/02/20 11:40 07/02/20 12:53

Lab Sample ID: LCS 180-320341/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 320374 **Prep Batch: 320341** Spike LCS LCS %Rec. Analyte Added Result Qualifier D %Rec Limits Unit

Sulfide 11.6 9.95 85 - 115 86 mg/L

Lab Sample ID: 180-107562-4 MS Client Sample ID: ARGWA-19 **Matrix: Water Prep Type: Total/NA Analysis Batch: 320374 Prep Batch: 320341**

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Sulfide <2.1 11.6 9.73 mg/L 84 75 - 125

7/9/2020

QC Sample Results

Client: Southern Company Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric) (Continued)

<2.1

Lab Sample ID: 180-107562-4 MSD **Client Sample ID: ARGWA-19 Matrix: Water Prep Type: Total/NA** Analysis Batch: 320374 **Prep Batch: 320341** Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit

11.6

Method: SM2320 B - Alkalinity, Total

Lab Sample ID: MB 180-320519/29 **Client Sample ID: Method Blank** Prep Type: Total/NA

9.73

mg/L

Matrix: Water

Sulfide

Analysis Batch: 320519

	MB MB							
Analyte	Result 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 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA**

Analysis Batch: 320519

rinaryoro Batom 620010		Spike	LCS	LCS				%Rec.	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
Total Alkalinity as CaCO3 to pH		250	230		mg/L		92	90 - 110	
4.5									

Lab Sample ID: 180-107562-3 DU **Client Sample ID: ARGWC-21** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 320519

7 .								
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Total Alkalinity as CaCO3 to pH	140		140		mg/L		1	20
4.5								
Bicarbonate Alkalinity as CaCO3	140		140		mg/L		1	20
Carbonate Alkalinity as CaCO3	<5.0		<5.0		mg/L		NC	20

20

84

75 - 125

0

QC Association Summary

Client: Southern Company Job ID: 180-107562-1

Project/Site: Plant Arkwright AP3 Alternate Source

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

Client Sample ID	Prep Type	Matrix	Method	Prep Batch
ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
Method Blank	Total/NA	Water	EPA 300.0 R2.1	
Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
ARGWC-21	Total/NA	Water	EPA 300.0 R2.1	
	ARGWC-21 Method Blank Lab Control Sample ARGWC-21	ARGWC-21 Total/NA Method Blank Total/NA Lab Control Sample Total/NA ARGWC-21 Total/NA	ARGWC-21 Total/NA Water Method Blank Total/NA Water Lab Control Sample Total/NA Water ARGWC-21 Total/NA Water	ARGWC-21 Total/NA Water EPA 300.0 R2.1 Method Blank Total/NA Water EPA 300.0 R2.1 Lab Control Sample Total/NA Water EPA 300.0 R2.1 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

Eurofins TestAmerica, Pittsburgh

8

1 N

11

12

Ш

Client: Southern Company

Project/Site: Plant Arkwright AP3 Alternate Source

General Chemistry

Prep Batch: 320115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Pre	p 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	

Eurofins TestAmerica, Pittsburgh

Page 21 of 24 7/9/2020

2

Job ID: 180-107562-1

4

5

7

_

10

11

12

13

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

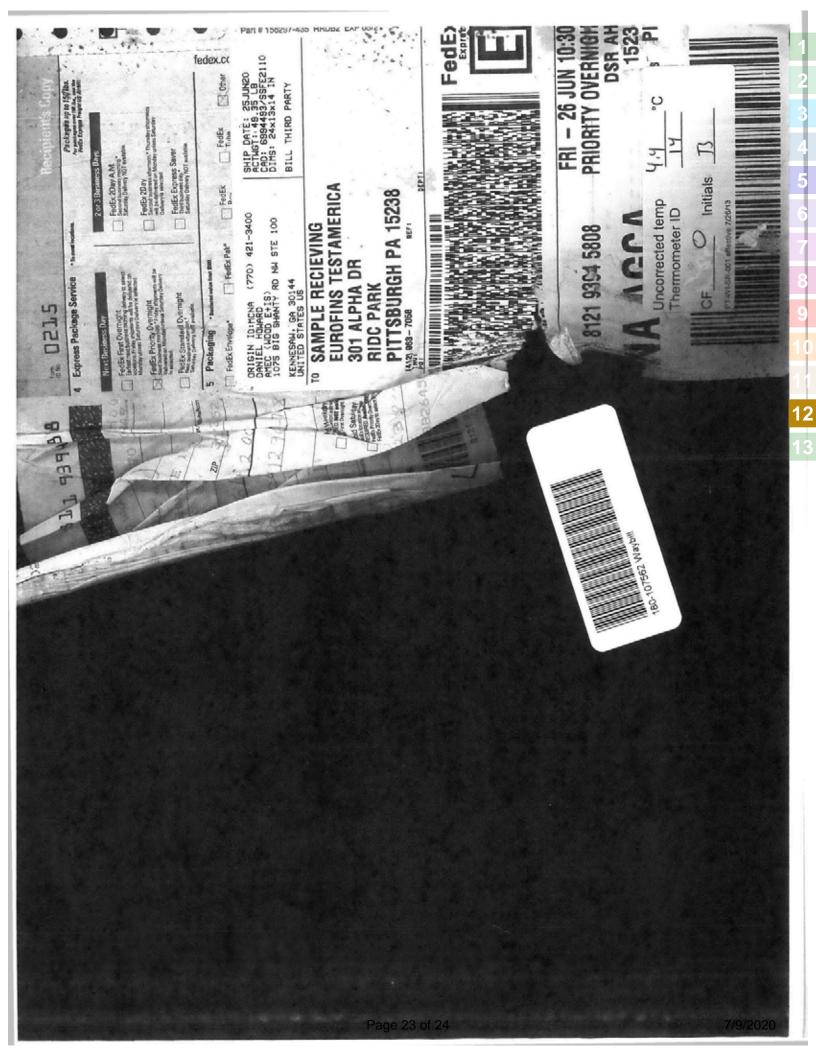
Pittsburgh, PA 15238

Phone: 412-963-7058 Fax: 412-983-2468

681-Atlanta

: eurofins

N - None
O - Asha02
P - Na2048
G - Na2503
R - Na2503
R - Na2503
R - Na25003
S - H2504
U - Acotone
V - Acotone
V - Acotone
V - Acotone
Z - other (specify) Special Instructions/Note: Ponoin Months , H=5.80 0H= 6,37 4 pH=5.98 DH=5.6 180-61584-12490.1 reservation Codes C - Zn Acetato D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Asocrbis Acid 180-107562 Chain of Custody Page 1 of 1 J - Di Water K - EDTA Archive For Total Number of containers Date/Firme: 12 Sample Disposal (A fee may be assessed Return To Client Roisposal By Lab Analysis Requested oater Temperature(s) *C and Other Remarks Special Instructions/QC Requirements XXX B 9034_Calc - Local Method S-Mail: Shall:brown@lestamericainc.com Return To Client 2540C_Calcd - Solids, Total Dissolved (TDS) Spering Dr eceived by 6020B - (MOD) Custom 8 (CoMoLiCaMgNaKB) Lab PM. Brown, Shali Preservation Code: Water Water Water Water Water Water Water Water Water Matrix Сотралу Sompany F Mayila, EGuillen Radiological (C=comb, G=grab) Sample V 0 Type 0 6/25/20/1815 1230 1015 1315 6/25/20 0910 Sample Time Unknown 5 days FAT Requested (days): Oue Date Requested Sample Date PO#: SCS10382606 Project #. 18020201 SSOW#. Poison B Skin Imtant eliverable Requested: I, II, III, IV, Other (specify) Custody Seel No. ARGWC-23 ARGWC-21 ARGWA-19 ARGWA-20 Plant Arkwright AP3 Alternate Source Flammable 241 Ralph McGill Blvd SE B10185 Possible Hazard Identification JAbraham@southernco.com mpty Kit Relinquished by E8#2 Custody Seals Intact: A Yes A No Sample Identification Client Information Family & Southern Company Joju Abraham quished by State, Zip. GA, 30308 City



Client: Southern Company Job Number: 180-107562-1

Login Number: 107562 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.</td <td>True</td> <td></td>	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	

Date: 2020-06-25 10:13:11

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Ever Guillen Company Name Wood

Project Name Plant Arkwright AP2 ASD Site Name Default Site

Site Name
Latitude
Longitude
Sonde SN
Default
0° 0' 0"
Variable
459710

Turbidity Make/Model Hach 2100Q

Pump placement from TOC

47.74 ft

QED

HDPE

0.17 in

52.74 ft

Well Information:

Well IDARGWC-19Well diameter2 inWell Total Depth52.74 ftScreen Length10 ftDepth to Water24.67 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	рН	SpCond mS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
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

Date: 2020-06-25 12:29:18

Project Information:

Ever Guillen Wood

Pump Information: Pump Model/Type

Operator Name Company Name Project Name Site Name

Plant Arkwright AP2 ASD ARGWA-20

QED Tubing Type HDPE Tubing Diameter 0.17 in Tubing Length 37.70 ft

Latitude Longitude Sonde SN

00 0' 0" 00 0' 0"

Turbidity Make/Model

459710 Hach 2100Q

Pump placement from TOC

32.70 ft

Well Information:

Well ID Well diameter Well Total Depth Screen Length Depth to Water

ARGWA-20 2 in 37.70 ft 10 ft

12.07 ft

Pumping Information:

Final Pumping Rate Total System Volume Calculated Sample Rate Stabilization Drawdown **Total Volume Pumped**

200 mL/min 0.6482711 L 300 sec 0 in 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond mS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
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

Date: 2020-06-25 13:18:31

Pump Information:

Pump Model/Type

Tubing Diameter

Pumping Information:

Tubing Length

Tubing Type

QED Micropurge Bladder Pump

HDPE

27 ft

0.25 in

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 21000

Hach 2100Q Pump placement from TOC 22 ft

Well Information:

Final Pumping Rate 200 mL/min Well ID ARGWC-21 Well diameter Total System Volume 0.7406238 L 2 in Calculated Sample Rate Well Total Depth 26.98 ft 300 sec Stabilization Drawdown Screen Length 10 ft 0 in Depth to Water 9 L 13.63 ft **Total Volume Pumped**

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond μS	cm Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization	1		+/- 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

Date: 2020-06-24 10:02:17

Project Information:

Operator Name
Company Name
Wood E&IS
Project Name

Project Name Plant Arkwright AP2 ASD Site Name ARGWC-22

Site Name
Latitude
Longitude
Sonde SN
ARGWC0° 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 IDARGWC-22Well diameter2 inWell Total Depth27.87 ftScreen Length10 ftDepth to Water13.51 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	рН	SpCond µS/	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

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

Pump Information:

Pump Model/Type Masterflex Peristaltic Pump

23 ft

Tubing TypeHDPETubing Diameter0.17 inTubing Length28 ft

Pump placement from TOC

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	рН	SpCond µS	/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

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

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 placement from TOC

42.0 ft

Peristaltic

0.170 in

HDPE

48 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	рН	SpCond µS	/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

Well Information:

Well IDARAMW-2Well diameter2 inWell Total Depth24.85 ftScreen Length10 ftDepth to Water13.12 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

20 ft

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	/cmTurb 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



Environment Testing America

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

Review your project results through

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

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-109846-1

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	5
Certification Summary	6
Sample Summary	7
Method Summary	8
Lab Chronicle	9
Client Sample Results	20
QC Sample Results	49
QC Association Summary	61
Chain of Custody	69
Receint Checklists	87

Δ

5

7

9

10

4.0

Case Narrative

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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.

4

Job ID: 180-109846-1

4

5

6

8

10

11

R

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.

3

4

5

6

_

9

Definitions/Glossary

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Qualifiers

			•	•	_
п	_	_	•	"	•

 Qualifier
 Qualifier Description

 F1
 MS and/or MSD recovery exceeds control limits.

INIS and/or MISD 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.

Eisted 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

4

7

F

6

7

8

9

10

12

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

4

5

7

10

11

12

Sample Summary

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

Job ID: 180-109846-1

180-109846-1 ARGWA-14 Water 08/19/20 13:55 08/20/20 09 180-109846-2 ARGWC-15 Water 08/19/20 10:05 08/20/20 09 180-109846-3 ARGWC-16 Water 08/19/20 12:05 08/20/20 09 180-109847-1 FB#1 Water 08/18/20 11:00 08/20/20 09 180-109847-2 ARGWA-12 Water 08/18/20 13:00 08/20/20 09
180-109846-3 ARGWC-16 Water 08/19/20 12:05 08/20/20 09 180-109847-1 FB#1 Water 08/18/20 11:00 08/20/20 09
180-109847-1 FB#1 Water 08/18/20 11:00 08/20/20 09
180-109847-2 ARGWA-12 Water 08/18/20 13:00 08/20/20 09
180-109847-3 ARGWA-13 Water 08/18/20 14:50 08/20/20 09
180-109847-4 ARGWC-17 Water 08/18/20 14:45 08/20/20 09
180-109848-1 ARGWC-10 Water 08/19/20 11:35 08/20/20 09
180-109848-2 DUP-1 Water 08/19/20 00:00 08/20/20 09
180-109848-3 ARGWC-9 Water 08/19/20 14:25 08/20/20 09
180-109850-1 ARGWA-5 Water 08/18/20 11:35 08/20/20 09
180-109850-2 ARGWA-3 Water 08/18/20 13:20 08/20/20 09
180-109850-3 ARGWC-7 Water 08/18/20 15:25 08/20/20 09
180-109851-1 EB#2 Water 08/19/20 09:15 08/20/20 09
180-109851-2 ARGWA-19 Water 08/19/20 10:56 08/20/20 09
180-109851-3 ARGWA-20 Water 08/19/20 13:44 08/20/20 09
180-109851-4 ARGWC-22 Water 08/19/20 15:32 08/20/20 09
180-109918-1 FB#2 Water 08/20/20 10:45 08/21/20 09
180-109918-2 ARGWC-23 Water 08/20/20 12:15 08/21/20 09
180-109918-3 DUP-2 Water 08/20/20 00:00 08/21/20 09
180-109918-4 ARAMW-1 Water 08/20/20 14:36 08/21/20 09
180-109918-5 ARAMW-2 Water 08/20/20 16:35 08/21/20 09
180-109929-1 ARGWC-8 Water 08/20/20 10:35 08/21/20 09
180-109929-2 ARGWC-18 Water 08/20/20 17:05 08/21/20 09
180-109930-1 EB#1 Water 08/20/20 09:30 08/21/20 09
180-109930-2 ARAMW-3 Water 08/20/20 14:45 08/21/20 09
180-109930-3 ARAMW-4 Water 08/20/20 11:45 08/21/20 09
180-109970-1 ARAMW-6 Water 08/21/20 09:45 08/22/20 10
180-109970-2 ARGWC-21 Water 08/21/20 10:36 08/22/20 10

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

Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client: Southern Company

Client Sample ID: ARGWA-14

Date Collected: 08/19/20 13:55 Date Received: 08/20/20 09:30

Lab Sample ID: 180-109846-1

Lab Sample ID: 180-109846-2

Lab Sample ID: 180-109846-3

Matrix: Water

Matrix: Water

Matrix: Water

Prep Type Total/NA	Batch Type Analysis	Batch Method EPA 300.0 R2.1	Run	Factor	Initial Amount	Final Amount	Batch Number 326785	Prepared or Analyzed 08/24/20 08:46	Analyst	Lab TAL PIT
IO(a)/IVA	,	at ID: CHICS2000		'			320703	00/24/20 00.40	LIG	IALIII
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis Instrumer	EPA 6020B at ID: A		1			330300	09/17/20 21:08	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis Instrumer	EPA 7470A at ID: HGY		1			328261	09/02/20 15:09	RJR	TAL PIT
Total/NA	Analysis Instrumer	Field Sampling at ID: NOEQUIP		1			326626	08/19/20 13:55	FDS	TAL PIT

Client Sample ID: ARGWC-15

Date Collected: 08/19/20 10:05

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326478	08/21/20 13:28	MJH	TAL PIT
	Instrumer	nt 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
	Instrumer	nt 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
	Instrumer	nt ID: HGY								
Total/NA	Analysis	Field Sampling		1			326626	08/19/20 10:05	FDS	TAL PIT
	Instrumer	nt ID: NOEQUIP								

Client Sample ID: ARGWC-16

Date Collected: 08/19/20 12:05

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHICS2000		1			326785	08/24/20 09:01	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: A		1			330300	09/17/20 21:36	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A t ID: HGY		1			328261	09/02/20 15:14	RJR	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			326626	08/19/20 12:05	FDS	TAL PIT

Page 9 of 95

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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 Instrumer	EPA 6020B at 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 Instrumer	EPA 7470A at ID: HGY		1			328261	09/02/20 15:15	RJR	TAL PIT

Lab Sample ID: 180-109847-2 **Client Sample ID: ARGWA-12**

Date Collected: 08/18/20 13:00 **Matrix: Water**

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 7470A t ID: HGY		1			328261	09/02/20 15:16	RJR	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			326626	08/18/20 13:00	FDS	TAL PIT

Lab Sample ID: 180-109847-3 **Client Sample ID: ARGWA-13**

Date Collected: 08/18/20 14:50 Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 7470A t ID: HGY		1			328261	09/02/20 15:17	RJR	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			326626	08/18/20 14:50	FDS	TAL PIT

Eurofins TestAmerica, Pittsburgh

Matrix: Water

Job ID: 180-109846-1

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-17

Date Collected: 08/18/20 14:45

Date Received: 08/20/20 09:30

Lab Sample ID: 180-109847-4

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at ID: CHIC2100A		1			326890	08/25/20 14:47	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis Instrumer	EPA 6020B nt ID: A		1			330300	09/17/20 21:50	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis Instrumer	EPA 7470A nt ID: HGY		1			328261	09/02/20 15:21	RJR	TAL PIT
Total/NA	Analysis Instrumer	Field Sampling of ID: NOEQUIP		1			326626	08/18/20 14:45	FDS	TAL PIT

Client Sample ID: ARGWC-10

Date Collected: 08/19/20 11:35

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at ID: CHIC2100A		1			326890	08/25/20 05:59	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis Instrumer	EPA 6020B nt ID: A		1			330300	09/17/20 21:54	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis Instrumer	EPA 7470A nt ID: HGY		1			328261	09/02/20 15:22	RJR	TAL PIT
Total/NA	Analysis Instrumer	Field Sampling at ID: NOEQUIP		1			326626	08/19/20 11:35	FDS	TAL PIT

Client Sample ID: DUP-1 Date Collected: 08/19/20 00:00

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 Instrumer	EPA 300.0 R2.1 at ID: CHIC2100A		1			326890	08/25/20 06:46	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis Instrumer	EPA 6020B at ID: A		1			330300	09/17/20 22:06	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis Instrumer	EPA 7470A nt ID: HGY		1			328261	09/02/20 15:23	RJR	TAL PIT
Total/NA	Analysis Instrumer	Field Sampling at ID: NOEQUIP		1			326626	08/19/20 00:00	FDS	TAL PIT

Lab Sample ID: 180-109848-1 **Matrix: Water**

Lab Sample ID: 180-109848-2

Matrix: Water

Project/Site: CCR - Plant Arkwright

Client: Southern Company

Client Sample ID: ARGWC-9

Date Collected: 08/19/20 14:25 Date Received: 08/20/20 09:30

Lab Sample ID: 180-109848-3

Lab Sample ID: 180-109850-1

Lab Sample ID: 180-109850-2

Matrix: Water

Matrix: Water

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at ID: CHIC2100A		1			326890	08/25/20 07:02	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327640	08/28/20 15:02	TJO	TAL PIT
Total Recoverable	Analysis Instrumer	EPA 6020B at ID: A		1			330300	09/17/20 22:10	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis Instrumer	EPA 7470A at ID: HGY		1			328261	09/02/20 15:24	RJR	TAL PIT
Total/NA	Analysis Instrumer	Field Sampling at ID: NOEQUIP		1			326626	08/19/20 14:25	FDS	TAL PIT

Client Sample ID: ARGWA-5

Date Collected: 08/18/20 11:35

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			326890	08/25/20 07:50	EPS	TAL PIT
	Instrumer	nt 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
	Instrumer	nt 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
	Instrumer	nt ID: HGY								
Total/NA	Analysis	Field Sampling		1			326626	08/18/20 11:35	FDS	TAL PIT
	Instrumer	nt ID: NOEQUIP								

Client Sample ID: ARGWA-3

Date Collected: 08/18/20 13:20

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHIC2100A		1			326890	08/25/20 08:06	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: A		1			330300	09/17/20 18:14	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A t ID: HGY		1			328261	09/02/20 15:26	RJR	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			326626	08/18/20 13:20	FDS	TAL PIT

Page 12 of 95

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-7

Date Collected: 08/18/20 15:25

Lab Sample ID: 180-109850-3

Matrix: Water

Date Received: 08/20/20 09:30

Batch Batch

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 t ID: CHIC2100A		1			326890	08/25/20 08:21	EPS	TAL PIT
Total Recoverable Total Recoverable	Prep Analysis Instrumen	3005A EPA 6020B t ID: A		1	50 mL	50 mL	327642 330300	08/28/20 15:10 09/17/20 18:18		TAL PIT TAL PIT
Total/NA Total/NA	Prep Analysis Instrumen	7470A EPA 7470A t ID: HGY		1	50 mL	50 mL	328121 328261	09/02/20 05:45 09/02/20 15:27		TAL PIT TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			326626	08/18/20 15:25	FDS	TAL PIT

Client Sample ID: EB#2

Date Collected: 08/19/20 09:15

Lab Sample ID: 180-109851-1

Matrix: Water

Date Collected: 08/19/20 09:15 Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 at ID: CHIC2100A		1			326890	08/25/20 10:19	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B at ID: A		1			330300	09/17/20 18:21	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A at ID: HGY		1			328261	09/02/20 15:28	RJR	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	326608	08/21/20 11:11	AVS	TAL PIT

Client Sample ID: ARGWA-19 Lab Sample ID: 180-109851-2

Date Collected: 08/19/20 10:56 Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHIC2100A		1			326890	08/25/20 11:50	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	327642	08/28/20 15:10	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: A		1			330300	09/17/20 18:25	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328121	09/02/20 05:45	RJR	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A t ID: HGY		1			328261	09/02/20 15:29	RJR	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			326626	08/19/20 10:56	FDS	TAL PIT

Eurofins TestAmerica, Pittsburgh

5

7

0

10

4

1:

Matrix: Water

Project/Site: CCR - Plant Arkwright

Client: Southern Company

Client Sample ID: ARGWA-20 Date Collected: 08/19/20 13:44

Lab Sample ID: 180-109851-3

Matrix: Water

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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 Instrumer	EPA 6020B nt 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 Instrumer	EPA 7470A nt ID: HGY		1			328261	09/02/20 15:30	RJR	TAL PIT
Total/NA	Analysis Instrumer	Field Sampling at ID: NOEQUIP		1			326626	08/19/20 13:44	FDS	TAL PIT

Lab Sample ID: 180-109851-4 **Client Sample ID: ARGWC-22**

Date Collected: 08/19/20 15:32 **Matrix: Water**

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 at ID: CHIC2100A		1			326890	08/25/20 10:35	EPS	TAL PIT
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 at 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 Instrumen	EPA 6020B at 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 Instrumen	EPA 6020B at 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 Instrumen	EPA 7470A at ID: HGY		1			328261	09/02/20 15:34	RJR	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	326608	08/21/20 11:11	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling		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

Bato	Batch	Batch Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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		1			329135	09/10/20 01:16	DSH	TAL PIT
	Instrumer	nt ID: DORY								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-109918-1

Matrix: Water

Job ID: 180-109846-1

Date Collected: 08/20/20 10:45 Date Received: 08/21/20 09:45

Client Sample ID: FB#2

Batch		Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis Instrumer	EPA 7470A nt ID: HGZ		1			328649	09/05/20 09:53	RJR	TAL PIT
Total/NA	Analysis Instrumer	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	326682	08/22/20 08:53	AVS	TAL PIT

Client Sample ID: ARGWC-23 Lab Sample ID: 180-109918-2

Date Collected: 08/20/20 12:15

Date Received: 08/21/20 09:45

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 at ID: CHIC2100A		1			326777	08/24/20 13:43	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B at ID: DORY		1			329135	09/10/20 01:19	DSH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B at ID: DORY		1			329474	09/11/20 22:34	DSH	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A at ID: HGZ		1			328649	09/05/20 09:54	RJR	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	326682	08/22/20 08:53	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling		1			327279	08/20/20 12:15	FDS	TAL PIT

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: CHIC2100A		1			326777	08/24/20 13:59	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: DORY		1			329135	09/10/20 01:23	DSH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: DORY		1			330720	09/21/20 15:00	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A t ID: HGZ		1			328649	09/05/20 09:57	RJR	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	326682	08/22/20 08:53	AVS	TAL PIT

-0

3

5

7

9

10

12

13

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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

Date Neceived. 00/21/20 03.43

Batch Batch Dil Initial Final Batch Prepared **Prep Type** Method Factor Number or Analyzed Type Run **Amount Amount** Analyst Lab Total/NA Analysis Field Sampling 327279 08/20/20 00:00 FDS TAL PIT

Client Sample ID: ARAMW-1

Date Collected: 08/20/20 14:36

Lab Sample ID: 180-109918-4

Matrix: Water

Date Received: 08/21/20 09:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrument	EPA 300.0 R2.1 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 Instrument	EPA 6020B 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 Instrument	EPA 7470A ID: HGZ		1			328649	09/05/20 09:58	RJR	TAL PIT
Total/NA	Analysis Instrument	Field Sampling		1			327279	08/20/20 14:36	FDS	TAL PIT

Client Sample ID: ARAMW-2

Date Collected: 08/20/20 16:35

Lab Sample ID: 180-109918-5

Matrix: Water

Date Received: 08/21/20 09:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrument	EPA 300.0 R2.1 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 Instrument	EPA 6020B 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 Instrument	EPA 7470A ID: HGZ		1			328649	09/05/20 09:59	RJR	TAL PIT
Total/NA	Analysis Instrument	Field Sampling 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 Date Received: 08/21/20 09:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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 Instrumer	EPA 6020B It ID: DORY		1			329135	09/10/20 01:33	DSH	TAL PIT

Eurofins TestAmerica, Pittsburgh

Page 16 of 95

2

Job ID: 180-109846-1

3

5

7

Q

10

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

Client Sample ID: ARGWC-8

Date Collected: 08/20/20 10:35 Date Received: 08/21/20 09:45

Lab Sample ID: 180-109929-1

Matrix: Water

Batch Dil Batch Batch Initial Final **Prepared** Method Factor or Analyzed **Prep Type** Type Run **Amount** Amount Number **Analyst** Lab Total/NA 7470A 50 mL 328516 09/04/20 08:35 RJR TAL PIT Prep 50 mL Total/NA EPA 7470A 328649 09/05/20 10:00 RJR TAL PIT Analysis 1 Instrument ID: HGZ Total/NA Analysis Field Sampling 1 327279 08/20/20 10:35 FDS TAL PIT Instrument ID: NOEQUIP

Lab Sample ID: 180-109929-2

Date Collected: 08/20/20 17:05

Client Sample ID: ARGWC-18

Date Received: 08/21/20 09:45

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 Instrument	EPA 300.0 R2.1 t ID: CHIC2100A		1			327077	08/26/20 11:27	EPS	TAL PIT
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 Instrument	EPA 6020B t ID: DORY		1			329135	09/10/20 01:40	DSH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	328062	09/01/20 16:00	TJO	TAL PIT
Total Recoverable	Analysis Instrument	EPA 6020B t ID: DORY		1			329135	09/10/20 01:37	DSH	TAL PIT
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 Instrument	EPA 7470A t ID: HGZ		1			328649	09/05/20 10:03	RJR	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	328516	09/04/20 08:35	RJR	TAL PIT
Total/NA	Analysis Instrument	EPA 7470A t ID: HGZ		1			328649	09/05/20 10:01	RJR	TAL PIT
Total/NA	Analysis Instrument	Field Sampling t ID: NOEQUIP		1			327279	08/20/20 17:05	FDS	TAL PIT

Client Sample ID: EB#1

Date Collected: 08/20/20 09:30 Date Received: 08/21/20 09:45

Lab Sample ID: 180-109930-1 **Matrix: Water**

Batch Batch Dil Initial Final Batch Prepared **Prep Type** Type Method Run **Factor Amount** Amount Number or Analyzed **Analyst** Lab Total/NA Analysis EPA 300.0 R2.1 327077 08/26/20 11:59 EPS TAL PIT Instrument ID: CHIC2100A Total Recoverable 50 mL 50 mL TAL PIT Prep 3005A 328062 09/01/20 16:00 TJO Total Recoverable Analysis **EPA 6020B** 1 329135 09/10/20 01:44 DSH TAL PIT Instrument ID: DORY Total/NA 7470A 50 mL 50 mL 328516 09/04/20 08:35 RJR TAL PIT Prep Total/NA TAL PIT Analysis **EPA 7470A** 328649 09/05/20 10:04 RJR Instrument ID: HGZ

Eurofins TestAmerica, Pittsburgh

Page 17 of 95

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

Client Sample ID: ARAMW-3

Date Collected: 08/20/20 14:45 Date Received: 08/21/20 09:45

Lab Sample ID: 180-109930-2

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 t ID: CHIC2100A		1			327077	08/26/20 13:02	EPS	TAL PIT
Total Recoverable Total Recoverable	Prep Analysis Instrumen	3005A EPA 6020B t ID: DORY		1	50 mL	50 mL	328062 329135	09/01/20 16:01 09/10/20 01:55		TAL PIT TAL PIT
Total/NA Total/NA	Prep Analysis Instrumen	7470A EPA 7470A t ID: HGZ		1	50 mL	50 mL	328516 328649	09/04/20 08:35 09/05/20 10:05		TAL PIT TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			327279	08/20/20 14:45	FDS	TAL PIT

Client Sample ID: ARAMW-4

Date Collected: 08/20/20 11:45

Date Received: 08/21/20 09:45

	•	Matrix: Water
Batch	Prepared	

Lab Sample ID: 180-109930-3

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 7470A t ID: HGZ		1			328649	09/05/20 09:50	RJR	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			327279	08/20/20 11:45	FDS	TAL PIT

Client Sample ID: ARAMW-6

Date Collected: 08/21/20 09:45

Date Received: 08/22/20 10:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 at 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 Instrumen	EPA 6020B at 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 Instrumen	EPA 7470A at ID: HGZ		1			328684	09/07/20 08:48	RJR	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling at ID: NOEQUIP		1			327279	08/21/20 09:45	FDS	TAL PIT

Eurofins TestAmerica, Pittsburgh

9/24/2020

Page 18 of 95

Lab Chronicle

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-21 Lab Sample ID: 180-109970-2

Date Collected: 08/21/20 10:36

Date Received: 08/22/20 10:00

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	7 unount	741104111	327578	08/28/20 15:21	MJH	TAL PIT
Total Recoverable Total Recoverable	Prep Analysis	3005A EPA 6020B		1	50 mL	50 mL	328065 328773	09/01/20 16:08 09/04/20 22:10		TAL PIT
Total/NA Total/NA	Prep Analysis	7470A EPA 7470A at ID: HGZ		1	50 mL	50 mL	328636 328684	09/05/20 06:15 09/07/20 08:49		TAL PIT TAL PIT
Total/NA	Analysis Instrumen	Field Sampling at ID: NOEQUIP		1			327279	08/21/20 10:36	FDS	TAL PIT

Laboratory References:

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

Analyst References:

Lab: TAL PIT

Batch Type: 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

3

4

6

8

3

11

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recove	erable						
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	• •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	٨	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:09	1
Method: Field Sampli	ng - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.62				SU			08/19/20 13:55	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recov	erable						
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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	٨	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:13	1
Method: Field Sampli	ng - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.47				SU			08/19/20 10:05	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recove	erable						
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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	۸	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:14	1
Method: Field Samp	ling - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.24				SU			08/19/20 12:05	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: FB#1 Lab Sample ID: 180-109847-1

Matrix: Water

Date Collected: 08/18/20 11:00 Date Received: 08/20/20 09:30

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) - To	otal Recove	erable						
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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	٨	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:15	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-109847-2 **Client Sample ID: ARGWA-12**

Matrix: Water

Date Collected: 08/18/20 13:00 Date Received: 08/20/20 09:30

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: FPA 6020B	- Metals (ICP/MS) - To	otal Recove	erable						
Analyte		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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	۸	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:16	1
Method: Field Samp	ling - Field Sampling								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.48				SU			08/18/20 13:00	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recov	erable						
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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	٨	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:17	1
Method: Field Samp	ling - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.15				SU			08/18/20 14:50	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recove	erable						
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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	۸	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:21	1
Method: Field Samp	ling - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.07				SU			08/18/20 14:45	1

Client: Southern Company Project/Site: CCR - Plant Arkwright Job ID: 180-109846-1

рН

Client Sample ID: ARGWC-10 Lab Sample ID: 180-109848-1

Dat

ate Collected: 08/19/20 11:35	Matrix: Water
ate Received: 08/20/20 09:30	

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 - M	letals (ICP/MS) - To	otal Recov	erable						
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 - M	ercury (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	a - Field Sampling								
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

7.06

SU

9/24/2020

08/19/20 11:35

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: DUP-1 Lab Sample ID: 180-109848-2

Matrix: Water

Date Collected: 08/19/20 00:00 Date Received: 08/20/20 09:30

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) - To	otal Recove	erable						
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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	٨	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:23	1
Method: Field Sampl	ling - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.06				SU			08/19/20 00:00	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-9 Lab Sample ID: 180-109848-3

Matrix: Water

Date Collected: 08/19/20 14:25 Date Received: 08/20/20 09:30

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: FPA 6020B	- Metals (ICP/MS) - To	ntal Recove	erable						
Analyte	•	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		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 Samp	ling - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.21				SU			08/19/20 14:25	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWA-5 Lab Sample ID: 180-109850-1 Date Collected: 08/18/20 11:35

Matrix: Water

Duto	oonootoa.	00/10/20	
Date	Received:	08/20/20	09:30

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) - To	otal Recov	erable						
Analyte	•	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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	۸	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:25	1
Method: Field Sampl	ing - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.18				SU			08/18/20 11:35	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recov	erable						
Analyte	•	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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	۸	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:26	1
Method: Field Samp	ling - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.47				SU			08/18/20 13:20	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-7 Lab Sample ID: 180-109850-3

Matrix: Water

Date	Collected:	08/18/20	15:25
Date	Received:	08/20/20	09:30

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 6020E	B - Metals (ICP/MS) - To	otal Recov	erable						
Analyte	•	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	A - Mercury (CVAA)								
Analyte	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	۸	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:27	1
Method: Field Sam	pling - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.70				SU			08/18/20 15:25	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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 - Me	tals (ICP/MS) - To	otal Recove	erable						
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 - Me	rcury (CVAA)								
Analyte	• •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	٨	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: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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 - Anior	s, Ion Chi	romatography							
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

Fluoride 	<0.026		0.10	0.026	mg/L			08/25/20 11:50	1
 Method: EPA 6020B - Metals (I	CP/MS) - To	tal Recove	rable						
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	٨	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:29	1

Method: Fleid Sampling - Fleid	a Sampling								
Analyte	Result Q	ualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
рН	6.25				SU			08/19/20 10:56	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWA-20 Lab Sample ID: 180-109851-3

Matrix: Water

Date Collected: 08/19/20 13:44 Date Received: 08/20/20 09:30

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) - To	otal Recove	erable						
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	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	٨	0.00020	0.00013	mg/L		09/02/20 05:45	09/02/20 15:30	1
Method: Field Samp	ling - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.16				SU			08/19/20 13:44	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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 - Met	als (ICP/MS) - To	otal Recove	erable						
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	В	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 - Mer	cury (CVAA)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	۸	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		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.21				SU			08/19/20 15:32	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-109918-1 Client Sample ID: FB#2 Date Collected: 08/20/20 10:45

Matrix: Water

Date Received: 08/21/20 09:45

Fluoride	l Dil Fac	Analyzed	Prepared	D	Unit	MDL	RL	Qualifier	Result	Analyte
Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable Result Qualifier RL MDL Unit D Prepared Prepared Analyzed Analyze	:46 1	08/24/20 14:46			mg/L	0.32	1.0		<0.32	Chloride
Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Analyzed Analyzed Antimony < 0.00038 0.0020 0.00038 mg/L 0.9/01/20 16:00 0.9/10/20 01 0.0010 0.00031 mg/L 0.9/01/20 16:00 0.9/10/20 01 0.0010 0.00031 mg/L 0.9/01/20 16:00 0.9/10/20 01 0.0016 mg/L 0.9/01/20 16:00 0.9/10/20 01 0.0016 mg/L 0.9/01/20 16:00 0.9/10/20 01 0.0016 mg/L 0.9/01/20 16:00 0.9/10/20 01 0.0016 mg/L 0.9/01/20 16:00 0.9/10/20 01 0.0016 mg/L 0.9/01/20 16:00 0.9/10/20 01 0.0016 mg/L 0.9/01/20 16:00 0.9/10/20 01 0.0016 mg/L 0.001/20 01 0.0016 mg/L 0.09/01/20 16:00 0.09/10/20 01 0.0016 mg/L 0.001/20 01 0.0016 mg/L 0.001/20 01 0.001/20 01 0.0016 mg/L 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.001/20 01 0.0	:46 1	08/24/20 14:46			mg/L	0.026	0.10		<0.026	Fluoride
Analyte Result Antimony Qualifier RL MDL MDL Unit Unit D Prepared Analyzer Antimony <0.00038	:46 1	08/24/20 14:46			mg/L	0.38	1.0		<0.38	Sulfate
Antimony							erable	tal Recove	etals (ICP/MS) - To	Method: EPA 6020B - Me
Arsenic	l Dil Fac	Analyzed	Prepared	D	Unit	MDL	RL	Qualifier	Result	Analyte
Barium	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.00038	0.0020		<0.00038	Antimony
Beryllium	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.00031	0.0010		< 0.00031	Arsenic
Boron 0.056 J ^ 0.080 0.039 mg/L 09/01/20 16:00 09/10/20 01 Cadmium <0.00022	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.0016	0.010		<0.0016	Barium
Cadmium <0.00022 0.0025 0.00022 mg/L 09/01/20 16:00 09/10/20 01 Calcium <0.13	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.00018	0.0025		<0.00018	Beryllium
Calcium <0.13 0.50 0.13 mg/L 09/01/20 16:00 09/10/20 01 Chromium <0.0015	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.039	0.080	J ^	0.056	Boron
Chromium <0.0015 0.0020 0.0015 mg/L 09/01/20 16:00 09/10/20 01 Cobalt <0.00013	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.00022	0.0025		<0.00022	Cadmium
Cobalt <0.00013 0.0025 0.00013 mg/L 09/01/20 16:00 09/10/20 01 Lead <0.00013	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.13	0.50		<0.13	Calcium
Lead <0.00013	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.0015	0.0020		<0.0015	Chromium
Lithium	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.00013	0.0025		<0.00013	Cobalt
Molybdenum <0.00061 0.015 0.00061 mg/L 09/01/20 16:00 09/10/20 01 Selenium <0.0015	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.00013	0.0010		<0.00013	Lead
Selenium <0.0015 0.0050 0.0015 mg/L 09/01/20 16:00 09/10/20 01 Thallium <0.00015	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.0034	0.0050		<0.0034	Lithium
Thallium <0.00015 0.0010 0.00015 mg/L 09/01/20 16:00 09/10/20 01 Method: EPA 7470A - Mercury (CVAA)	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.00061	0.015		< 0.00061	Molybdenum
Method: EPA 7470A - Mercury (CVAA) Analyte Result Qualifier RL MDL Unit D Prepared Analyze of the properties of	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.0015	0.0050		<0.0015	Selenium
Analyte Result Mercury Qualifier RL 0.00020 MDL 0.00013 Unit mg/L D 09/04/20 08:35 Prepared 09/05/20 09/	:16 1	09/10/20 01:16	09/01/20 16:00		mg/L	0.00015	0.0010		<0.00015	Thallium
Mercury <0.00013 0.00020 0.00013 mg/L 09/04/20 08:35 09/05/20 09 General Chemistry									ercury (CVAA)	Method: EPA 7470A - Me
General Chemistry	l Dil Fac	Analyzed	Prepared	D	Unit	MDL	RL	Qualifier	• • •	
	:53 1	09/05/20 09:53	09/04/20 08:35		mg/L	0.00013	0.00020		<0.00013	Mercury
B 1/ 0 1/0 B1 AB1 11/1 B 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5										General Chemistry
Analyte Result Qualifier RL MDL Unit D Prepared Analyzed	l Dil Fac	Analyzed	Prepared	D	Unit	MDL	RL	Qualifier	Result	Analyte

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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 - 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		-			08/24/20 13:43	1
Sulfate	69		1.0	0.38	mg/L			08/24/20 13:43	1
Method: EPA 6020B - Meta	ils (ICP/MS) - To	otal Recove	erable						
Analyte	•	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 - Merc	cury (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 - I	Field Sampling								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.33				SU			08/20/20 12:15	

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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 -	•	•	•						
Analyte		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.9		1.0		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 - Meta	als (ICP/MS) - To	otal Recove	erable						
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 - Merc	cury (CVAA)								
Analyte		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		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.33				SU			08/20/20 00:00	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARAMW-1 Lab Sample ID: 180-109918-4

Date Collected: 08/20/20 14:36 **Matrix: Water**

Method: EPA 300.0 R2	•		•	***	11-14	_	Burnend	A	D" F
Analyte		Qualifier	RL		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) - To	otal Recove	erable						
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	• ` ` '	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 Sampli	ng - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.09				SU			08/20/20 14:36	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recove	erable						
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 - I	Mercury (CVAA)								
Analyte	• • •	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 Samplii	ng - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
рН	5.99				SU			08/20/20 16:35	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-8 Lab Sample ID: 180-109929-1

Matrix: Water

Date Collected: 08/20/20 10:35 Date Received: 08/21/20 09:45

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) - To	otal Recove	erable						
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	• • •	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 Samplii	ng - Field Sampling								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.34				SU			08/20/20 10:35	1

Project/Site: CCR - Plant Arkwright

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil F
Fluoride	<0.026		0.10	0.026	mg/L			08/26/20 11:27	
Method: EPA 6020B -	Metals (ICP/MS) - To	otal Recove	erable						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil F
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:37	
Arsenic	<0.00031		0.0010	0.00031	•		09/01/20 16:00	09/10/20 01:37	
Barium	0.041		0.010	0.0016	mg/L		09/01/20 16:00	09/10/20 01:37	
Beryllium	<0.00018		0.0025	0.00018			09/01/20 16:00	09/10/20 01:37	
Cadmium	<0.00022		0.0025	0.00022	-		09/01/20 16:00	09/10/20 01:37	
Chromium	<0.0015		0.0020	0.0015	-		09/01/20 16:00	09/10/20 01:37	
Cobalt	0.0015		0.0025	0.00013			09/01/20 16:00	09/10/20 01:37	
Lead	0.00028		0.0010	0.00013	-		09/01/20 16:00	09/10/20 01:37	
Lithium	<0.0034		0.0050	0.0034	-		09/01/20 16:00	09/10/20 01:37	
Molybdenum	<0.00061		0.015	0.00061	mg/L		09/01/20 16:00	09/10/20 01:37	
Selenium	<0.0015		0.0050	0.0015	_		09/01/20 16:00	09/10/20 01:37	
Thallium	<0.00015		0.0010	0.00015	•		09/01/20 16:00	09/10/20 01:37	
Method: EPA 6020B -	Motale (ICP/MS) - D	icealyad							
Method. EPA 6020B - Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil F
Antimony	<0.00038		0.0020	0.00038	mg/L		09/01/20 16:00	09/10/20 01:40	
Arsenic	<0.00031		0.0010	0.00031	-		09/01/20 16:00	09/10/20 01:40	
Barium	0.037		0.010	0.0016	_		09/01/20 16:00	09/10/20 01:40	
Beryllium	<0.00018		0.0025	0.00018			09/01/20 16:00	09/10/20 01:40	
Cadmium	<0.00022		0.0025	0.00022	-		09/01/20 16:00	09/10/20 01:40	
Chromium	<0.0015		0.0020	0.0015	-		09/01/20 16:00	09/10/20 01:40	
Cobalt	0.0013		0.0025	0.00013			09/01/20 16:00	09/10/20 01:40	
Lead	<0.00013		0.0010	0.00013	-		09/01/20 16:00	09/10/20 01:40	
Lithium	<0.0034		0.0050	0.0034	-		09/01/20 16:00	09/10/20 01:40	
Molybdenum	<0.00061		0.015	0.00061			09/01/20 16:00	09/10/20 01:40	
Selenium	<0.0015		0.0050	0.0015	_		09/01/20 16:00	09/10/20 01:40	
Thallium	<0.00015		0.0010	0.00015	mg/L		09/01/20 16:00	09/10/20 01:40	
Mothod: EDA 7470A	Moreum (C)/AA)								
Method: EPA 7470A - Analyte	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil F
Mercury	<0.00013	<u> </u>	0.00020	0.00013		=	09/04/20 08:35	09/05/20 10:01	
					-				
Method: EPA 7470A -			DI	MDI	l lmi4	_	Dramanad	Amalumad	D:I F
Analyte Mercury		Qualifier		0.00013	Unit	D	Prepared 00/04/20 08:35	Analyzed 09/05/20 10:03	Dil F
vicioury	<u> </u>		0.00020	0.00013	my/L		03/04/20 00.33	03/03/20 10:03	
Method: Field Sampli	ng - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil F
рН	6.43				SU			08/20/20 17:05	

Job ID: 180-109846-1

Job ID: 180-109846-1 Client: Southern Company

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-109930-1 **Client Sample ID: EB#1**

Matrix: Water

09/04/20 08:35 09/05/20 10:04

Date Collected: 08/20/20 09:30 Date Received: 08/21/20 09:45

Mercury

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) - To	otal Recove	erable						
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
Mothod: EDA 7470A	Moroury (CVAA)								
Method: EPA 7470A - Analyte	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

0.00020

0.00013 mg/L

<0.00013

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	ntal Recov	erable						
Analyte	•	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	• • •	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 Samplii	ng - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.24				SU			08/20/20 14:45	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recov	erable						
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	٨	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 Sampl	ing - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.77				SU			08/20/20 11:45	

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recove	erable						
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	• • •	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 Sampli	ng - Field Sampling								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.32				SU			08/21/20 09:45	1

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

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) - To	otal Recove	erable						
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	• •	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 Sampl	ling - Field Sampling								
Analyte		Qualifier	RL	MDL		<u>D</u>	Prepared	Analyzed	Dil Fac
pH	5.89				SU			08/21/20 10:36	1

Job ID: 180-109846-1

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Prep Type: Total/NA

Client Sample ID: ARGWC-15

Client Sample ID: ARGWC-15

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

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

Lab Sample ID: MB 180-326478/18

Matrix: Water

Analysis Batch: 326478

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte D Prepared Fluoride 0.10 08/21/20 11:35 < 0.026 0.026 mg/L

Lab Sample ID: LCS 180-326478/17

Matrix: Water

Analysis Batch: 326478

Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits Analyte 2.50 90 - 110 Fluoride 2.73 mg/L 109

Lab Sample ID: 180-109846-2 MS

Matrix: Water

Analysis Batch: 326478

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Limits **Analyte** Unit %Rec Fluoride 0.081 JF1 2.50 2.22 F1 85 90 - 110 mg/L

Lab Sample ID: 180-109846-2 MSD

Matrix: Water

Analysis Batch: 326478

Spike MSD MSD %Rec. **RPD** Sample Sample Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits **RPD** Limit Fluoride 0.081 JF1 2.50 2.21 F1 90 - 110 mg/L 85

Lab Sample ID: MB 180-326777/6

Matrix: Water

Analysis Batch: 326777

MR MR

Analyte	Result	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

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Chloride 50.0 53.8 mg/L 108 90 - 110 Fluoride 2.50 2.57 mg/L 103 90 - 110 90 - 110 Sulfate 50.0 52.7 mg/L 105

Lab Sample ID: MB 180-326785/6

Matrix: Water

Analysis Batch: 326785

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Fluoride <0.026 0.10 0.026 mg/L 08/24/20 08:17

Eurofins TestAmerica, Pittsburgh

Client Sample ID: Method Blank

Client: Southern Company Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 180-326785/5 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 326785 Spike LCS LCS

%Rec. Added Result Qualifier Unit %Rec Limits Analyte D Fluoride 2.50 2.38 mg/L 95 90 - 110

Lab Sample ID: MB 180-326890/6 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 326890

MB MB Result Qualifier RL **MDL** Unit

Prepared Analyzed Dil Fac Analyte 0.10 0.026 mg/L 08/25/20 05:13 Fluoride < 0.026

Lab Sample ID: LCS 180-326890/5 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 326890

Spike LCS LCS %Rec. Added Result Qualifier Limits **Analyte** Unit %Rec Fluoride 2.50 2.52 101 90 - 110 mg/L

Lab Sample ID: 180-109847-4 MS Client Sample ID: ARGWC-17 **Matrix: Water Prep Type: Total/NA**

Analysis Batch: 326890

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 2.50 Fluoride <0.026 90 - 110 2.48 mg/L

Lab Sample ID: 180-109847-4 MSD

Matrix: Water

Analysis Batch: 326890

MSD MSD Sample Sample Spike %Rec. Analyte Result Qualifier Added Limits Result Qualifier Unit %Rec Limit Fluoride <0.026 2.50 2.52 101 90 - 110 mg/L

Lab Sample ID: 180-109848-1 MS

Matrix: Water

Analysis Batch: 326890

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Limits Analyte Unit D %Rec <0.026 2.50 Fluoride 2.48 mg/L 99

Lab Sample ID: 180-109848-1 MSD

Matrix: Water

Analysis Batch: 326890

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Analyte Result Qualifier Limits RPD Limit Unit D %Rec Fluoride <0.026 2.50 2 41 mg/L 97 90 - 110

Lab Sample ID: MB 180-326917/18 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 326917

MB MB Result Qualifier RL **MDL** Unit Analyte Prepared Analyzed Dil Fac Fluoride <0.026 0.10 08/25/20 10:20 0.026 mg/L

Eurofins TestAmerica, Pittsburgh

Page 50 of 95

10

Prep Type: Total/NA RPD

Client Sample ID: ARGWC-10 Prep Type: Total/NA

Client Sample ID: ARGWC-17

90 - 110

Project/Site: CCR - Plant Arkwright

Lab Sample ID: LCS 180-326917/17

Job ID: 180-109846-1

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

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

Matrix: Water

Analysis Batch: 326917

Spike LCS LCS %Rec. Added Result Qualifier Unit %Rec Limits Analyte D Fluoride 2.50 2.40 mg/L 96 90 - 110

Lab Sample ID: 180-109847-2 MS **Client Sample ID: ARGWA-12** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 326917

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit D %Rec Limits Analyte 2.50 90 - 110 Fluoride 0.041 .1 2.52 mg/L 99

Lab Sample ID: 180-109847-2 MSD Client Sample ID: ARGWA-12 **Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 326917

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Limits **RPD** Analyte Unit %Rec Limit Fluoride 0.041 J 2.50 2.52 99 20 mg/L

Lab Sample ID: MB 180-327077/6 Client Sample ID: Method Blank **Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 327077

MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 0.10 0.026 ma/L 08/26/20 05:39 Fluoride < 0.026

Lab Sample ID: LCS 180-327077/5 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

LCS LCS

Matrix: Water

Analysis Batch: 327077

Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Fluoride 2.50 2.55 102 90 - 110 mg/L

Lab Sample ID: 180-109929-1 MS

Matrix: Water

Analysis Batch: 327077

Sample Sample Spike MS MS %Rec. Result Qualifier Added Analyte Result Qualifier Unit D %Rec Limits 0.054 2.50 Fluoride 2.62 mg/L 102 90 - 110

Lab Sample ID: 180-109929-1 MSD

Matrix: Water

Analysis Batch: 327077

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Limits RPD Limit Analyte Unit D %Rec Fluoride 2.50 0.054 J. 2.48 mg/L 97 90 - 110

Lab Sample ID: 180-109930-2 MS Client Sample ID: ARAMW-3 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 327077

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Fluoride <0.026 90 - 110 2.50 2.42 mg/L 97

Eurofins TestAmerica, Pittsburgh

Client Sample ID: ARGWC-8

Client Sample ID: ARGWC-8

Prep Type: Total/NA

Prep Type: Total/NA

9/24/2020

10

Job ID: 180-109846-1

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

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

Client Sample ID: ARAMW-3 Lab Sample ID: 180-109930-2 MSD Prep Type: Total/NA

Matrix: Water

Analysis Batch: 327077

RPD Sample Sample Spike MSD MSD %Rec. Result Qualifier Analyte Result Qualifier Added Unit %Rec Limits RPD Limit D Fluoride 2.50 <0.026 2.47 mg/L 99 90 - 110 2

Lab Sample ID: MB 180-327578/6 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 327578

MB MB **MDL** Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac 0.10 0.026 mg/L 08/28/20 13:11 Fluoride < 0.026

Lab Sample ID: LCS 180-327578/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 327578

Spike LCS LCS %Rec. Analyte Added Result Qualifier Limits Unit %Rec Fluoride 2.50 2.43 97 90 - 110 mg/L

Lab Sample ID: 180-109970-2 MS Client Sample ID: ARGWC-21 **Matrix: Water Prep Type: Total/NA**

Analysis Batch: 327578

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Fluoride 0.084 2.50 2.55 90 - 110 mg/L

Lab Sample ID: 180-109970-2 MSD Client Sample ID: ARGWC-21

Matrix: Water

Analysis Batch: 327578

MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added Limits Result Qualifier Unit %Rec Limit Fluoride 0.084 J 2.50 2.75 mg/L 107 90 - 110 20

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

Lab Sample ID: MB 180-327640/1-A Client Sample ID: Method Blank **Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 330300 Prep Batch: 327640

	MB	MB							
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 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

Eurofins TestAmerica, Pittsburgh

9/24/2020

Prep Type: Total/NA

10

Spike

Added

0.250

1.00

1.00

0.500

0.500

0.500

0.500

0.500

0.500

0.500

1.00

1.00

Client: Southern Company Job ID: 180-109846-1 Project/Site: CCR - Plant Arkwright

LCS LCS

0.262

1.05

1.05

0.525

0.525

0.521

0.520

0.526

0.497

0.540

1.01

1.13

mg/L

mg/L

mg/L

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

Lab Sample ID: LCS 180-327640/2-A

Analysis Batch: 330300

Matrix: Water

Analyte

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Cobalt

Lithium

Molybdenum

Selenium

Thallium

Lead

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

Prep Batch: 327640 %Rec. Result Qualifier Unit D %Rec Limits mg/L 105 80 - 120 mg/L 105 80 - 120 mg/L 105 80 - 120 105 80 - 120 mg/L mg/L 105 80 - 120 mg/L 104 80 - 120 104 80 - 120 mg/L mg/L 105 80 - 120 mg/L 99 80 - 120

108

101

113

Lab Sample ID: 180-109846-2 MS

Matrix: Water

Analysis Ratch: 330300

Client Sample ID: ARGWC-15 Prep Type: Total Recoverable

80 - 120

80 - 120

80 - 120

Prep Batch: 327640

Alialysis Batch. 330300	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	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**

								i ieh ne	itteri. 32	-70-0
Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
<0.00038		0.250	0.268		mg/L		107	75 - 125	3	20
< 0.00031		1.00	1.06		mg/L		106	75 - 125	1	20
0.028		1.00	1.09		mg/L		106	75 - 125	1	20
<0.00018		0.500	0.510		mg/L		102	75 - 125	3	20
<0.00022		0.500	0.530		mg/L		106	75 - 125	2	20
<0.0015		0.500	0.518		mg/L		104	75 - 125	1	20
0.00040	J	0.500	0.522		mg/L		104	75 - 125	1	20
< 0.00013		0.500	0.530		mg/L		106	75 - 125	0	20
< 0.0034		0.500	0.496		mg/L		99	75 - 125	3	20
0.0016	J	0.500	0.547		mg/L		109	75 - 125	0	20
<0.0015		1.00	1.01		mg/L		101	75 - 125	0	20
<0.00015		1.00	1.14		mg/L		114	75 - 125	1	20
	Result <0.00038 <0.00031 0.028 <0.00018 <0.00022 <0.0015 0.00040 <0.00013 <0.0034 0.0016 <0.0015	<0.00031 0.028 <0.00018 <0.00022 <0.0015 0.00040 J <0.00013 <0.0034 0.0016 J <0.00015	Result Qualifier Added <0.00038	Result Qualifier Added Result <0.00038	Result Qualifier Added Result Qualifier <0.00038	Result Qualifier Added Result Qualifier Unit <0.00038	Result Qualifier Added Result Qualifier Unit D <0.00038	Result Qualifier Added Result Qualifier Unit D %Rec <0.00038	Sample Result Result Qualifier Added Added Result Qualifier Qualifier Unit Unit Unit Unit Unit Unit Unit Unit	Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD <0.00038

Eurofins TestAmerica, Pittsburgh

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

	MB	MB							
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 17:35	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

Result Qualifier RLMDL Unit Dil Fac Analyte Prepared Analyzed 0.080 08/28/20 15:10 09/18/20 12:56 Boron <0.039 0.039 mg/L

MB MB

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Antimony	0.250	0.259	-	mg/L		103	80 - 120	
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		ma/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

	Spike	LCS	LCS		%Rec.
Analyte	Added	Result	Qualifier Unit	t D %	Rec Limits
Boron	1.25	1.19	mg/	L	95 80 - 120

Eurofins TestAmerica, Pittsburgh

Page 54 of 95

Client: Southern Company Job ID: 180-109846-1 Project/Site: CCR - Plant Arkwright

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

Analysis Dateil. 000000									i lep batell. 02/042
	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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

Allalysis Datell. 330300									i ieb De	Datcii. 327 04	
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

	MB	MB							
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 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	٨	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
Boron Cadmium Calcium Chromium Cobalt Lead Lithium Molybdenum	<0.039 <0.00022 <0.13 <0.0015 <0.00013 <0.00013 <0.00034 <0.00061		0.080 0.0025 0.50 0.0020 0.0025 0.0010 0.0050 0.015	0.039 0.00022 0.13 0.0015 0.00013 0.00013 0.0034 0.00061	mg/L mg/L mg/L mg/L mg/L mg/L mg/L		09/01/20 16:00 09/01/20 16:00 09/01/20 16:00 09/01/20 16:00 09/01/20 16:00 09/01/20 16:00 09/01/20 16:00 09/01/20 16:00	09/10/20 00:30 09/10/20 00:30 09/10/20 00:30 09/10/20 00:30 09/10/20 00:30 09/10/20 00:30 09/10/20 00:30 09/10/20 00:30	1 1 1 1 1 1 1 1

Eurofins TestAmerica, Pittsburgh

Page 55 of 95

Job ID: 180-109846-1 Project/Site: CCR - Plant Arkwright

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

Matrix: Water

Analysis Batch: 329135

Client Sample ID: Method Blank Prep Type: Total Recoverable Prep Batch: 328062 MB MB

Result Qualifier Analyte **MDL** Unit Prepared Analyzed Dil Fac Thallium < 0.00015 0.0010 0.00015 mg/L 09/01/20 16:00 09/10/20 00:30

Lab Sample ID: MB 180-328062/1-A

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

MB MB Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac Analyte Boron <0.039 0.080 0.039 mg/L 09/01/20 16:00 09/11/20 22:27 Chromium <0.0015 0.0020 0.0015 mg/L 09/01/20 16:00 09/11/20 22:27

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

PB PB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Antimony <0.00038 0.0020 0.00038 mg/L 09/01/20 16:00 09/10/20 00:37 0.0010 0.00031 mg/L Arsenic < 0.00031 09/01/20 16:00 09/10/20 00:37 Barium < 0.0016 0.010 0.0016 mg/L 09/01/20 16:00 09/10/20 00:37 Beryllium 0.00018 mg/L 09/01/20 16:00 09/10/20 00:37 <0.00018 0.0025 Cadmium 0.00022 mg/L <0.00022 0.0025 09/01/20 16:00 09/10/20 00:37 Chromium 0.0020 0.0015 mg/L 09/01/20 16:00 09/10/20 00:37 < 0.0015 Cobalt 0.00013 mg/L 09/01/20 16:00 09/10/20 00:37 < 0.00013 0.0025 Lead < 0.00013 0.0010 0.00013 mg/L 09/01/20 16:00 09/10/20 00:37 0.0050 0.0034 mg/L 09/01/20 16:00 09/10/20 00:37 Lithium < 0.0034 Molybdenum <0.00061 0.015 0.00061 mg/L 09/01/20 16:00 09/10/20 00:37 Selenium <0.0015 0.0050 0.0015 mg/L 09/01/20 16:00 09/10/20 00:37 Thallium 0.000185 J 0.0010 0.00015 mg/L 09/01/20 16:00 09/10/20 00:37

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	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	

10

Client: Southern Company Job ID: 180-109846-1 Project/Site: CCR - Plant Arkwright

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

Lab Sample ID: LCS 180-328062/2-A

Matrix: Water

Prep Type: Total Recoverable Analysis Batch: 329571 **Prep Batch: 328062** Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits Boron 1.25 80 - 120 1.32 mg/L 105

Lab Sample ID: 180-109930-2 MS

Matrix: Water

Analysis Batch: 329135

Client Sample ID: ARAMW-3 Prep Type: Total Recoverable Prep Batch: 328062

Client Sample ID: Lab Control Sample

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	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	٨	0.500	0.548	٨	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

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	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	٨	0.500	0.543	٨	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**

	MB	MB							
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 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

9/24/2020

Page 57 of 95

Job ID: 180-109846-1 Project/Site: CCR - Plant Arkwright

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

, i	MB MB						•	
Analyte Res	ult Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt <0.000	13	0.0025	0.00013	mg/L		09/01/20 16:08	09/04/20 21:35	1
Lead <0.000	13	0.0010	0.00013	mg/L		09/01/20 16:08	09/04/20 21:35	1
Lithium <0.00	34	0.0050	0.0034	mg/L		09/01/20 16:08	09/04/20 21:35	1
Molybdenum <0.000	61	0.015	0.00061	mg/L		09/01/20 16:08	09/04/20 21:35	1
Selenium <0.00	15	0.0050	0.0015	mg/L		09/01/20 16:08	09/04/20 21:35	1
Thallium <0.000	15	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

_	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %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 0.500 0.482 Cadmium 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

10

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

Prep Batch: 328121

Prep Batch: 328121

Prep Type: Total/NA

Prep Batch: 328515

Client Sample ID: Method Blank

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared <0.00013 ^ 0.00020 09/02/20 05:45 09/02/20 15:07 Mercury 0.00013 mg/L

Lab Sample ID: LCS 180-328121/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Prep Batch: 328121**

Analysis Batch: 328261 Spike LCS LCS %Rec.

Added Result Qualifier Unit D %Rec Limits Analyte 0.00250 0.00297 ^ 80 - 120 Mercury mg/L 119

Lab Sample ID: 180-109846-1 MS Client Sample ID: ARGWA-14 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 328261

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Limits Analyte Unit %Rec Mercury <0.00013 ^ 0.00100 0.00118 ^ 75 - 125 mg/L

Lab Sample ID: 180-109846-1 MSD Client Sample ID: ARGWA-14 **Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 328261

Spike MSD MSD %Rec. **RPD** Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit <0.00013 ^ 0.00100 0.00120 ^ 75 - 125 Mercury mg/L 120

Lab Sample ID: MB 180-328515/1-A

Matrix: Water

Analysis Batch: 328649

MR MR

RL **MDL** Unit Analyte Result Qualifier Prepared Analyzed Dil Fac 0.00020 0.00013 mg/L 09/04/20 08:35 09/05/20 09:24 Mercury < 0.00013

Lab Sample ID: LCS 180-328515/2-A

Matrix: Water

Analysis Batch: 328649

Spike LCS LCS %Rec. Added Result Qualifier Limits Analyte Unit D %Rec 0.00250 0.00253 80 - 120 Mercury mg/L 101

Lab Sample ID: MB 180-328516/1-A

Matrix: Water

Analysis Batch: 328649

MB MB

Result Qualifier RL **MDL** Unit **Prepared** Dil Fac Analyte Analyzed <0.00013 0.00020 09/04/20 08:35 09/05/20 09:51 Mercury 0.00013 mg/L

Lab Sample ID: LCS 180-328516/2-A

Matrix: Water

Analysis Batch: 328649

Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier Unit %Rec Mercury 0.00250 0.00255 80 - 120 mg/L 102

Eurofins TestAmerica, Pittsburgh

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Prep Type: Total/NA **Prep Batch: 328515**

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 328516

Prep Type: Total/NA

Prep Batch: 328516

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

Prep Type: Total/NA

Prep Batch: 328636

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte **Prepared** 0.00020 09/05/20 06:15 09/07/20 08:30 Mercury <0.00013 0.00013 mg/L

Lab Sample ID: LCS 180-328636/2-A **Client Sample ID: Lab Control Sample**

0.00250

Matrix: Water

Analyte

Mercury

Analysis Batch: 328684

Spike LCS LCS Added

0.00263

Result Qualifier

Unit mg/L

D %Rec 105

%Rec. Limits 80 - 120

Lab Sample ID: PB 180-326831/1-F **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 328649

PB PB

Analyte Result Qualifier

RL

MDL Unit

Prepared

Analyzed

Prep Type: Dissolved

Prep Batch: 328516

Dil Fac

Mercury <0.00013 0.00020 0.00013 mg/L 09/04/20 08:35 09/05/20 10:02

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

Lab Sample ID: MB 180-326608/2 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 326608

MB MB

MDL Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac **Total Dissolved Solids** <10 10 10 mg/L 08/21/20 11:11

Lab Sample ID: LCS 180-326608/1 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 326608

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit Limits Total Dissolved Solids 567 602 mg/L 106 80 - 120

Lab Sample ID: MB 180-326682/2

Matrix: Water

Analysis Batch: 326682

MB MB

MDL Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac 10 mg/L 10 08/22/20 08:11 **Total Dissolved Solids** <10

Lab Sample ID: LCS 180-326682/1

Matrix: Water

Analysis Batch: 326682

Total Dissolved Solids

Spike Added 567

LCS LCS Result Qualifier 562

Unit mg/L

%Rec. %Rec Limits 99 80 - 120

Client Sample ID: Lab Control Sample

Eurofins TestAmerica, Pittsburgh

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

Client: Southern Company

Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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 180-109846-1	Client Sample ID ARGWA-14	Prep Type Total/NA	Matrix Water	Method Prep Batch 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 F	rep 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

Page 61 of 95

2

3

4

<u>ی</u>

7

10

11

Ľ

1

QC Association Summary

Client: Southern Company

Job ID: 180-109846-1 Project/Site: CCR - Plant Arkwright

HPLC/IC (Continued)

Analysis Batch: 326917 (Continued)

١	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 180-109929-2	Client Sample ID ARGWC-18	Prep Type Dissolved	Matrix Water	Method Prep Batch 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

9/24/2020

Page 62 of 95

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

9/24/2020

Page 63 of 95

Client: Southern Company

Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

Metals (Continued)

Prep Batch: 328121 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109850-1	ARGWA-5	Total/NA	Water	7470A	
180-109850-2	ARGWA-3	Total/NA	Water	7470A	
180-109850-3	ARGWC-7	Total/NA	Water	7470A	
180-109851-1	EB#2	Total/NA	Water	7470A	
180-109851-2	ARGWA-19	Total/NA	Water	7470A	
180-109851-3	ARGWA-20	Total/NA	Water	7470A	
180-109851-4	ARGWC-22	Total/NA	Water	7470A	
MB 180-328121/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-328121/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-109846-1 MS	ARGWA-14	Total/NA	Water	7470A	
180-109846-1 MSD	ARGWA-14	Total/NA	Water	7470A	

Analysis Batch: 328261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109846-1	ARGWA-14	Total/NA	Water	EPA 7470A	328121
180-109846-2	ARGWC-15	Total/NA	Water	EPA 7470A	328121
180-109846-3	ARGWC-16	Total/NA	Water	EPA 7470A	328121
180-109847-1	FB#1	Total/NA	Water	EPA 7470A	328121
180-109847-2	ARGWA-12	Total/NA	Water	EPA 7470A	328121
180-109847-3	ARGWA-13	Total/NA	Water	EPA 7470A	328121
180-109847-4	ARGWC-17	Total/NA	Water	EPA 7470A	328121
180-109848-1	ARGWC-10	Total/NA	Water	EPA 7470A	328121
180-109848-2	DUP-1	Total/NA	Water	EPA 7470A	328121
180-109848-3	ARGWC-9	Total/NA	Water	EPA 7470A	328121
180-109850-1	ARGWA-5	Total/NA	Water	EPA 7470A	328121
180-109850-2	ARGWA-3	Total/NA	Water	EPA 7470A	328121
180-109850-3	ARGWC-7	Total/NA	Water	EPA 7470A	328121
180-109851-1	EB#2	Total/NA	Water	EPA 7470A	328121
180-109851-2	ARGWA-19	Total/NA	Water	EPA 7470A	328121
180-109851-3	ARGWA-20	Total/NA	Water	EPA 7470A	328121
180-109851-4	ARGWC-22	Total/NA	Water	EPA 7470A	328121
MB 180-328121/1-A	Method Blank	Total/NA	Water	EPA 7470A	328121
LCS 180-328121/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	328121
180-109846-1 MS	ARGWA-14	Total/NA	Water	EPA 7470A	328121
180-109846-1 MSD	ARGWA-14	Total/NA	Water	EPA 7470A	328121

Prep Batch: 328515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109930-3	ARAMW-4	Total/NA	Water	7470A	
MB 180-328515/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-328515/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 328516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total/NA	Water	7470A	
180-109918-2	ARGWC-23	Total/NA	Water	7470A	
180-109918-3	DUP-2	Total/NA	Water	7470A	
180-109918-4	ARAMW-1	Total/NA	Water	7470A	
180-109918-5	ARAMW-2	Total/NA	Water	7470A	
180-109929-1	ARGWC-8	Total/NA	Water	7470A	
180-109929-2	ARGWC-18	Dissolved	Water	7470A	326831

Eurofins TestAmerica, Pittsburgh

Page 64 of 95 9/24/2020

5

7

1 N

11

12

13

QC Association Summary

Client: Southern Company

Job ID: 180-109846-1 Project/Site: CCR - Plant Arkwright

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 180-109970-1	Client Sample ID ARAMW-6	Prep Type Total/NA	Matrix Water	Method EPA 7470A	Prep Batch 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 I	Prep Batch
180-109970-1	ARAMW-6	Total Recoverable	Water	EPA 6020B	328065
180-109970-2	ARGWC-21	Total Recoverable	Water	EPA 6020B	328065
MB 180-328065/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	328065
LCS 180-328065/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	328065

Analysis Batch: 329135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-109918-1	FB#2	Total Recoverable	Water	EPA 6020B	328062
180-109918-2	ARGWC-23	Total Recoverable	Water	EPA 6020B	328062

Eurofins TestAmerica, Pittsburgh

Client: Southern Company

Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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

Page 66 of 95

3

4

6

9

12

13

Ш

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 180-109851-4	Client Sample ID ARGWC-22	Prep Type Total Recoverable	Matrix Water	Method EPA 6020B	Prep Batch 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

Page 67 of 95 9/24/2020

3

4

F

6

9

10

11

12

1

QC Association Summary

Client: Southern Company

Job ID: 180-109846-1

Project/Site: CCR - Plant Arkwright

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	

4

6

9

10

11

13

P - Na204S O Na2503 S - Na2503 S - H2504 T - TSP DodecalyJris V - MC-A V - MC-A Z - Other (specify) Ver. 01.16/2019 Special Instructions/Note: 244- ATLANTA Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client

Disposal By Lab
Month =6,62 1 = 6,47 - Amchlor - Ascorbic Acid 180-109846 Chain of Custody Total Number of containers Analysis Requested oder Temparature(s) "C and Other Remarks Special Instructions/OC Requirements ceived by (935) (315) (325) (326) Chain of Custody Record DHEWEZZA, EG L. 11 Ro, A Shared to Brown, Shall From eld Filtered Sample (Yes or No.) Type (Waynear, Seattle (C=comp, O=vasterout, G=grab) BT** (C=comp, C=comp, C=c Preservation Code: Company Sompany Сотралу 3 3 Radiological Sample 00 8/19/20/1815 1205 1005 Saniple 8/19/20 1355 Unknown TAT Requested (days): Due Date Requested: Sample Date Project # 18020201 SSO-W# Poison B Skin Irritant Detiverable Requested 1, II, III, IV, Other (specify) Custody Seal No. Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468 ARGWC-15 ARGWC-16 ARGWA-IH Possible Hazard Identification

Non-Hazard Cammable Empty Kit Relinquished by Daniel K House ddress 241 Raiph McGill Blvd SE Custody Seals Intact. Client Information Sample Identification CR - Plant Arkwright (04-508-7116(Tel) Hent Contact ICS Contacts SCS Contacts quistied by State, Zip GA, 30308 GA Power Atlanta

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238

Phone (412) 963-7058 Fax (412) 963-2468

244- ATLANTA

0 - AsNaO2 P - Na2O4S G - Na2S2O3 R - Na2S2O3 S - H2SO4 U - Aceforne V - MCAA W - PH 4-5 Z - Other (specify) Special Instructions/Note: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Sisposal By Lab Archive For. Month 3 pH=6.48 3 pH=6.15 3 pH=5.07 reservation Codes Total Number of containers 180-109847 Chain of Custody Analysis Requested ooler Temperature(s) C and Other Remarks Special Instructions/QC Requirements April mdal 60203 + Hg 7170A Fligoride 300-000 MADAO Rahin 226/228(9312/9320) eceived by eceived by. DHO ward E Gulka, ASharek & Brown, Shall Woulthis Preservation Code 33 3 Radiological Type (C=comp, G=grab) Sample 1300 1445 Sample 8/18/20 1100 Standard Unknown TAT Requested (days) Due Date Requested: Sample Date Project # 18020201 SSOW# Poison B Skin Irritant Custody Seal No. ARGWA-12 ARGWA-13 4RGWC-17 Flammable Possible Hazard Identification Barnel of Athor 241 Ralph McGill Blvd SE ustody Seals Intact. △ Yes △ No Client Information 8 井 1 Sample Identification Project Name. CCR - Plant Arkwright Phone 404-506-7116(Tel) Ema SCS Contacts SCS Contacts quished by State, Zip. GA, 30308 GA Power Atlanta

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238

- H2SO4 - TSP Dodecahydrate Ver. 01/16/2019 Special Instructions/Note: 244- ATLANTA 0 - ASNBO2 P - NB2O4S Q - NB2SO3 R - NB2S2O3 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Return To Client X Disposal By Lab Archive For Month DH-7.06 PH= 7.06 180-109848 Chain of Custody Archive For ette Total Mumber of containers Analysis Requested saler Temperature(s) "C and Other Remarks Special Instructions/QC Requirements Return To Client hall brown@eurofinset.com yd baylece +(0209 DHOWALL, EGiller AShore Brown, Shall Type (Waster, September (G=Comp.) G=wasterbold (G=Grab.) Birtissue, Aufor) Proservation Code: Matrix упедто Company 3 3 Radiological Sample Saniple 1425 8 19/20 1135 Unknown FAT Requested (days): Due Date Requested: Sample Date Project# 18020201 SSC√V# Poison B Skin Imitant ARGWC-16 Deliverable Requested: I, II, III, IV, Other (specify) 5 WC-9 Custody Seal No. Phone (412) 963-7058 Fax (412) 963-2468 Flammable Dem KHowen Rossible Hazard Identification Empty Kit Relinquished by 444 Ralph McGill Blvd SE Custody Seals Intact.
A Yes A No Client Information ample Identification oject Name CCR - Plant Arkwright 404-506-7116(Tet) Clent Contact SCS Contacts quished by SCS Contacts State 2/p GA, 30308 GA Power Atlanta

Phone (412) 963-7058 Fax (412) 963-2468				TING.
Client Information	The send EGwillen, AShered to Brown, Shall	ore Lab PM Brown, Shall	Carner Tracking No(s)	COC No
Chert Contact SCS Contacts	Phone	E-Mail Shall brown	E-Mail Strait brown@eurofinset.com	Pette of
Campariy GA Power			Analysis Requested	Job #
Address 241 Raiph McGill Blvd SE	Due Date Requested:		(02	18
Sity Atlanta	TAT Requested (days):		282 328 01.h	A - HCL M - Hexane B - NaOH N - None C - Zn Acerate O - ASNBO2
State, Zip GA, 30308			MAG USE	
Prioris 404-506-7116(Tel)	DO#	(0	OKC	
Email SCS Contacts	ACV #	- Companies and	-01 020	I - Ice J - DI Water
Poped Name CCR - Plant Arkwright	Project # 18920201	mari democratico) १९/९	K-EDTA L-EDA
Site Georgia	SSOW	Activities Significant	3/2	of con
	Sanple	Matrix (Wessell (Wess	m TI age	redinul isk
Sample Identification	Sample Date Time G=grab)	ation Code:	1	Special Instructions/Note:
ARGWA-5	8/18/20 1135 G	3		3 off = 6,18
ARGWA-3	1320	3		11
AAGWC-7		3		3 pH = 6.70
				180-109850 Chain of Custody
Possible Hazard Identification	Doison R Inknown Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Apisoosal By Lab Month	s are retained fonger than 1 month) Archive For
/, Other (specify)			Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Methos of	
Reinquished A Hower S Reinquished by	8/18/20/1730	Word EtTS	Received by Collection Datestime Received by Collections	30
Relinquished by	Батэ/Гина.	Сапрапу	Received by Date/Time	# 20
			Cooler Temperature(s) *C and Oriver Remarks	
A Yes A No	ARREST MATERIAL CONTRACTOR AND ARREST MATERIAL CONTRACTOR ARREST AND ARREST MATERIAL CONTRACTOR AND ARREST MATERIAL CONTRACT			Ver (01/16/2019

Eurofins TestAmerica, Pittsburgh

2

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238

TSP Dodecahydrate Special Instructions/Note: 244- ATLANTA N - None O - AsNaD2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 ompany Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Sisposal By Lab Archive For. Month 6009 180-109918 Chain of Custody Archive For m mm c Total Number of containers Analysis Requested Special Instructions/QC Requirements DAGUM 224/28(328)+Hg(MY) DAGUM 224/28(4315) ACACUM (300) Habberde, 24/15/26, Flooride (300) DOHEL 2GT H (00E) 26/17/24(4) XX 4××× 4××× 4××× yd Leviece Lab PM Brown, Shall E-Mail Shall brown@e Wood Type (N-with)

Second, O-washing

G=grab) BETISSON ANALY 33 Preservation Code: Matrix Company 33 Radiological Sample 0 8/20/20/1840 1436 1215 1635 8/20/20 1045 Saniple Unknown TAT Requested (days): Due Date Requested: DHoward Sample Date Project # 18020201 Poison B Skin Irritant Ilverable Requested: I, II, IV, Other (specify) Custody Seal No Phone (412) 963-7058 Fax (412) 963-2468 ARGWC-23 Flammable Possible Hazard Identification F8#2 mpty Kit Relinquished by 241 Raiph McGill Blvd SE Custody Seals Intact A Yes A No Client Information Sample Identification CR - Plant Arkwrigh 104-505-7116(Tel) Famile Strain itent Contact ICS Contacts quishedthy State Zip GA, 30308 GA Power Atlanta

Assa 22 Na2045 Na2033 - Na2803 - H2804 T - ISP Dudecahydrat U - Acchonse W - pH 4-5 Z - other (specify) Special Instructions/Note: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Spisposal By Lab Mont PH= 6.43 244- ATLANTA 180-109929 Chain of Custody reservation Total Number of containers Analysis Requested coler Temperature(s) °C and Other Remarks × × × × × ApplImeto + Holeo 2018 HTOD saived by Chain of Custody Record EVEC CAN ILED, A Shored, to Brown, Shall Wood 33 Radiological G=grab) (C=comp Type 00 11840 8/20/20 1035 8/20/20 1705 Sample Unknown TAT Requested (days) Due Date Requested 8/20/20 Sample Date Project# 18020201 Poison B Skin Imitant Custody Seal No. Phone (412) 963-7058 Fax (412) 963-2468 ARGWC-8 ARGWC-18 Flammable Soun-Hazard Identification 241 Ralph McGill Blvd SE Custody Seals Intact.

Δ Yes Δ No Client Information Sample Identification Pittsburgh, PA 15238 CCR - Plant Arkwright 404-505-7116(Tel) Complete Com SCS Contacts State Zip GA, 30308 **SA Power**

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh	
TestAmerica,	ve RIDC Park
irofins	Aloha Dox

Eurofins TestAmerica, Pittsburgh				
301 Alpha Drive RIDC Park Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 983-2468	Chain of Custody Record	stody Rec		244- ATLANTA
Client Information	Sampler C A. Las Sample Brown Shall	Lab PM	JOURNAL TO THE PROPERTY OF THE	COC No.
Clear Contact SCS Contacts	Phone Coll of Hotel	E-Mail Shail brov	E-Mail Shait browingewolmset oom	Page
Simpan GA Power	manning) is make the first for the Antonia de Antonia de Landerson de la manning sou de Antonia e Landerson		Analysis Requested	Job #
Address 241 Raiph McGill Blvd SE	Due Date Requested:		OZ.	16
ं। Atlanta State, Zip	TAT Requested (days):		E\$/51E H4/80	A + HCL M - Haxane B + NaOH N - Naone C - Zh Acetate O - AsNaO2 D Natric And P - Na2CutS
GA, 30308 Privine 404-506-7116(Tet)	PO#		485	
Errai. SCS Contacts	WO #	who wrome.	2/9 6H-	1 - Koe J - Di Water
CCR - Plant Arkwright	Project # 18020201	UR UMBUJERNED	+210	K - EDTA L - EDA
Georgia	SSOVA	100	131	00 to
Sample Identification	Sample Sample (C=comp. Sample Date Time G=grab)	Matrix Coversor Strates Coversor Covers	MI GOTAL	Number Special Instructions/Note:
E8并 !	8/20/20 0930 6	3	XXX	
ARAMW-3	1443	3	×××	pH=6,24
ARAMW-H	1145 6	3	X	TT.S= Hq
			180-109	180-109930 Chain of Custody
Possible Hazard Identification Non-Hazard Flammable Skin Irritant Perpenditure Commended III III IV Other (specify)	Poison B Unknown Radiological		Sample Disposal (A fee may be assessed it samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Month Special Instructions/OC Requirements:	ere retained longer than 1 month) Archive For: Months
Empty Kit Relinquished by:	Date:	Tig	Method of Shipment	та по пределения пределения в переставления в пределения в пределения в пределения в пределения в пределения в П.Т.
Form L Howard	8/20/20 / 18 40	Compay of	Bunandy	18 - 71-30 Conjument A. A.
Reinquared by Reinquared by	Datafine	Сопрату	reactived by Dalchmile Dalchmile	Ty Company
Custody Seals Infact. Custody Seal No.		The second secon	erature(s) ⁹ C and Oner Remens	
A Yes A No	AND AND AND AND AND AND AND AND AND AND	A SPECIAL SERVICE STATE	And the second commence of the second	Ver 01/16/2015

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238

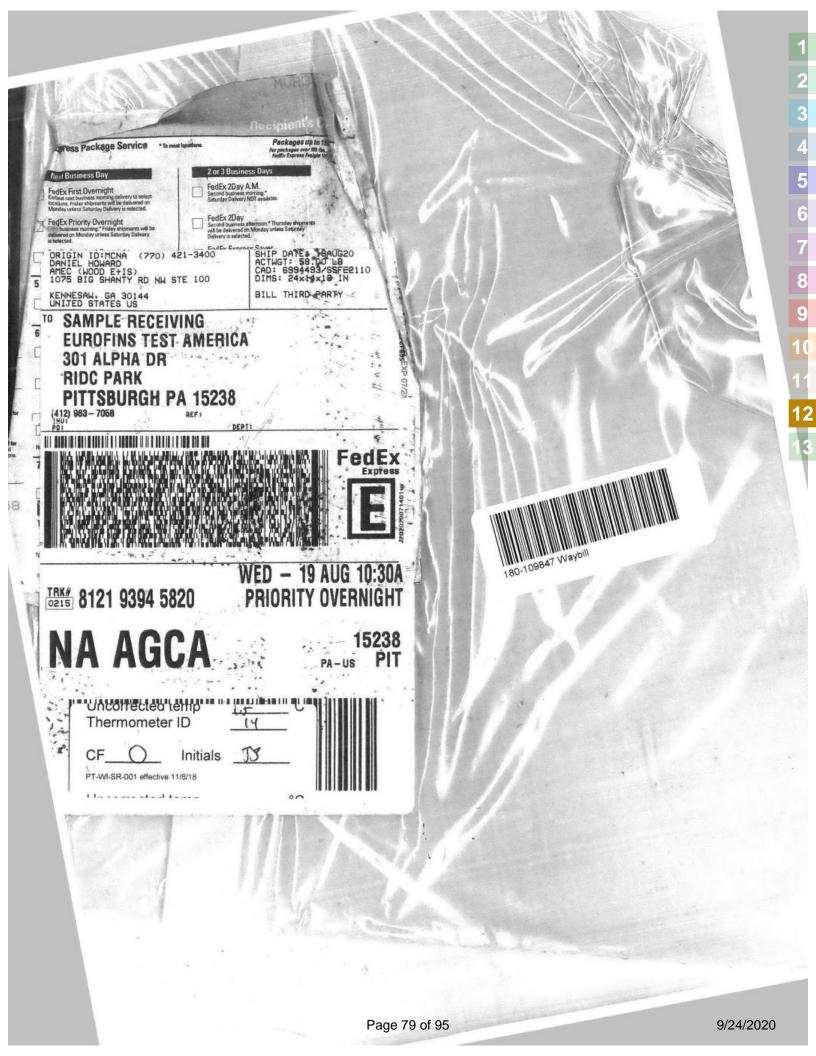
Phone (412) 953-7058 Fax (412) 953-2468

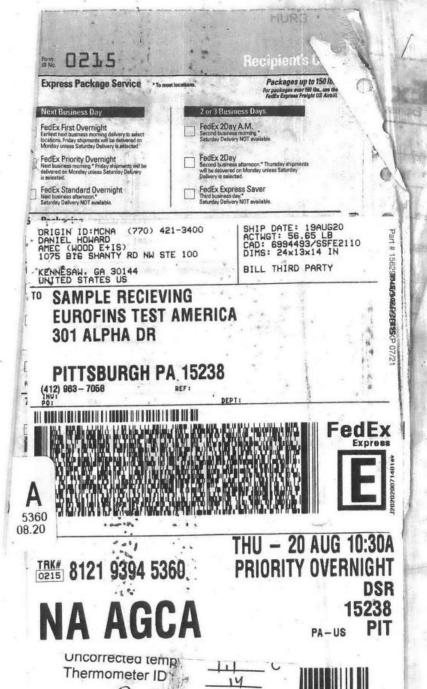
244- ATLANTA

- Assago - Na2045 - Na2045 - Na2004 - Harsood T TSP Dodecatydral U Acebrae V MCAA W - PH 4-6 Z - other (speofy) Special Instructions/Note Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Sisposal By Lab Month reservation Codes 180-109970 Chain of Custody 1 w Water Analysis Requested colar Temperature(s) °C and Other Remarks Special Instructions/QC Requirements sceived by. Mathat + Hy (602018 1720A) Lab PM Brown, Shall E-Mail Shall, b Matrix ompany Radiological G=grab) (C=Comp, Sample OHoward, Ashoredits 1036 8/21/20045 Sample Standard Unknown (AT Requested (days): Oue Date Requested: Sample Date Project #. 18020201 SSOW#. Poison B Skin.Irritant Deliverable Requested I, III, IV, Other (specify) Custody Seal No. Possible Hazard Identification ARAMW-6 ARG WC-21 mpty Kit Relinquished by. 241 Ralph McGill Blvd SE Custody Seals Intact Client Information Sample Identification Project Name CCR - Plant Arkwright 404-508-7116(Tel) Commercial by SCS Contacts SCS Contacts quished by Atlanta State, Zip, GA, 30308 GA Power









PT-WI-SR-001 effective 14/8/18

CF

Env Tes

BILL THIRD PARTY

RIDC PARK PITTSBURGH PA 15238



TRK# 8121 9394 5830

15238

NA AGCA

Uncorrected temp Thermometer ID





Align Open End of FedEx Pouch Here



RD NW STE 100

BILL THIRD PARTY

EUROFINS TEST AMERICA 301 ALPHA DR

PITTSBURGH PA 15238



TRK# 8121 9394 5841

THU - 20 AUG 10:30A

15238

NA AGCA



uncorrected temp Thermometer ID PT-WI-SR-001 effective 11/8/18







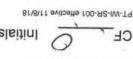
BILL THIRD PARTY

EUROFINS TEST AMERICA EUROFINS TEST AMERICA

TADINAS YADRUTAS THOIRG

8151 9394 2348

Uncorrected ramp



84102 SIVINCSO MCHY ÉGBCS/1180/02VS

Job Number: 180-109846-1

Login Number: 109846 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Job Number: 180-109846-1

Login Number: 109847

List Number: 1

Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Job Number: 180-109846-1

Login Number: 109848

List Number: 1

Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

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.</td <td>N/A</td> <td></td>	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	

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.</td <td>N/A</td> <td></td>	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	

Job Number: 180-109846-1

Login Number: 109918 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Job Number: 180-109846-1

Login Number: 109929 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Cleator. Watson, Debble		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Job Number: 180-109846-1

Login Number: 109930 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1		
Creator: Watson, Debbie		

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Job Number: 180-109846-1

Login Number: 109970

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Answer	Comment
N/A	
True	
N/A	
	N/A True True True True True True True Tru

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

Review your project results through

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

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-109846-2

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	6
Certification Summary	7
Sample Summary	8
Method Summary	9
Lab Chronicle	10
Client Sample Results	19
QC Sample Results	48
QC Association Summary	55
Chain of Custody	58
Pacaint Chacklists	77

11

12

13

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:

7

9

10

12

1

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)

Eurofins TestAmerica, Pittsburgh 10/8/2020

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.

5

6

9

1 4

12

13

Definitions/Glossary

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Qualifiers

R	а	d

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 ma	v or mav r	not be prese	nt in this report
ADDIGNICION	THESE COMMISSIONS	, useu abbievialions ina	y Oi iiiay i	IOL DE PIESE	III III UIII I IOPOI L

¤ Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery **CFL** Contains Free Liquid Colony Forming Unit CFU **CNF** Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor**

Detection Limit (DoD/DOE) DΙ

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

Decision Level Concentration (Radiochemistry) DLC

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) Most Probable Number MPN 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**

Relative Error Ratio (Radiochemistry) RER

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) Toxicity Equivalent Quotient (Dioxin) **TEQ**

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

5

9

10

4.6

13

Sample Summary

Client: Southern Company

180-109930-3

180-109970-1

180-109970-2

ARAMW-4

ARAMW-6

ARGWC-21

Project/Site: CCR - Plant Arkwright

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 08/18/20 14:50 08/20/20 09:30 Water 180-109847-3 ARGWA-13 ARGWC-17 Water 08/18/20 14:45 08/20/20 09:30 180-109847-4 180-109848-1 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 EB#2 Water 08/19/20 09:15 08/20/20 09:30 180-109851-1 180-109851-2 ARGWA-19 Water 08/19/20 10:56 08/20/20 09:30 ARGWA-20 180-109851-3 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 Water 180-109918-4 ARAMW-1 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 ARGWC-8 Water 08/20/20 10:35 08/21/20 09:45 180-109929-1 180-109929-2 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

Water

Water

Water

08/20/20 11:45 08/21/20 09:45

08/21/20 09:45 08/22/20 10:00

08/21/20 10:36 08/22/20 10:00

Job ID: 180-109846-2

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

-

4

5

7

8

9

10

1:

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

Client Sample ID: ARGWA-14

Date Collected: 08/19/20 13:55 Date Received: 08/20/20 09:30

Lab Sample ID: 180-109846-1

Lab Sample ID: 180-109846-3

Matrix: Water

Matrix: Water

Matrix: Water

Batch Dil Initial Batch Batch Final Prepared Method Number or Analyzed **Prep Type** Type Run **Factor** Amount **Amount** Analyst Lab Total/NA PrecSep-21 1000.10 mL 480640 08/24/20 15:59 AVB TAL SL Prep 1.0 g Total/NA 482515 TAL SL 9315 09/15/20 11:21 SCB Analysis 1 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 482102 09/10/20 12:19 SCB TAL SL Instrument ID: GFPCBLUE Total/NA 09/17/20 10:50 CAH Analysis Ra226_Ra228 482641 TAL SL Instrument ID: NOEQUIP

Client Sample ID: ARGWC-15 Lab Sample ID: 180-109846-2

Date Collected: 08/19/20 10:05

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			482515	09/15/20 11:21	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.48 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			482102	09/10/20 12:19	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			482641	09/17/20 10:50	CAH	TAL SL

Client Sample ID: ARGWC-16

Date Collected: 08/19/20 12:05

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			482515	09/15/20 11:22	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.56 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			482102	09/10/20 12:20	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL

Client Sample ID: FB#1 Lab Sample ID: 180-109847-1 **Matrix: Water**

Date Collected: 08/18/20 11:00

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 Instrumen	9315 t ID: GFPCRED		1			482515	09/15/20 11:22	SCB	TAL SL

Eurofins TestAmerica, Pittsburgh

Page 10 of 94

10/8/2020

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

Lab Sample ID: 180-109847-1 Client Sample ID: FB#1

Date Collected: 08/18/20 11:00 **Matrix: Water** Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumen	9320 at ID: GFPCBLUE		1			482102	09/10/20 12:20	SCB	TAL SL
Total/NA	Analysis Instrumen	Ra226_Ra228 at ID: NOEQUIP		1			482641	09/17/20 10:50	CAH	TAL SL

Lab Sample ID: 180-109847-2 Client Sample ID: ARGWA-12

Date Collected: 08/18/20 13:00 **Matrix: Water**

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	nt 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
	Instrumer	nt ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
	Instrumer	nt ID: NOEQUIP								

Lab Sample ID: 180-109847-3 **Client Sample ID: ARGWA-13**

Date Collected: 08/18/20 14:50 Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	t 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
	Instrumer	t ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
	Instrumer	nt ID: NOEQUIP								

Client Sample ID: ARGWC-17 Lab Sample ID: 180-109847-4

Date Collected: 08/18/20 14:45 Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	t 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
	Instrumer	t ID: GFPCBLUE								

Eurofins TestAmerica, Pittsburgh

Page 11 of 94

Matrix: Water

10/8/2020

Project/Site: CCR - Plant Arkwright

Client: Southern Company

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	nt 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
	Instrumer	nt ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			482641	09/17/20 10:50	CAH	TAL SL
	Instrumer	nt ID: NOEQUIP								

Lab Sample ID: 180-109848-2 **Client Sample ID: DUP-1**

Date Collected: 08/19/20 00:00 **Matrix: Water**

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			482515	09/15/20 11:23	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.10 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPURPLE		1			482071	09/10/20 12:22	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			482641	09/17/20 10:50	CAH	TAL SL

Lab Sample ID: 180-109848-3 **Client Sample ID: ARGWC-9**

Date Collected: 08/19/20 14:25 Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 at ID: GFPCRED		1			482515	09/15/20 13:55	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.50 mL	1.0 g	480651	08/24/20 18:23	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 at ID: GFPCPURPLE		1			482071	09/10/20 12:22	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			482641	09/17/20 10:50	CAH	TAL SL

Eurofins TestAmerica, Pittsburgh

Page 12 of 94

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-109850-1 **Client Sample ID: ARGWA-5**

Date Collected: 08/18/20 11:35 **Matrix: Water**

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCPURPLE	Ē	1			482643	09/16/20 08:04	SCB	TAL SL
Total/NA	Prep	PrecSep_0			750.08 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			483126	09/21/20 11:52	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			484497	10/02/20 17:53	СММ	TAL SL

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCPURPLE		1			482643	09/16/20 09:50	SCB	TAL SL
Total/NA	Prep	PrecSep_0			749.34 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			483126	09/21/20 11:52	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228		1			484497	10/02/20 17:53	СММ	TAL SL

Client Sample ID: ARGWC-7 Lab Sample ID: 180-109850-3 Date Collected: 08/18/20 15:25

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCBLUE		1			482613	09/16/20 09:49	SCB	TAL SL
Total/NA	Prep	PrecSep_0			750.00 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			483126	09/21/20 11:53	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228		1			484497	10/02/20 17:53	СММ	TAL SL

Client Sample ID: EB#2 Lab Sample ID: 180-109851-1

Date Collected: 08/19/20 09:15

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumen	t ID: GFPCBLUE								

Eurofins TestAmerica, Pittsburgh

Page 13 of 94

Matrix: Water

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

Lab Sample ID: 180-109851-1 Client Sample ID: EB#2

Matrix: Water

Date Collected: 08/19/20 09:15 Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	t ID: GFPCPROTE	AN							
Total/NA	Analysis	Ra226_Ra228		1			484497	10/02/20 17:53	CMM	TAL SL
	Instrumer	nt ID: NOEQUIP								

Lab Sample ID: 180-109851-2 **Client Sample ID: ARGWA-19**

Date Collected: 08/19/20 10:56 **Matrix: Water**

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumen	9315 t ID: GFPCBLUE		1			482613	09/16/20 12:20	SCB	TAL SL
Total/NA	Prep	PrecSep_0			749.87 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis Instrumen	9320 at ID: GFPCBLUE		1			483126	09/21/20 11:53	SCB	TAL SL
Total/NA	Analysis Instrumen	Ra226_Ra228		1			484497	10/02/20 17:53	СММ	TAL SL

Lab Sample ID: 180-109851-3 **Client Sample ID: ARGWA-20**

Date Collected: 08/19/20 13:44 Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 at ID: GFPCBLUE		1			482613	09/16/20 12:21	SCB	TAL SL
Total/NA	Prep	PrecSep_0			749.41 mL	1.0 g	482400	09/14/20 10:14	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 at ID: GFPCBLUE		1			483126	09/21/20 11:53	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			484497	10/02/20 17:53	СММ	TAL SL

Client Sample ID: ARGWC-22 Lab Sample ID: 180-109851-4

Date Collected: 08/19/20 15:32 Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumen	t 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
	Instrumen	t ID: GFPCBLUE								

Eurofins TestAmerica, Pittsburgh

Page 14 of 94

Matrix: Water

Matrix: Water

10/8/2020

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-109851-4 Client Sample ID: ARGWC-22 Date Collected: 08/19/20 15:32

Matrix: Water

Date Received: 08/20/20 09:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumen	9315 nt ID: GFPCRED		1			483033	09/21/20 10:52	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.65 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis Instrumen	9320 nt ID: GFPCPURPLE		1			482946	09/18/20 11:58	SCB	TAL SL
Total/NA	Analysis Instrumen	Ra226_Ra228 nt ID: NOEQUIP		1			483465	09/23/20 12:33	СММ	TAL SL

Lab Sample ID: 180-109918-2 **Client Sample ID: ARGWC-23**

Date Collected: 08/20/20 12:15 Date Received: 08/21/20 09:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumen	9315 t ID: GFPCRED		1			483033	09/21/20 10:52	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.18 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis Instrumen	9320 t ID: GFPCBLUE		1			482957	09/18/20 11:59	SCB	TAL SL
Total/NA	Analysis Instrumen	Ra226_Ra228		1			483465	09/23/20 12:33	СММ	TAL SL

Lab Sample ID: 180-109918-3 **Client Sample ID: DUP-2**

Date Collected: 08/20/20 00:00 Date Received: 08/21/20 09:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 at ID: GFPCRED		1			483033	09/21/20 10:52	SCB	TAL SL
Total/NA	Prep	PrecSep_0			749.11 mL	1.0 g	483141	09/21/20 14:11	RBR	TAL SL
Total/NA	Analysis Instrumer	9320 at ID: GFPCBLUE		1			484399	09/30/20 12:41	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			483465	09/23/20 12:33	CMM	TAL SL

Eurofins TestAmerica, Pittsburgh

Page 15 of 94

Matrix: Water

Matrix: Water

10/8/2020

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright **Client Sample ID: ARAMW-1**

Lab Sample ID: 180-109918-4

Matrix: Water

Date Collected: 08/20/20 14:36 Date Received: 08/21/20 09:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			483033	09/21/20 10:52	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.06 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			482957	09/18/20 12:00	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			483465	09/23/20 12:33	СММ	TAL SL

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 at ID: GFPCRED		1			483033	09/21/20 12:46	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.58 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 at ID: GFPCBLUE		1			482957	09/18/20 12:00	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			483465	09/23/20 12:33	СММ	TAL SL

Lab Sample ID: 180-109929-1 **Client Sample ID: ARGWC-8** Date Collected: 08/20/20 10:35 **Matrix: Water**

Date Received: 08/21/20 09:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			483033	09/21/20 12:46	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.96 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			482957	09/18/20 12:00	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228		1			483465	09/23/20 12:33	СММ	TAL SL

Client Sample ID: ARGWC-18 Lab Sample ID: 180-109929-2

Date Collected: 08/20/20 17:05 Date Received: 08/21/20 09:45

Instrument ID: GFPCRED

_										
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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

Eurofins TestAmerica, Pittsburgh

Page 16 of 94

10/8/2020

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

Client Sample ID: ARGWC-18

Date Collected: 08/20/20 17:05 Date Received: 08/21/20 09:45

Lab Sample ID: 180-109929-2

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumen	9320 t ID: GFPCBLUE		1			482957	09/18/20 12:00	SCB	TAL SL
Total/NA	Analysis Instrumen	Ra226_Ra228 at ID: NOEQUIP		1			483465	09/23/20 12:33	CMM	TAL SL

Client Sample ID: EB#1 Date Collected: 08/20/20 09:30

Date Received: 08/21/20 09:45

Lab Sample ID: 180-109930-1

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			483161	09/22/20 09:54	SCB	TAL SL
Total/NA	Prep	PrecSep_0			749.85 mL	1.0 g	481237	08/31/20 14:14	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPURPLE		1			481801	09/09/20 13:13	CMM	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			484496	10/02/20 17:52	СММ	TAL SL

Client Sample ID: ARAMW-3

Date Collected: 08/20/20 14:45

Date Received: 08/21/20 09:45

Lab Sample ID: 180-109930-2 **Matrix: Water**

Lab Sample ID: 180-109930-3

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	nt 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
	Instrumer	nt ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			484496	10/02/20 17:52	CMM	TAL SL
	Instrumer	nt ID: NOEQUIP								

Client Sample ID: ARAMW-4

Date Collected: 08/20/20 11:45

Date Received: 08/21/20 09:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumen	t 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
	Instrumen	t ID: GFPCPURPLE								

Eurofins TestAmerica, Pittsburgh

Page 17 of 94

Lab Chronicle

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			484496	10/02/20 17:52	CMM	TAL SL

Client Sample ID: ARAMW-6

Lab Sample ID: 180-109970-1 Date Collected: 08/21/20 09:45 **Matrix: Water**

Date Received: 08/22/20 10:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			483033	09/21/20 12:46	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.25 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			482957	09/18/20 12:00	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			483465	09/23/20 12:33	СММ	TAL SL

Lab Sample ID: 180-109970-2 Client Sample ID: ARGWC-21 **Matrix: Water**

Date Collected: 08/21/20 10:36 Date Received: 08/22/20 10:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			483033	09/21/20 12:46	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.57 mL	1.0 g	481085	08/28/20 17:17	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			482957	09/18/20 12:00	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228		1			483465	09/23/20 12:33	СММ	TAL SL

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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - Rac	dium-226 (GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-15

Lab Sample ID: 180-109846-2

Matrix: Water

Date Collected: 08/19/20 10:05 Date Received: 08/20/20 09:30

Method: 9315 - Rad	dium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0702	Ū	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 - F	Radium-228 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Com	bined Rad	dium-226 a	nd Radium	1-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - R	adium-226 (GFPC)								
	·		Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 -		, ,	Count Uncert.	Total Uncert.						
Analyte	Posult	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Allalyte		Qualifier	(20+1-)	(20+/-)	NL _	IVIDC	OIIIL	Fiepaieu	Allalyzeu	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_Ra2	228 - Con	bined Ra	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: FB#1 Lab Sample ID: 180-109847-1

. Matrix: Water

Date Collected: 08/18/20 11:00 Date Received: 08/20/20 09:30

Method: 9315 -	Radium-226 ((GFPC)								
	·	,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - F	Radium-228 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	nbined Rad	dium-226 a	nd Radiun	1-228					
_			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWA-12

Lab Sample ID: 180-109847-2

Matrix: Water

Date Collected: 08/18/20 13:00 Date Received: 08/20/20 09:30

Method: 9315 - Ra	dium-226 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	nbined Rad	dium-226 a	nd Radium	-228					
_			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	bined Ra	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-17

Lab Sample ID: 180-109847-4

Matrix: Water

Date Collected: 08/18/20 14:45 Date Received: 08/20/20 09:30

Method: 9315 - I	Radium-226 ((GFPC)								
	·		Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	bined Rad	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

5

4

5

7

a

3

11

12

1

10/8/2020

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - Rad	dium- <mark>226</mark> (GFPC)	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: DUP-1 Lab Sample ID: 180-109848-2

Matrix: Water

Date Collected: 08/19/20 00:00 Date Received: 08/20/20 09:30

Method: 9315 - Ra	dium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

	- "	o 115	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-9

Lab Sample ID: 180-109848-3

Matrix: Water

Date Collected: 08/19/20 14:25 Date Received: 08/20/20 09:30

Method: 9315 - R		GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	nbined Rad	dium-226 a	nd Radium	-228					
_			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: 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
Date	Received:	08/20/20	09:30

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - F	Radium-228 ((GFPC)	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	bined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - Rac	dium-226 (GFPC)	Count Uncert.	Total Uncert.					
Analyte Radium-226	Result 0.0283	Qualifier U	(2σ+/-) 0.0621	(2σ+/-) 0.0622	1.00 -	MDC 0.114	 Prepared 08/25/20 11:29	Analyzed 09/16/20 09:50	Dil Fac
Carrier Ba Carrier	%Yield 85.8	Qualifier	Limits 40 - 110				Prepared 08/25/20 11:29	Analyzed 09/16/20 09:50	Dil Fac

Method: 9320 - I	Radium-228 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	bined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

1:

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-7

Lab Sample ID: 180-109850-3

Matrix: Water

Date Collected: 08/18/20 15:25 Date Received: 08/20/20 09:30

Method: 9315 - Rac	lium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 Ba Carrier	%Yield 87.3	Qualifier	Limits 40 - 110					Prepared 08/25/20 11:29	Analyzed 09/16/20 09:49	Dil Fac

Analyte	Popult	Qualifier	Count Uncert.	Total Uncert.	RL	MDC	l Init	Prepared	Analvzed	Dil Fac
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	KL _	MIDC	Unit	Prepared	Analyzeu	DII 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_Ra2	228 - Con	nbined Rad	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

+ 228

Client Sample ID: EB#2 Lab Sample ID: 180-109851-1

Date Collected: 08/19/20 09:15

Date Received: 08/20/20 09:30

Matrix: Water

Method: 9315 - Radium-226 (GFPC) Total Count Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ 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 Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac 08/25/20 11:29 09/16/20 09:50 Ba Carrier 84.3 40 - 110

Method: 9320 - Radium-228 (GFPC) Count Total Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed $(2\sigma + / -)$ Dil Fac 0.0971 U* 0.546 pCi/L 08/25/20 12:41 09/09/20 13:23 Radium-228 0.314 0.314 1.00 Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 84.3 40 - 110 08/25/20 12:41 09/09/20 13:23 78.5 40 - 110 08/25/20 12:41 09/09/20 13:23 Y Carrier

Method: Ra226 Ra228 - Combined Radium-226 and Radium-228 Count Total Uncert. Uncert. **Analyte** Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL MDC Unit Prepared Analyzed Dil Fac 0.125 U 0.321 0.321 5.00 0.546 pCi/L 10/02/20 17:53 Combined Radium 226

11:

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - Ra	dium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
		•	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	bined Ra	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWA-20

Lab Sample ID: 180-109851-3 Date Collected: 08/19/20 13:44

Date	Received:	08/20/20	09:30

Method: 9315 - F	Radium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - F	Radium-228 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	ibined Rad	dium-226 a	nd Radium	-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-22 Lab Sample ID: 180-109851-4

Matrix: Water

Date Collected: 08/19/20 15:32 Date Received: 08/20/20 09:30

Method: 9315 - Ra	dium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	nbined Rad	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: FB#2 Lab Sample ID: 180-109918-1

Matrix: Water

Date Collected: 08/20/20 10:45 Date Received: 08/21/20 09:45

Method: 9315 - R	adium-226 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	bined Rad	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

3

5

_

_

A

11

45

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - Rad	dium-226 ((GFPC)	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
		•	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	bined Ra	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - I	Radium-226 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	bined Rad	dium-226 a	nd Radium	n-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Date Received: 08/21/20 09:45

Client Sample ID: ARAMW-1

Lab Sample ID: 180-109918-4 Date Collected: 08/20/20 14:36 **Matrix: Water**

Method: 9315 -	Radium-226	(GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.121		0.104	0.105	1.00	0.155			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	

Method: 9320 - I	Radium-228 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	nbined Rad	dium-226 a	nd Radium	-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

10/8/2020

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARAMW-2

Lab Sample ID: 180-109918-5

Matrix: Water

Date Collected: 08/20/20 16:35 Date Received: 08/21/20 09:45

Method: 9315 - R	adium-226 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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			40 - 110					08/28/20 16:42	09/21/20 12:46	1

Method: 9320 - F	Radium-228 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	nbined Ra	dium-226 a	nd Radiun	n- 228					
_			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - Ra	adium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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)								
			Count Uncert.	Total Uncert.						
	. .,									
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	bined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Date Received: 08/21/20 09:45

Client Sample ID: ARGWC-18 Lab Sample ID: 180-109929-2 Date Collected: 08/20/20 17:05

Method: 9315 - R	adium-226 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 (GFPC)								
		•	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

		ibilica ita		nd Radium	1-220					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - Rac	dium-226 (GFPC)	Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	ibined Rad	dium-226 a	nd Radium	1-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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 - I	Radium-226 ((GFPC)								
	·	,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
Analyte	Rosult	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analvzed	Dil Fac
										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_Ra2	28 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

10/8/2020

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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	;

Method: 9315 - Rad	dium-226 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	228 - Con	nbined Rad	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

10/8/2020

Client: Southern Company Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARAMW-6

Lab Sample ID: 180-109970-1

Matrix: Water

Date Collected: 08/21/20 09:45 Date Received: 08/22/20 10:00

	dium-226 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	bined Ra	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 Job ID: 180-109846-2

Project/Site: CCR - Plant Arkwright

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

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

adium-228 ((GFPC)								
Result	Qualifier	Count Uncert. (2g+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
		` _	``						
0.461		0.264	0.267	1.00	0.394	pCi/L	08/28/20 17:17	09/18/20 12:00	1
%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
93.9		40 - 110					08/28/20 17:17	09/18/20 12:00	1
79.6		40 - 110					08/28/20 17:17	09/18/20 12:00	1
	Result 0.461 %Yield 93.9		Count Uncert.	Count Uncert. Uncert. Uncert. (2σ+/-) Count Uncert. Uncert. Uncert.	Count Uncert. Uncert. Count Uncert. Unc	Count Uncert. Uncert. Uncert. Variety V	Count Uncert. Uncert. Uncert. Count Uncer	Count Uncert. Uncert. Uncert. Count Uncer	

Method: Ra226_Ra	228 - Con	nbined Rad	dium-226 a	nd Radiun	n-228					
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

8

9

10

12

1

2

Job ID: 180-109846-2

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

Flojeci/Site. CCR - Flant Arkwright

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-480640/24-A

Lab Sample ID: LCS 160-480640/1-A

Matrix: Water

Analysis Batch: 482515

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 480640

MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-226 0.04136 Ū 0.0641 0.0642 1.00 0.111 pCi/L 08/24/20 17:59 09/15/20 13:55

Total

Count

MB MB

MB MB

 Carrier
 %Yield
 Qualifier
 Limits

 Ba Carrier
 92.1
 40 - 110

08/24/20 17:59 09/15/20 13:55

Prepared

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Dil Fac

10

Prep Batch: 480640

Analyzed

Total LCS LCS %Rec. **Spike** Uncert. Analyte Added Result Qual $(2\sigma + / -)$ RL %Rec Limits MDC Unit Radium-226 11.3 10.31 1.14 1.00 0.135 pCi/L 75 - 125

LCS LCS

Analysis Batch: 482515

Lab Sample ID: MB 160-480684/10-A Client Sample ID: Method Blank

Matrix: Water

Matrix: Water

Analysis Batch: 482613

Prep Type: Total/NA

Prep Batch: 480684

			Count	Total						
	MB	MB	Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
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
 %Yield Ba Carrier
 Qualifier 87.6
 Limits 40 - 110
 Prepared 08/25/20 11:29
 Analyzed 09/16/20 14:43
 Dil Factorial Fa

Lab Sample ID: LCS 160-480684/1-A

Matrix: Water

Analysis Batch: 482613

Client Sample ID: Lab Control Sample

Prop Batch: 480684

Prep Batch: 480684

Total Spike LCS LCS Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Radium-226 11.3 9.909 1.06 1.00 0.157 pCi/L 87 75 - 125

LCS LCS

 Carrier
 %Yield Ba Carrier
 Qualifier 89.1
 Limits 40 - 110

Lab Sample ID: LCSD 160-480684/2-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Analysis Batch: 482613

Prep Type: Total/NA

Prep Batch: 480684

				Total						
	Spike	LCSD	LCSD	Uncert.				%Rec.		RER
Analyte	Added	Result	Qual	(2σ+/-)	RL	MDC Unit	%Rec	Limits	RER	Limit
Radium-226	11.3	10.37		1.10	1.00	0.119 pCi/L	91	75 - 125	0.21	1

Eurofins TestAmerica, Pittsburgh

Page 48 of 94

10/8/2020

10

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Job ID: 180-109846-2

Prep Type: Total/NA

Prep Batch: 480684

Prep Type: Total/NA

Prep Batch: 481082

0.07

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-480684/2-A

Matrix: Water

Analysis Batch: 482613

LCSD LCSD

Carrier **%Yield Qualifier** Limits 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

Client Sample ID: Lab Control Sample Dup

MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-226 0.04354 0.0772 0.0773 1.00 0.137 pCi/L 08/28/20 16:42 09/21/20 12:46

Total

MB MB

Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 93.6 40 - 110 08/28/20 16:42 09/21/20 12:46

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 160-481082/1-A **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 483033 Prep Batch: 481082**

Total

Spike LCS LCS %Rec. Uncert. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits 75 - 125 Radium-226 11.3 9.948 1.12 1.00 0.128 pCi/L 88

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 84.1 40 - 110

Lab Sample ID: LCSD 160-481082/2-A Client Sample ID: Lab Control Sample Dup

10.11

Count

0.0728

11.3

Count

Matrix: Water

Analysis Batch: 483033

Total **Spike** LCSD LCSD Uncert. %Rec. **RER** Added Result Qual RL **MDC** Unit %Rec Limits Analyte $(2\sigma + / -)$ RER Limit Radium-226 75 - 125

1.14

1.00

0.109 pCi/L

0.151 pCi/L

89

LCSD LCSD

Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 82.9

Lab Sample ID: MB 160-481232/23-A **Client Sample ID: Method Blank**

Matrix: Water

Radium-226

Prep Type: Total/NA Analysis Batch: 483161 **Prep Batch: 481232**

Total

0.0732

MB MB Uncert. Uncert. Analyte Result Qualifier **MDC** Unit $(2\sigma + / -)$ $(2\sigma + / -)$ RL Prepared Analyzed Dil Fac

1.00

ΜB MΒ

U

0.08056

%Yield Qualifier Limits Prepared Dil Fac Carrier Analyzed Ba Carrier 40 - 110 08/31/20 13:50 09/22/20 11:59 94.8

Eurofins TestAmerica, Pittsburgh

08/31/20 13:50 09/22/20 11:59

Total

10

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

%Rec.

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 481232

Prep Type: Total/NA

Prep Batch: 480651

Spike LCS LCS Uncert.

Analyte Added Result Qual $(2\sigma + / -)$ RL

MDC Unit %Rec Limits Radium-226 15.1 13.59 1.42 1.00 0.121 pCi/L 75 ₋ 125

LCS LCS

Carrier %Yield Qualifier Limits Ba Carrier 84.1 40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-480651/24-A

Analysis Batch: 482071

Matrix: Water

Count Total MB MB Uncert. Uncert.

Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit

Prepared Analyzed Dil Fac Radium-228 0.414 pCi/L 08/24/20 18:23 09/10/20 12:22 0.01611 0.232 0.232 1.00

> MΒ MΒ

Analyzed Carrier %Yield Qualifier Limits Prepared Dil Fac 40 - 110 Ba Carrier 92.1 08/24/20 18:23 09/10/20 12:22 Y Carrier 85.2 40 - 110 08/24/20 18:23 09/10/20 12:22

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

Total

Spike LCS LCS Uncert. %Rec. Added Result Qual $(2\sigma + / -)$ RL**MDC** Unit Limits **Analyte** %Rec Radium-228 7.82 8.153 1.08 1.00 0.560 pCi/L 104 75 - 125

LCS LCS

Carrier %Yield Qualifier Limits 74.3 Ba Carrier 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

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ 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

> MB MB

Dil Fac Carrier %Yield Qualifier Limits Prepared Analyzed Ba Carrier 87.6 40 - 110 08/25/20 12:41 09/09/20 13:26 Y Carrier 86.0 40 - 110 08/25/20 12:41 09/09/20 13:26

Client: Southern Company

Radium-228

Job ID: 180-109846-2 Project/Site: CCR - Plant Arkwright

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

Lab Sample ID: LCS 160-480689/1-A Client Sample ID: Lab Control Sample

Matrix: Water Analysis Batch: 481799

Prep Type: Total/NA **Prep Batch: 480689**

75 ₋ 125

137

Total Spike LCS LCS Uncert. %Rec. **MDC** Unit Analyte Added Result Qual $(2\sigma + / -)$ RL%Rec Limits

7.82 10.69 1.30 1.00 0.596 pCi/L

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 89.1 40 - 110 Y Carrier 76.6 40 - 110

Lab Sample ID: LCSD 160-480689/2-A **Client Sample ID: Lab Control Sample Dup**

Matrix: Water

Prep Type: Total/NA **Analysis Batch: 481799 Prep Batch: 480689** Total

Spike LCSD LCSD Uncert. %Rec. **RER** Limits Added RL **MDC** Unit %Rec Analyte Result Qual $(2\sigma + / -)$ RER Limit 1.00 Radium-228 7.82 9.539 1.19 0.634 pCi/L 122 75 - 1250.46

LCSD LCSD Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 86.1 Y Carrier 82.2 40 - 110

Lab Sample ID: MB 160-481085/24-A **Client Sample ID: Method Blank**

Matrix: Water Prep Type: Total/NA **Analysis Batch: 482957 Prep Batch: 481085** Count Total

MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ 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

MB MΒ Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 93.6 40 - 110 08/28/20 17:17 09/18/20 12:00 Y Carrier 88.6 08/28/20 17:17 09/18/20 12:00 40 - 110

Lab Sample ID: LCS 160-481085/1-A **Client Sample ID: Lab Control Sample**

Matrix: Water Prep Type: Total/NA **Analysis Batch: 482946 Prep Batch: 481085**

Total Spike LCS LCS Uncert. %Rec. Added Analyte Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits Radium-228 1.05 7.80 8.379 1.00 0.503 pCi/L 107 75 - 125

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 84.1 40 - 110 Y Carrier 82.2 40 - 110

10

10/8/2020

Job ID: 180-109846-2

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

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

Spike

Added

7.80

LCSD LCSD

Result Qual

7.434

Lab Sample ID: LCSD 160-481085/2-A Client Sample ID: Lab Control Sample Dup

0.978

1.00

Matrix: Water

Analyte

Radium-228

Analysis Batch: 482946

Prep Type: Total/NA **Prep Batch: 481085**

0.47

Total Uncert. %Rec. **RER** $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits RER Limit

0.518 pCi/L

LCSD LCSD

Carrier %Yield Qualifier Limits Ba Carrier 82.9 40 - 110 Y Carrier 79.3 40 - 110

Lab Sample ID: MB 160-481237/23-A Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 481838

75 - 125

Prep Type: Total/NA

Prep Batch: 481237

			Count	iotai						
	MB	MB	Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.006322	U	0.314	0.314	1.00	0.564	pCi/L	08/31/20 14:14	09/09/20 13:16	1

MB MB

Carrier **%Yield Qualifier** Limits Prepared Analyzed Dil Fac Ba Carrier 40 - 110 08/31/20 14:14 09/09/20 13:16 94.8 40 - 110 08/31/20 14:14 09/09/20 13:16 Y Carrier 84.5

Lab Sample ID: LCS 160-481237/1-A **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 481801

Prep Type: Total/NA

Prep Batch: 481237

Total

	Spike	LCS	LCS	Uncert.				%Rec.	
Analyte	Added	Result	Qual	(2σ+/-)	RL	MDC Unit	%Rec	Limits	
Radium-228	10.4	10.82		1.39	1.00	0.707 pCi/L	104	75 - 125	

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 84.1 40 - 110 Y Carrier 82.6 40 - 110

Lab Sample ID: MB 160-482400/9-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 483126

Prep Type: Total/NA

Prep Batch: 482400

			Count	Total						
	MB	MB	Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.266		0.458	0.473	1.00	0.620	pCi/L	09/14/20 10:14	09/21/20 11:53	1

	МВ	МВ				
Carrier	%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 0	09/21/20 11:53	1

10

Job ID: 180-109846-2

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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

Lab Sample ID: LCS 160-482400/1-A Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 483126

Prep Type: Total/NA

Prep Batch: 482400

Total Spike LCS LCS Uncert. %Rec. **MDC** Unit Analyte Added Result Qual $(2\sigma + / -)$ RL%Rec Limits 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 **Client Sample ID: Lab Control Sample Dup**

Matrix: Water

Analysis Batch: 483126

Prep Type: Total/NA

10

Prep Batch: 482400

Total Spike LCSD LCSD Uncert. %Rec. **RER** Limits Added RL **MDC** Unit %Rec Analyte Result Qual $(2\sigma + / -)$ RER Limit 13.89 1.00 Radium-228 10.4 1.69 0.690 pCi/L 134 75 - 1250.54

LCSD LCSD

Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 70.9 Y Carrier 83.4 40 - 110

Lab Sample ID: MB 160-483141/4-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 484399

Prep Type: Total/NA

Prep Batch: 483141

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac 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

MB ΜB Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 63.9 40 - 110 09/21/20 14:11 09/30/20 12:43 Y Carrier 85.2 09/21/20 14:11 09/30/20 12:43 40 - 110

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**

Total

Spike LCS LCS Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL MDC Unit %Rec Limits 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

10/8/2020

QC Sample Results

Job ID: 180-109846-2 Client: Southern Company

Project/Site: CCR - Plant Arkwright

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

Lab Sample ID: LCSD 160-483141/2-A **Client Sample ID: Lab Control Sample Dup**

Matrix: Water

Analysis Batch: 484399

Prep Type: Total/NA

Prep Batch: 483141

				Iotai							
	Spike	LCSD	LCSD	Uncert.					%Rec.		RER
Analyte	Added	Result	Qual	(2σ+/-)	RL	MDC	Unit	%Rec	Limits	RER	Limit
Radium-228	10.4	10.75		1.39	1.00	0.640	pCi/L	104	75 - 125	0.11	1

LCSD LCSD Limits Carrier %Yield Qualifier Ba Carrier 80.7 40 - 110 Y Carrier 78.9 40 - 110

QC Association Summary

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

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 180-109851-1	Client Sample ID EB#2	Prep Type Total/NA	Matrix Water	Method PrecSep_0	Prep Batch
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	

Eurofins TestAmerica, Pittsburgh

Page 55 of 94

Job ID: 180-109846-2

QC Association Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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	- <u> </u>
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

10/8/2020

Page 56 of 94

Job ID: 180-109846-2

3

4

6

8

9

11

12

1.

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	

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

7 - N4204S 0 - N42503 8 - N42504 T - TSP Dodeallydra U - Acetors V - M03-A W - M14-5 Z - other (sneptly) Ver. 01/16/2019 Special Instructions/Note: 244- ATLANTA Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Risposal By Lab Archive For. Month =6,62 1 = 6,47 - Amehior - Assorbic Acid - DI Water C-EDTA - ED4 180-109846 Chain of Custody Total Number of containors Analysis Requested oler Temparabale(s) "C and Colin Remarks Special Instructions/QC Requirements scowed by. (AOTH ?) H+ (OSOS) H DHEWEZZZE ELM Hea ASherdits Brown, Shall Parone old Filtered Sample (Yes or No) Gegrab) serting Auto Preservation Code: Metrix August, Company Company 3 3 (C=comp, Radiological Sample 00 SIBI/ OX/61/8 1205 1005 8/19/20 1355 Unknown (AT Requested (days): Due Date Requested: Sample Date 18020201 SSOA# Poison B Skin Imitant Defiverable Requested: I, II, III, IV, Other (specify) Custody Seal No. Pitisburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468 ARGWC-15 ARGWC-16 ARGWA-14 Possible Hazard Identification

X Non-Hazard | Flammable mpty Kit Relinquished by Hamel KABur ddress: 941 Ralph McGill Blvd SE Sustody Seals Intact. A Yes A No Client Information opstittane CR - Pient Arkwright Sample Identification (04-508-7116(Tel) SCS Contacts CS Contacts yd beneuty State, Zip GA, 30308 GA Power Allanta

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238

Phone (412) 963-7058 Fax (412) 953-2468

244- ATLANTA

0 - AsNaO2 P - Na2O4S 0 - Na2O4S S - H2SO4 S - H2SO4 U - Acetone V - MCA4 W - PH 4-5 Z - Other (specify) Special Instructions/Note: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Sisposal By Lab Archive For. Month 3 pH=6.48 reservation Codes: Total Number of containers 180-109847 Chain of Custody Analysis Requested ooler Temperature(s) "C and Other Remarks Special Instructions/QC Requirements App II mark 60208 + H5 74701 Flugside 300 2006 FM 2880) Rakina 226/228(4315/9320) eceived by: eceived by. Sampler D. He ward E Guillen, ASharek-ABrown, Shali WassERIS Preservation Code 3 3 3 Radiological | Type (C=comp, G=grab) Sample 1450 1445 8/18/20 1100 Sample Standard Unknown TAT Requested (days) Due Date Requested: 8/18/20 Sample Date Project # 18020201 SSOW# Poison B Skin Imtant Custody Seal No. ARGWA-12 ARGWA-13 ARGWC-17 Possible Hazard Identification Fermal Lym 241 Ralph McGill Blvd SE ustody Seals Intact. A Yes A No Client Information Sample Identification roject Name. 2CR - Plant Arkwright 404-506-7116(Tel) SCS Contacts CS Contacts quished by. State, Zip. G.A., 30308 GA Power Allanta

5 - H2SO4 T - TSP Dodecahydrate Special Instructions/Nate: Ver. 01/16/2019 244- ATLANTA O - ASNBO2 P - NBZO4S Q - NBZSO3 R - NBZS2O3 Sample Disposal (A fee may be assessed if samples are retained forger than 1 month)

Return To Client Risposal By Lab Archive For. Month DH-7.06 PH= 7.06 180-109848 Chain of Custody Archive For 9the Total Number of containers Method of Shipment Analysis Requested soler Temperature(s) "C and Disor Renarks Special Instructions/QC Requirements Return To Client shall brownigeurofinset com yd bayede Chain of Custody Record DHoward, EGiller AShore Brown, Shall Type (waster, September (Carcomp, September) Gargrab) sertions and Prospivation Code: 33 ompany Company 3 Radiological Sample 8/19/20/1815 Sangle 1425 8 19/20 1135 Unknown TAT Requested (days): has Date Requested Sample Date Project # 18020201 SSOA# Paison B ARGWC-10 Skin Imtant Eurofins TestAmerica, Pittsburgh Deliverable Requested: I, III, IV, Other (specify Custody Seal No Phone (412) 963-7058 Fax (412) 963-2468 Rossible Hazard Identification Hem & Hound 301 Alpha Drive RIDC Park Empty Kit Relinquished by 241 Ralph McGill Blvd SE Custody Seals Intact. Client Information Sample Identification luject Ranae CR - Plant Arkwright 404-505-7116(Tel) SCS Contacts sign speaking by CS Contacts Stafe, Zip. GA, 30308 GA Power Atlanta

TSP Dodecahydr Special Instructions/Note: Ver. 01/16/2019 244- ATLANTA Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) 01.6.47 81'9 = Hd 180-109850 Chain of Custody 40 G - Amehior H - Assarbic Acid Archive Far X Disposal By Lab Analysis Requested palar Temperature(s) *C and Other Researks Return To Client Special Instructions/QC Requirements shall brown@eurofinset.com 226/228 (9315 / 9326) 300-036FM-28D Chain of Custody Record The seed, Elevilles, Ashered to Brown, Shall Wood EtTS Type (nineater, Sessie, Carcomp, ownstered, Gagrab) grituses, sode) Preservation Code: Matrix Sompany Radiological Sample 1730 1320 1525 8/18/20 1135 Saniple Time Unknown TAT Requested (days): Oue Date Requested: 100/8/18 Sample Date Project # 18920201 Poison B Skin Imtant iverable Requested: I, III, IV, Other (specify) Custody Seal No Phone (412) 953-7058 Fax (412) 953-2468 Won-Hazard Hammable Possible Hazard Identification Hamel Klowen Empty Kit Relinquished by: 241 Ralph McGill Blvd SE Sustady Seals Intact. A Yes A No Client Information Sample Identification Pittsburgh, PA 15238 CR - Plant Arkwright 104-508-7116(Tel) SCS Contacts iguished by SCS Contacts State, Zip. GA, 30308 GA Power Atlanta

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

- National - Nazodes - Nazosog - Nazosog - Hzsod - TSP Dodecatydrate Special Instructions/Note: 244- ATLANTA Months Sample Disposal (A fee may be assessed in samplies are received rought unan it month)

Return To Citent Citent Cisposal By Lab Archive For. Month 180-109851 Chain of Custody Analysis Requested ooter Temperature(s) *C and Other Remark Special Instructions/QC Requirements Return To Chent × × × × eceived by Chain of Custody Record DHoward Esulka, AShardits Brown, Shall Type (wester. Septime (C=comp, oversteer. G=grab) Sertusee Anti) Preservation Code: Matrix ompany ompany 33 Radiological Sample 2/18/20/1815 1056 1532 8/19/20 0915 Unknown (AT Requested (days): Due Date Requested: Sample Date Project # 18020201 \$50V# Poison B Skin Imitant Eurofins TestAmerica, Pittsburgh eliverable Requested 1, II, III, IV, Other (specify) E8#2 ARGWA-19 ARGWA-20 ARGWC-22 Custody Seal No Phone (412) 953-7058 Fax (412) 963-2468 Possible Hazard Identification
XNon-Hazard | Flammable Damel Hours 301 Alpha Drive RIDC Park Emply Kit Relinquished by 241 Raiph McGill Blvd SE Custody Seals Intact. A Yes A No Client Information Sampte Identification CR - Plant Arkwright Pillsburgh, PA 15238 04-508-7116(Tel) SCS Contacts questiedby. Shate, Zip. GA, 30308 GA Power Atlanta

244- ATLANTA	BETTER TRACKING NO(8) COC No.		Page.	J00 II	Preservation Codes:	A - HCL M - Hexane B - Nason N - Name C - Zn Aceatre O - Artsac2	- Nanc And P	F - MBOM R - NAZSZO3 G - Ambhom S - HZSO4 H - Ambhomhom And T - TSD Protection	1 - Di Water	K-EDTA L-EDA	oo oo oo oo oo oo oo oo oo oo oo oo oo	ModmuM (abo)		3	3 pH= 6.33	3 0H= 6.33	3 OH = 6.09	PH-	180-109918 Chain of Custody	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	EY LaD ACTIVE FO. MORITIS	Method of Shipmant	Desterine X-31-30 Commercial MAN	Date/time / f / Cumplany	
Chain of Custody Record	Camer		E-Mail Shall brozangleurofinset.com	Analysis Requested	AOF (C	300) PL	114 172 132	(8) (2) (2)	-	1/25	1 5 C	Figure Constitution of Street of Str	ation Code: XXD D	-	XXXX	XXX	_	X X				Time:	Company Received of Lilling Words	Company Received by:	Cooler Temperature(s) *C and Cons Remarks
Chain of Cus	Sample:	Dheward	Phone		Due Date Requested:	TAT Requested (days):		PO A.	WO II	Phyled # 18020201	\$\$0.74	Sample Date (Georgia)	X	8/20/20 1045 G	1215 6	0	1436 6	1635 6			Polson B Unknown Keduoogical	Date:	8/20/20/1840	DataTime	AND THE REAL PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE P
Eurofins TestAmerica, Pittsburgh 301 Alpna Diive RIDC Park Pitsburgh, PA 15238	Phone (412) 963-7055 Pax (412) 953-2453	Client Information	Clevif Contact SCS Contacts	Conpany GA Power	460 tess 241 Raiph McGill Blvd SE	Cry Affanta	State, 2tp. GA, 303.08	Phone 404-506-7116(Tel)	Final SCS Contacts	Poped Name CCR - Plant Advinght	Side Georgia	Samole Hontification		FR#2	ARGWC-23	DWP-2	ARAMM-1	ARAMW-2		Possible Hazard Identification	Deliverable Requested: I, II, III, IV, Other (specify)	Empty Kit Relinquished by:	Remoderated by Abover	Reliquately	Custody Seals intact. Custody Seal No.: A Yes A No.

7

- ANNACZ - NAZCAS 2 - NAZCAS 2 - NAZCAS S - HZSCA S - HZSCA U - ACCACA W - PH 4-5 Z - Other (specify) Special Instructions/Note: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client . **A Disposal By Lab ** Archive For Month 4 PH = 6.43 244- ATLANTA 180-109929 Chain of Custody reservation 304= Total Number of containers Analysis Requested oler Temperatura(s) ⁹C and Other Remarks Special Instructions/QC Requirements × × × × × cived by: P Rodium 22 6/228 (316 1320) Chain of Custody Record EVEC Guillen, A Shored; to Brown, Shall Wood 33 Radiological (C=Comp, G=grab) Type 00 8/20/20/18+10 8/20/20 1035 Sample 8/20/20 1705 Unknown TAT Requested (days) Due Date Requested: Sample Date 710/ect.#1 Paison B Skin irritant Custody Seal No. Phone (412) 953-7058 Fax (412) 963-2468 ARGWC-8 ARGWC-18 Fiammable Possible Hazard Identification Town & House 301 Alpha Drive RIDC Park 241 Ralph McGill Blvd SE Custody Seals Intact Client Information Sample Identification Pittsburgh, PA 15238 CCR - Plant Arkwright 404-506-7116(Tel) SCS Contacts SCS Contacts State, Zlp. GA, 30308 GA Power Atlanta

Eurofins TestAmerica, Pittsburgh

Eurofins TestAmerica, Pittsburgh

Eurofins TestAmerica, Pittsburgh				The state of the s
301 Alpha Drive RIDC Park Patsburgh, PA 15238 Phone (412) 953-7058 Fax (412) 953-2468	Chain of Cu	Chain of Custody Record	7-64-	244- ATLANTA
Client Information	Ever Gillen Andreas Sherid & Brown, Shall	Shering 1 Brown, Shali	Carter fracting (b)(s):	COC No.
Cleid Cantact SCS Contacts	Phone	E-Mac Shail brownideu ofiniset com	6	Paye
Company GA Power	AND A THE PROPERTY OF THE PROP	(Analysis Requested	Jeb #
4.tdress 24.1 Ralph McGill Blvd SE	Due Date Requested:	(OZ.		Codes:
Osy Atlanta	TAT Requested (days):	E\$/5		A - HCL M - Hskane B - NsOH N - Nons C - Zn Acetate O - AsNaO2
State 7tp GA, 30308		goza goza		
Phone 404-508-7116(Tel)	PO #	10		F - MeON R - 11425203 G - Ametror S - N2SO4 H - Ascotbic Acid T - TSP Dodecatustate
Email SCS Contacts	WO #.	(ON		1. foe J. Di Water
Project Name CCR - Plent Arkwright	F09c0 #	10.00		L.FDA Z. other (specify)
Sid	SSOVE	N CS		Other
THE THE THE PASSED STREET AND THE THE THE THE THE THE THE THE THE THE	Sample	personal resource contracts		rodesul lak
Sample Identification	Sample Date Time Gagrab)	ation Code: X		Special Instructions/Note:
E8#1	8/20/20 0930 G	×		
ARAMW-3	1445	× × ×		PH=6,24
A BAMW-4	1345 6	*		TT:3=Hd
			180-109930 Chain of Custody	in of Custody
Possible Hazard Identification Klon-Hazard Flammable Skin Imlant	Poison B Unknown Radiotogical		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Object By Lab Month	ained longer than 1 month) chive For Months
Other (specify)			Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	TIME:	Method of Shipment	A SERVICE AND AND AND AND AND AND AND AND AND AND
David L Howard	8/20/20 / 18 40	Contracts Contracts Contracts Contracts Contracts	Dung with barning -	71-30 Compost
yea by.	Later Line (Dr. 20 ma	Contains Received by	DAM FIRE	795 Company
	TOTAL OF THE STATE		-	6 petron
Custody Seels Intact. Custody Seal No.:		Coolar Temperali	cooler Temporalung(s) 4C and Cener Romains	

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

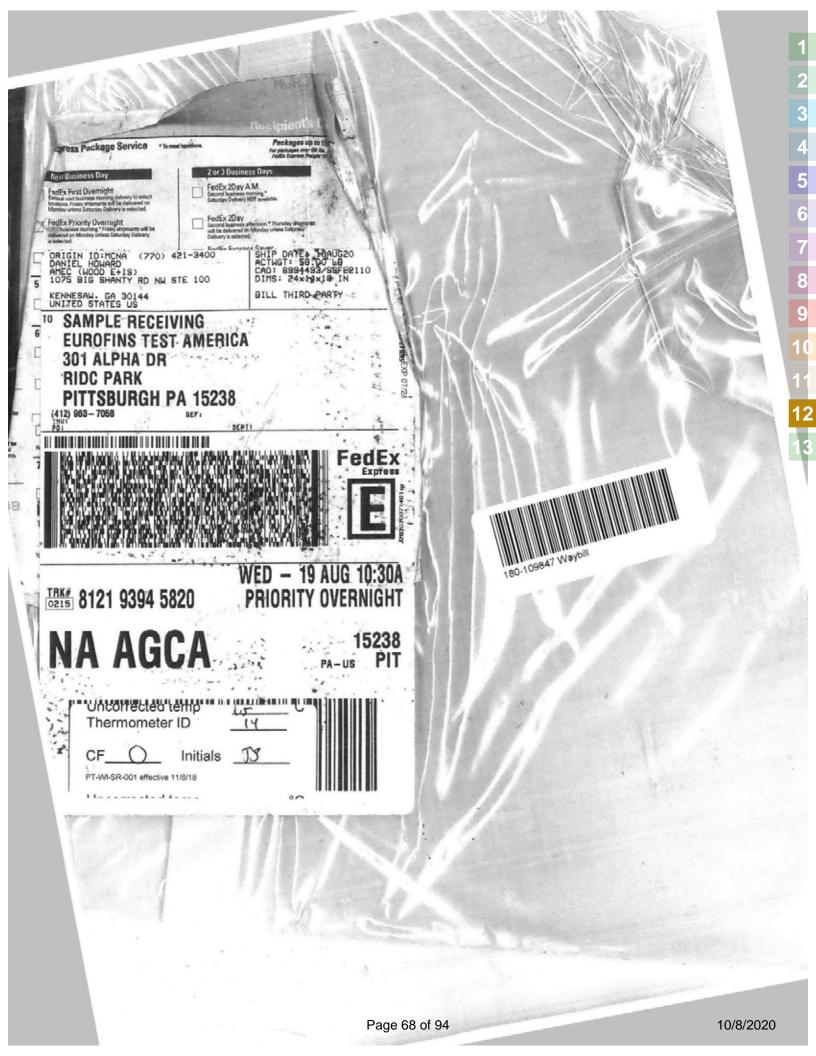
301 Alpha Drive RIDC Park

244- ATLANTA

Special Instructions/Note: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Sisposal By Leb Archive For Month 180-109970 Chain of Custody water Analysis Requested colar Temperature(s) *C and Other Remarks Special Instructions/QC Requirements ceived by. math + H (602011 H320) Lab PW Brown, Shali E-Mail Shall. Matrix ompany Radiologica! (C=comp, G=grab) Sample Type Ottowerd, Ashoredits 00 2/21/20/13/5 8/21/208945 Sample Standard Unknown TAT Requested (days): Due Date Requested Sample Date Project #. 18020201 SSO/W#. Poison B Skin Imitant Deliverable Requested: I, III, IV. Other (specify) Custody Seal No. Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468 Home L Horney Possible Hazard Identification ARAMW-6 ARG WC-21 mpty Kit Relinquished by. 241 Ralph McGill Blvd SE Custody Seals Intact: Client Information Sample Identification Project Name: CCR - Plant Arkwright 404-508-7116(Tel) SCS Contacts SCS Contacts yd bertalug Atlanta State, Ztp. GA, 30308 GA Power









E S

BILL THIRD PARTY

PITTSBURGH PA 15238



TRK# 8121 9394 5830

15238

Uncorrected temp Thermometer ID

NA AGCA



Align Open End of FedEx Pouch Here



3

3

5

6

8

9

11

13

Fe ..97

1 10:30 A 5841 08:20

ORIGIN ID: MCNA (770) 421-3400 DANIEL HOWARD ADEC TUDD ETIS) 1075 BIG SHANIY RD NH STE 100 KENNESAH, GA 30144 SHIP DATE: 19AUG20 ACTUGT: 57.45 LB CAD: 6594493/55FE2110 DIMS: 24x13x14 IN BILL THIRD PARTY

SAMPLE RECIEVING EUROFINS TEST AMERICA 301 ALPHA DR

PITTSBURGH PA 15238

FedEx Express

TRK# 8121 9394 5841

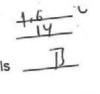
NA AGCA

THU - 20 AUG 10:30A PRIORITY OVERNIGHT DSR

15238

PA-US PI





Page 71 of 94







180-109930 Waybill





Ver. 01/16/2019

Seurofins Environment Testing America

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238

Phone: 412-963-7058 Fax: 412-963-2468

N - None
O - AsNaO2
P - Na2O45
O - Na2SO3
R - Na2SO3
S - H2SO4
T - TSP Dodecalydrate ETAST2 state is bloomed as subject to change. Eurofins TestAmerica places the ownership of method, analyse & accreditation compilance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory do other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins estAmerica. Special Instructions/Note: W - pH 4-5 Z - other (specify) U - Acetone V - MCAA Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Mon Preservation Codes A - HCL B - NaOH C - Zn Acetake D - Nitric Acid F - MahSO4 F - MacHor G - AmcHor H - Ascorbic Acid 180-408215.1 180-109846-2 08:30 Page 1 of 1 I - Ke J - DI Water K - EDTA - EDA Total Number of containers 8/22/23 ethod of Shipment amer Tracking No(s): State of Origin Analysis Requested Georgia Cooler Temperature(s) "C and Other Remarks: Special Instructions/QC Requirements: Return To Client Shali.Brown@Eurofinset.com × × × RazzeRazze GFPC 9320 RazzaiPrecSep_0 Radium 228 × × × 9315_Ra226/PrecSep_21 Radium 226 × × × Brown, Shall ime ST-Tissue, A-Ab Water Matrix Preservation Code: Water Water ompany G=grab) (C=comp, Sample Type Primary Deliverable Rank: 2 TO:05 12:05 Sample Eastern Time Due Date Requested: 9/23/2020 TAT Requested (days): Sample Date 8/19/20 8/19/20 8/19/20 18020201 Date/Time. Client Information (Sub Contract Lab) Deliverable Requested: I, II, III, IV, Other (specify) Custody Seal No.: Sample Identification - Client ID (Lab ID) 314-298-8566(Tel) 314-298-8757(Fax) Possible Hazard Identification FestAmerica Laboratories, Inc. ARGWA-14 (180-109846-1) ARGWC-15 (180-109846-2) ARGWC-16 (180-109846-3) Empty Kit Relinquished by Custody Seals Intact: 13715 Rider Trail North CCR - Plant Arkwright A Yes A No Shipping/Receiving inquished by: quished by: State, Zp. MO, 63045 shed by Earth City Arkwright

Client: Southern Company

Job Number: 180-109846-2

Login Number: 109846

List Number: 1 Creator: Watson, Debbie List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 109846 List Number: 2 List Source: Eurofins TestAmerica, St. Louis

List Creation: 08/22/20 12:41 PM

Creator: Boyd, Jacob C

orodion. Boya, outon o		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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 Number: 109847 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

Cleator. Watson, Debble		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 109847

List Number: 2

Creator: Boyd, Jacob C

List Source: Eurofins TestAmerica, St. Louis

List Creation	: 08/22/20 12:41 PM

orodion. Boya, outon o		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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 Number: 109848 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

Creator. Watson, Debbie		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 109848

List Number: 2

Creator: Boyd, Jacob C

List Source: Eurofins TestAmerica, St. Louis

List Creation: 08/22/20 12:41 PM

Creator. Boyu, Jacob C		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Client: Southern Company

Job Number: 180-109846-2

Login Number: 109850

List Number: 1

List Source: Eurofins TestAmerica, Pittsburgh

Creator:	Watson,	Debbie
----------	---------	--------

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 109850 List Number: 2 List Source: Eurofins TestAmerica, St. Louis

List Creation: 08/22/20 12:41 PM

Creator: Boyd, Jacob C

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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 Number: 109851 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

Cleator. Watson, Debble		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 109851

List Source: Eurofins TestAmerica, St. Louis

List Number: 2

List Creation: 08/22/20 12:41 PM

Creator: E	Boyd, .	Jacob C
------------	---------	---------

Question	Anouser	Commont
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Client: Southern Company

Job Number: 180-109846-2

Login Number: 109918

List Number: 1

Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 109918 List Number: 2 List Source: Eurofins TestAmerica, St. Louis

List Creation: 08/25/20 02:54 PM

Creator: Boyd, Jacob C

Question	Anouser	Commont
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

List Source: Eurofins TestAmerica, Pittsburgh

Login Number: 109929 List Number: 1

Creator: Watson, Debbie

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 109929

List Source: Eurofins TestAmerica, St. Louis

List Number: 2

List Creation: 08/25/20 02:54 PM

Creator: Boyd, Jacob C

Creator. Boyu, Jacob C		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Client: Southern Company

List Source: Eurofins TestAmerica, Pittsburgh

Job Number: 180-109846-2

Login Number: 109930

List Number: 1

Creator: Watson, Debbie

Creator. Watson, Debbie		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 109930

List Source: Eurofins TestAmerica, St. Louis

List Number: 2

List Creation: 08/25/20 02:54 PM

Creator: Boyd, Jacob C

Creator. Boyu, Jacob C		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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 Number: 109970 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

Cleator. Watson, Debble		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 109970

List Source: Eurofins TestAmerica, St. Louis

List Number: 2

List Creation: 08/25/20 02:54 PM

Creator:	Boyd.	Jacob	C
OI CULOI .		OUCUD	•

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Date: 2020-08-20 14:37:52

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Daniel Howard Company Name Wood E&IS

Project Name Plant Arkwright CCR Site Name ARAMW-1

00 0' 0" Latitude 00 0' 0" Longitude Sonde SN 369555

Turbidity Make/Model Hach 2100Q Pump placement from TOC

40.3 ft

Peristaltic pump

HDPE

.17 in

45.5 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	рН	SpCond µS	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.

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

Hach 2100Q

Pump Information:

Pump Model/Type Peristaltic pump

Tubing TypeHDPETubing Diameter.17 inTubing Length25 ft

Pump placement from TOC 20 ft

Well Information:

Turbidity Make/Model

Well IDARAMW-2Well diameter2 inWell Total Depth24.85 ftScreen Length10 ftDepth to Water13.31 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	рН	SpCond µS	/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.

Date: 2020-08-19 10:58:43

Project Information:

Daniel Howard

Pump Information: Pump Model/Type

QED Micropurge dedicated

Company Name Project Name Site Name

Operator Name

Wood E&IS Plant Arkwright CCR ARGWA-19 Tubing Type
Tubing Diameter
Tubing Length

HDPE .25 in 52.7 ft

Latitude Longitude Sonde SN

0º 0' 0" 407447

00 0' 0"

Turbidity Make/Model Hach 2100Q

Pump placement from TOC

47.74 ft

Well Information:

Well ID
Well diameter
Well Total Depth
Screen Length
Depth to Water

ARGWA-19 2 in 52.74 ft 10 ft 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	рН	SpCond µS	S/cmTurb 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.

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"

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 407447

Turbidity Make/Model Hach 2100Q

Pump Information:

Pump Model/Type QED Micropurge dedicated

Tubing TypeHDPETubing Diameter.25 inTubing Length37.7 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
Total Volume Pumped 15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	S/cm Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization	1		+/- 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

Date: 2020-08-2110:42:13

Project Information:

Pump Information:
Daniel Howard Pump Model/Type

Operator Name Company Name

Wood E&IS

Pump Model/Type QED Micropurge dedicated Tubing Type HDPE

Project Name
Site Name
Latitude

Plant Arkwright CCR ARGWC-21 0° 0' 0" Tubing TypeHDPETubing Diameter.25 inTubing Length27 ft

Longitude Sonde SN 0º 0' 0" 369555

Turbidity Make/Model Hach 2100Q

Pump placement from TOC

22 ft

Well Information:

Well ID
Well diameter
Well Total Depth
Screen Length
Depth to Water

ARGWC-21 2 in 26.98 ft 10 ft 13.88 ft Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.7406238 L
Calculated Sample Rate 300 sec
Stabilization Drawdown
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond μS	S/cm Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization	1		+/- 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

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

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

Pump Information:

Pump Model/Type Peristaltic pump

Tubing TypeHDPETubing Diameter.17 inTubing Length27.9 ft

Pump placement from TOC 22.9 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	рН	SpCond µS	/cmTurb 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

Date: 2020-08-20 12:18:54

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Daniel Howard Company Name Wood E&IS

Project Name Plant Arkwright CCR Site Name ARGWC-23 00 0' 0" Latitude 00 0' 0" Longitude

Sonde SN 369555

Turbidity Make/Model Hach 2100Q

Pump placement from TOC 23 ft

Peristaltic pump

HDPE

.17 in

28 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	рН	SpCond µS	/cmTurb 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.

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

.....LINKS

Review your project results through

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

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-108353-1

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	11
QC Sample Results	15
QC Association Summary	18
Chain of Custody	20
Racaint Chacklists	22

3

4

5

7

9

10

15

13

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.

3

5

6

7

8

4.0

11

12

13

Definitions/Glossary

Client: Southern Company Job ID: 180-108353-1

Project/Site: CCR - Plant Arkwright

Qualifiers

	_			_
ш	п	. ~	/	~
п	_	LL	/ 1	١.

Qualifier **Qualifier Description**

F1 MS and/or MSD recovery exceeds control limits.

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**

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**

DΙ Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

Decision Level Concentration (Radiochemistry) DLC

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 MI Minimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

Not Detected at the reporting limit (or MDL or EDL if shown) ND

Negative / Absent NEG POS Positive / Present

PQL **Practical Quantitation Limit**

PRES Presumptive Ω C **Quality Control**

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points **RPD**

TEF Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin) **TEQ**

TNTC Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company

Job ID: 180-108353-1

Project/Site: CCR - Plant Arkwright

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

8/4/2020

Sample Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

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 ARGWC-23 180-108353-2 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 07/15/20 11:00 07/16/20 09:00 180-108353-4 EΒ Water

Job ID: 180-108353-1

3

4

J

_

9

11

19

13

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Method **Method Description** Protocol Laboratory EPA 300.0 R2.1 Anions, Ion Chromatography TAL PIT **EPA 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 TAL PIT SW846

Protocol References:

7470A

EPA = US Environmental Protection Agency

Preparation, Mercury

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

Job ID: 180-108353-1

TAL PIT

SW846

5

4

5

7

Ω

9

10

13

Lab Chronicle

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-108353-1

Matrix: Water

Job ID: 180-108353-1

Client Sample ID: ARGWC-22 Date Collected: 07/15/20 13:10 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 Instrument	EPA 300.0 R2.1 ID: CHICS2100B		1			322643	07/23/20 12:28	EPS	TAL PIT
Total/NA	Analysis Instrument	EPA 300.0 R2.1 t 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 Instrument	EPA 6020B t 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 Instrument	EPA 6020B t 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 Instrument	EPA 7470A t ID: HGZ		1			322432	07/21/20 12:05	RJR	TAL PIT
Total/NA	Analysis Instrument	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	322055	07/17/20 11:08	A1G	TAL PIT
Total/NA	Analysis Instrument	Field Sampling		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 Date Received: 07/16/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 at 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 Instrumen	EPA 6020B at 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 Instrumen	EPA 6020B at 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 Instrumen	EPA 7470A at ID: HGZ		1			322432	07/21/20 12:06	RJR	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	322055	07/17/20 09:30	A1G	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling at ID: NOEQUIP		1			322113	07/15/20 15:20	FDS	TAL PIT

Matrix: Water

Lab Chronicle

Client: Southern Company

Job ID: 180-108353-1 Project/Site: CCR - Plant Arkwright

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 Instrumen	EPA 300.0 R2.1 t ID: CHICS2100B		1			322643	07/23/20 13:01	EPS	TAL PIT
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 7470A t ID: HGZ		1			322432	07/21/20 12:07	RJR	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t 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 Instrumer	EPA 300.0 R2.1 at ID: CHICS2100B		1			322643	07/23/20 13:34	EPS	TAL PIT
Total Recoverable Total Recoverable	Prep Analysis Instrumer	3005A EPA 6020B at ID: DORY		1	50 mL	50 mL	322507 323514	07/22/20 07:58 07/29/20 00:58		TAL PIT
Total Recoverable Total Recoverable	Prep Analysis Instrumer	3005A EPA 6020B at ID: DORY		1	50 mL	50 mL	322507 323900	07/22/20 07:58 07/31/20 21:31		TAL PIT
Total/NA Total/NA	Prep Analysis Instrumer	7470A EPA 7470A at ID: HGZ		1	50 mL	50 mL	322267 322432	07/21/20 05:50 07/21/20 12:08		TAL PIT
Total/NA	Analysis Instrumer	SM 2540C at 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 Job ID: 180-108353-1

Project/Site: CCR - Plant Arkwright

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

Client: Southern Company Job ID: 180-108353-1

Project/Site: CCR - Plant Arkwright

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

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	
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 - Meta	als (ICP/MS) - T	otal Recov	erable						
Analyte		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	
Arsenic	< 0.00031		0.0010	0.00031	mg/L		07/22/20 07:58	07/29/20 00:48	•
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	
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 - Merc	curv (CVAA)								
Analyte	• • •	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	
Method: Field Sampling - I									
Analyte	Result	Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
pH	5.58				SU			07/15/20 13:10	1

Client: Southern Company Job ID: 180-108353-1

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-23

Lab Sample ID: 180-108353-2 Date Collected: 07/15/20 15:20

6.36

Matrix: Water

Date	Received:	07/16/20	09:00

рН

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 - Meta	als (ICP/MS) - T	otal Recov	erable						
Analyte		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 - Mer	cury (CVAA)								
Analyte	• • •	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
					<u> </u>			0=(1=(00 1= ==	

SU

8/4/2020

07/15/20 15:20

Client: Southern Company Job ID: 180-108353-1

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-108353-3 **Client Sample ID: DUP** Date Collected: 07/15/20 00:00

Matrix: Water

Date Received: 07/16/20 09:00

Method: EPA 300.0 R2.1 - Analyte	•	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 - Met	als (ICP/MS) - T	otal Recov	erable						
Analyte		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 - Mer	cury (CVAA)								
Analyte	• •	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: Southern Company Job ID: 180-108353-1

Project/Site: CCR - Plant Arkwright

Lab Sample ID: 180-108353-4 **Client Sample ID: EB**

Matrix: Water

Date Collected: 07/15/20 11:00 Date Received: 07/16/20 09:00

Method: EPA 300.0 R2.1 Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0		mg/L			07/23/20 13:34	1
Fluoride	<0.026		0.10	0.026	-			07/23/20 13:34	1
Sulfate	<0.38		1.0		mg/L			07/23/20 13:34	1
Method: EPA 6020B - Me	etals (ICP/MS) - T	otal Recove	erable						
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 - Me	ercury (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		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			07/17/20 09:44	1

Project/Site: CCR - Plant Arkwright

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

Lab Sample ID: MB 180-322643/6

Matrix: Water

Analysis Batch: 322643

Client: Southern Company

Client Sample ID: Method Blank

Prep Type: Total/NA

Job ID: 180-108353-1

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Chloride 1.0 0.32 mg/L 07/23/20 05:23 <0.32 Fluoride 0.10 0.026 mg/L 07/23/20 05:23 < 0.026 07/23/20 05:23 Sulfate <0.38 1.0 0.38 mg/L

Lab Sample ID: LCS 180-322643/5

Matrix: Water

Analysis Batch: 322643

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

%Rec.

Spike MS MS Sample Sample Analyte **Result Qualifier** Added Result Qualifier Unit D %Rec Limits Chloride 3.9 50.0 51.2 95 mg/L 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
Dron	Type: Total/NA

Prep Type: Total/NA

Alialysis Datcii. 322043											
•	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

-	MB	MB							
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 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

Page 15 of 22 8/4/2020

Job ID: 180-108353-1

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

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

MB MB

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	Result	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

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

Analysis Batch: 323514	Spike	LCS	LCS				Prep Batch: 322507 %Rec.
Analyte	Added	Result	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

Analyte

Mercury

Analyte

Mercury

Analysis Batch: 322432

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

Prep Batch: 322267

MB MB Result Qualifier RL **MDL** Unit **Prepared** Analyzed Dil Fac 0.00020 07/21/20 05:50 07/21/20 11:46 0.00013 mg/L < 0.00013

Unit

mg/L

LCS LCS

0.00248

Result Qualifier

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

%Rec. Limits D %Rec 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

MB MB

Result Qualifier RL MDL Unit Prepared D Analyzed Dil Fac **Total Dissolved Solids** <10 10 10 mg/L 07/17/20 09:23

Spike

Added

0.00250

Eurofins TestAmerica, Pittsburgh

10

8/4/2020

QC Sample Results

Client: Southern Company Job ID: 180-108353-1

Project/Site: CCR - Plant Arkwright

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

Lab Sample ID: LCS 180-322055/1 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA**

Analysis Batch: 322055

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Total Dissolved Solids 567 512 mg/L 90 80 - 120

Client Sample ID: ARGWC-23 Lab Sample ID: 180-108353-2 DU Prep Type: Total/NA

Matrix: Water

Analysis Batch: 322055

RPD DU DU Sample Sample Result Qualifier Result Qualifier RPD Unit D Limit **Total Dissolved Solids** 310 0.3 311 mg/L

10

QC Association Summary

Client: Southern Company

Job ID: 180-108353-1 Project/Site: CCR - Plant Arkwright

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

Page 18 of 22

QC Association Summary

Client: Southern Company

Job ID: 180-108353-1 Project/Site: CCR - Plant Arkwright

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	

Ver. 01/16/2019

1:

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468

301 Alpha Drive RIDC Park

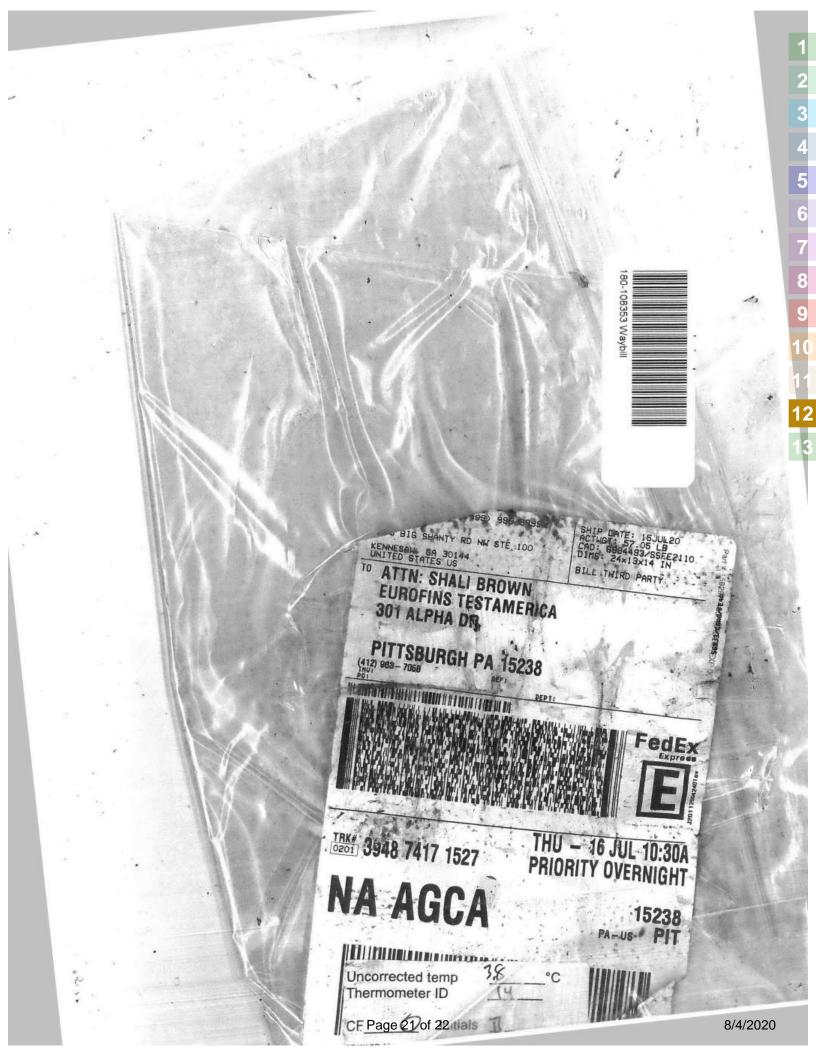
Environment Testing America

S eurofins

N - None
O - Ashado
P - Na204S
Q - Na2503
R - Na25203
S - H2S04
T TSP Dodecahydrate
U - Acetone
W - PH 4-5
Z - other (specify) Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Oisposal By Lab Archive For Month Special Instrur Preservation Codes C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid PH = 5.68 PH = 6-36 I - Ice J - DI Water K - EDTA L - EDA COC No. Total Number of containers)ate/Time: Date/Time Method of Shipment Analysis Requested Socier Temperature(s) "C and Other Remarks Special Instructions/QC Requirements × 2540C_Calcd - Solids, Total Dissolved (TDS) 0 × × × × Z × × × × 300_ORGFM_28D - Chloride Fluoride Sulfate shall.brown@eurofinset.com × ۵ × × × Received by: 0 × × × × × × 0 × 9315_Ra226 - Radium 226 Lab PM: Brown, Shali E-Mail: z z z z Time: Z Kield Filtered Sample (Yes or No) Z z z Matrix Preservation Code 3 3 3 3 Wood SHOOFFUTTS Radiological Sample Type (C=comp, G=grab) 770-421-3365 7.30 0 O O O 00:11 13:10 15:20 Sample Time Date: ANDREAS Due Date Requested: Standard TAT Requested (days): Unknown Date/Time: O7(15/20 Date/Time: PO#. SCS10382606 Sample Date 7-15-20 7-15-20 7-15-20 7-15-20 Project #: 18020201 SSOW#: Jate/Time: Poison B Skin Imitant Possible Hazard Identification

Non-Hazard | Flammable | Skin Irriti
Deliverable Requested: I, III, IV, Other (specify) Custody Seal No. Project Name: CCR - Plant Arkwright App III/IV JAbraham@southernco.com mpty Kit Relinquished by: Address: 241 Ralph McGill Blvd SE Custody Seals Intact
A Yes A No Client Information Sample Identification Southern Company Client Contact. Joju Abraham 404-506-7116 quished by. linquished by: nquished by: 4RGWC-23 State, Zip. GA, 30308 ARGWC-22 Atlanta DUP EB



Client: Southern Company

Job Number: 180-108353-1

Login Number: 108353 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

Creator. Watson, Debbie		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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: 180-108353-2

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

..... Links

Review your project results through

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

Client: Southern Company Project/Site: CCR - Plant Arkwright Laboratory Job ID: 180-108353-2

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	10
QC Sample Results	14
QC Association Summary	16
Chain of Custody	17
Receipt Chacklists	20

4

5

7

ð

10

11

12

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.

5

_

a

10

12

Definitions/Glossary

Client: Southern Company Job ID: 180-108353-2

Project/Site: CCR - Plant Arkwright

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
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

5

J

8

a a

12

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
lowa	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

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 ARGWC-23 180-108353-2 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 07/15/20 11:00 07/16/20 09:00 180-108353-4 EΒ Water

Job ID: 180-108353-2

3

4

5

8

4 4

12

1:

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

Job ID: 180-108353-2

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-22

Lab Sample ID: 180-108353-1

Matrix: Water

Date Collected: 07/15/20 13:10 Date Received: 07/16/20 09:00

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			479320	08/13/20 11:05	CMM	TAL SL
Total/NA	Prep	PrecSep_0			749.71 mL	1.0 g	478065	07/30/20 16:30	MNH	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPURPLE		1			478895	08/07/20 11:07	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			479510	08/14/20 09:10	SMP	TAL SL

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumen	9315 at ID: GFPCRED		1			479320	08/13/20 14:25	CMM	TAL SL
Total/NA	Prep	PrecSep_0			750.23 mL	1.0 g	478065	07/30/20 16:30	MNH	TAL SL
Total/NA	Analysis Instrumen	9320 at ID: GFPCPURPLE		1			478895	08/07/20 11:07	SCB	TAL SL
Total/NA	Analysis Instrumen	Ra226_Ra228 at ID: NOEQUIP		1			479510	08/14/20 09:10	SMP	TAL SL

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			479320	08/13/20 14:25	CMM	TAL SL
Total/NA	Prep	PrecSep_0			750.02 mL	1.0 g	478065	07/30/20 16:30	MNH	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCPURPLE		1			478895	08/07/20 11:07	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			479510	08/14/20 09:10	SMP	TAL SL

Client Sample ID: EB Lab Sample ID: 180-108353-4

Date Collected: 07/15/20 11:00 Date Received: 07/16/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumen	t ID: GFPCRED								

Page 8 of 21

Matrix: Water

Lab Chronicle

Client: Southern Company Job ID: 180-108353-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: EB Lab Sample ID: 180-108353-4

. Matrix: Water

Date Collected: 07/15/20 11:00 Date Received: 07/16/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9320 nt ID: GFPCBLUE		1			478894	08/07/20 11:08	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			479510	08/14/20 09:10	SMP	TAL SL

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

400 400252 4

4

10

111

12

Client: Southern Company Job ID: 180-108353-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: ARGWC-22 Lab Sample ID: 180-108353-1

. Matrix: Water

Date Collected: 07/15/20 13:10 Date Received: 07/16/20 09:00

Method: 9315 - F	Radium-226 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - F		,,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Com	bined Rad	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-108353-2

Project/Site: CCR - Plant Arkwright

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 - F	Radium-226 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)	Count	Total						
			Uncert.	Uncert.				_		
Analyte	Result	Qualifier	(2σ+/-)	(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 Ra2	28 - Con	bined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.279	Ū	0.279	0.279	5.00	0.459	pCi/L		08/14/20 09:10	1

Client: Southern Company Job ID: 180-108353-2

Project/Site: CCR - Plant Arkwright

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 - Ra	adium-226 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 Ra2	28 - Con	bined Rad	dium-226 a	nd Radium	1-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-108353-2

Project/Site: CCR - Plant Arkwright

Client Sample ID: EB Lab Sample ID: 180-108353-4

Matrix: Water

Date Collected: 07/15/20 11:00 Date Received: 07/16/20 09:00

Method: 9315 -	Radium-226 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)	Count	Total						
Analyte	Result	Qualifier	Uncert. (2σ+/-)	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 Ra2	28 - Con	bined Rad	dium-226 a	nd Radium	-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

3

5

6

8

9

11

12

Job ID: 180-108353-2

Client: Southern Company

Project/Site: CCR - Plant Arkwright

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-476816/20-A

Matrix: Water

Matrix: Water

Analysis Batch: 479320

Analysis Batch: 479320

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 476816**

MB MB Uncert. Uncert. Result Qualifier MDC Unit Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RI Prepared Analyzed Dil Fac Radium-226 -0.02039 U 0.120 pCi/L 07/21/20 09:32 08/13/20 14:25 0.0511 0.0511 1.00

Total

MB MB

Carrier Qualifier Limits %Yield Prepared Analyzed Dil Fac Ba Carrier 40 - 110 07/21/20 09:32 08/13/20 14:25 91.4

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 476816

10

Total

Spike LCS LCS Uncert. %Rec. Added RLLimits **Analyte** Result Qual $(2\sigma + / -)$ MDC Unit %Rec Radium-226 15.1 12.87 1.00 0.0987 pCi/L 85 75 ₋ 125 1.34

Count

LCS LCS

Lab Sample ID: LCS 160-476816/1-A

Carrier %Yield Qualifier I imits 40 - 110 Ba Carrier 90.2

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

Total

LCSD LCSD RER **Spike** Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL**MDC** Unit %Rec Limits RER Limit Radium-226 15.1 13.28 1.37 1.00 0.104 pCi/L 88 75 - 125 0.15

LCSD LCSD

Carrier %Yield 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

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-228 0.4445 Ū 0.335 0.337 1.00 0.524 pCi/L 07/30/20 16:30 08/07/20 11:09

> MB MB

Dil Fac Carrier %Yield Qualifier Limits Prepared Analyzed Ba Carrier 89.4 40 - 110 07/30/20 16:30 08/07/20 11:09 81.5 40 - 110 Y Carrier

8/20/2020

QC Sample Results

Client: Southern Company Job ID: 180-108353-2

Project/Site: CCR - Plant Arkwright

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

Lab Sample ID: LCS 160-478065/1-A **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 478895

Prep Type: Total/NA

Prep Batch: 478065

Total Spike LCS LCS Uncert. %Rec. Analyte Added RL **MDC** Unit Limits Result Qual (2σ+/-) %Rec Radium-228 1.00 0.683 pCi/L 75 - 125 10.5 12.64 1.50 120

LCS LCS Carrier %Yield Qualifier Limits 98.8 Ba Carrier 40 - 110 Y Carrier 77.4 40 - 110

Lab Sample ID: LCSD 160-478065/2-A **Client Sample ID: Lab Control Sample Dup**

Matrix: Water

Analysis Batch: 478895

Prep Type: Total/NA

Prep Batch: 478065

Total **Spike** LCSD LCSD Uncert. %Rec. **RER** Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits RER Limit Radium-228 10.5 11.61 1.37 1.00 0.518 pCi/L 75 - 125 0.36 110

LCSD LCSD Carrier %Yield Qualifier Limits Ba Carrier 104 40 - 110 40 - 110 Y Carrier 78.5

QC Association Summary

lient: Southern Company Job ID: 180-108353-2

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

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	

3

4

5

8

9

10

11

12

1:

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468

301 Alpha Drive RIDC Park

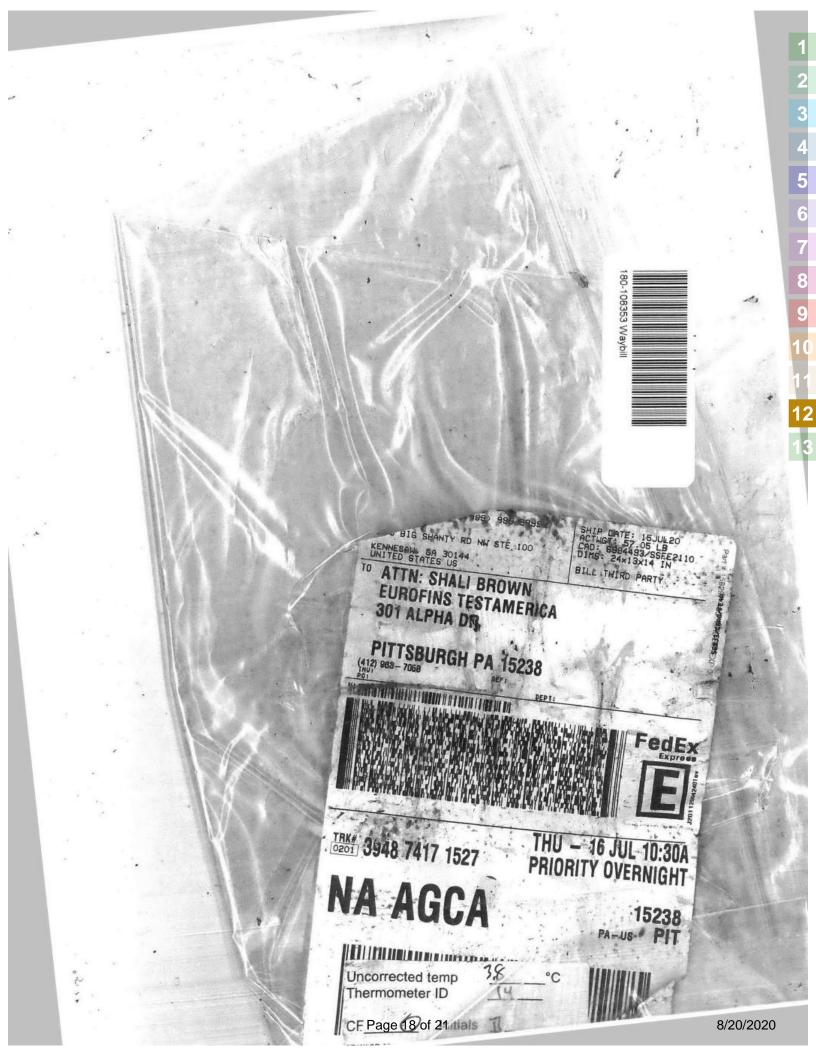
Environment Testing America

S eurofins

N - None
O - Ashado
P - Na204S
Q - Na2503
R - Na25203
S - H2S04
T TSP Dodecahydrate
U - Acetone
W - PH 4-5
Z - other (specify) Ver. 01/16/2019 Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Oisposal By Lab Archive For Month Special Instrur Preservation Codes C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid PH = 5.68 PH = 6-36 I - Ice J - DI Water K - EDTA L - EDA COC No. Total Number of containers)ate/Time: Date/Time Method of Shipment Analysis Requested Socier Temperature(s) "C and Other Remarks Special Instructions/QC Requirements × 2540C_Calcd - Solids, Total Dissolved (TDS) 0 × × × × Z × × × × 300_ORGFM_28D - Chloride Fluoride Sulfate shall.brown@eurofinset.com × ۵ × × × Received by: 0 × × × × × × 0 × 9315_Ra226 - Radium 226 Lab PM: Brown, Shali E-Mail: z z z z Time: Z Kield Filtered Sample (Yes or No) Z z z Matrix Preservation Code 3 3 3 3 Wood SHOOFFUTTS Radiological Sample Type (C=comp, G=grab) 770-421-3365 7.30 0 O O O 00:11 13:10 15:20 Sample Time Date: ANDREAS Due Date Requested: Standard TAT Requested (days): Unknown Date/Time: O7(15/20 Date/Time: PO#. SCS10382606 Sample Date 7-15-20 7-15-20 7-15-20 7-15-20 Project #. 18020201 SSOW#. Jate/Time: Poison B Skin Imitant Possible Hazard Identification

Non-Hazard | Flammable | Skin Irriti
Deliverable Requested: I, III, IV, Other (specify) Custody Seal No. Project Name: CCR - Plant Arkwright App III/IV JAbraham@southernco.com mpty Kit Relinquished by: Address: 241 Ralph McGill Blvd SE Custody Seals Intact
A Yes A No Client Information Sample Identification Southern Company Client Contact. Joju Abraham 404-506-7116 quished by. linquished by: nquished by: ARGWC-23 State, Zip. GA, 30308 ARGWC-22 Atlanta DUP EB



Chain of Custody Record

Pittsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2468		ciam of castody necold	5	icon	i con	3							Auvinea
Client Information (Sub Contract Lab)	Sampler			Lab PM Brown	Lab PM: Brown, Shall				Carrier T	Carrier Tracking No(s):		COC No 180-403247.1	
Client Contact: Shipping/Receiving	Phone			E-Mail.	E-Mail: Shall.Brown@Eurofinset.com	Eurofi	nset.com		State of Ongin Georgia	Jugin:		Page.	
Company. TestAmerica Laboratories, Inc.					Accreditati	ons Red	Accreditations Required (See note)	ole):				Job #:	
Address: 13715 Rider Trail North.	Due Date Requested: 8/18/2020	ed:				1	Ā	Analysis Requested	adueste			Preservation Codes:	odes:
City. Farth City	TAT Requested (days):	ays):			E	H	E			E		A - MCL B - NaOH	M - Mexane N - None
State, Zip. MO, 63045						_						C - Zn Acetate D - Nitric Acid E - NaHSO4	O - Asnao2 P - Na2O4S O - Na2SO3
Phone. 314-298-8566(Tel) 314-298-8757(Fax)	#O#					- 3						F - MeOH G - Amchior	R - Na2S2O3 S - H2SO4
Enail:	WO#:				(0								
Project Name. CCR - Plant Arkwright	Project #: 18020201				N 10 8	1000					siners		W - pH 4-5 Z - other (specify)
Site: Arkwright	SSOW#				ey) as	Sec. V. L.	Эd				f cont	Other:	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample	Sample Type (C=comp, G=arab)	Matrix (Www.ater, S-saled, O-wastebold,	S benetica bield Perform MS/M:	9319/8SSSA_28166	45_8556Ra228_GF				otal Number o		
	X	X	Preserva	Preservation Code:	X	-					2	1	Special instructions/Note:
ARGWC-22 (180-108353-1)	7/15/20	13:10		Water		×	×				-		
ARGWC-23 (180-108353-2)	7/15/20	15:20 Factorn		Water		×	×				-		
DUP (180-108353-3)	7/15/20	Eastern		Water		×	×				-		
EB (180-108353-4)	7/15/20	11:00 Eastern		Water		×	×				-		
						+							
						+	F	ŀ	İ				
Note: Since laboratory accreditations are subject to change, Eurofins: Testkimerica 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 Islaed above for analysis/testsmatrix being analyzed, the samples must be shipped back to the Eurofins Testkimerica abovations will be provided. Any changes to accreditation status should be brought to Eurofins Testkimerica.	Mmerica places the ownership matrix being analyzed, the sa ment to date, return the signed	p of method, an imples must be I Chain of Cust	alyte & accre shipped back ody attesting t	ditation complic to the Eurofin o sald complic	ince upon ou s TestAmeric	if subbora a labora firs Test	itract laboral fory or other America.	ones. This sar	nple shipmer	it is forwarded Any changes	under chain-o	f-oustody if the labo on status should be	oratory does not currently brought to Eurofins
Possible Hazard Identification Uncanfirmed					Samp	Return	le Disposal (A f	fee may be	assessed if sam	if samples	are retain	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	1 month)
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank; 2	sble Rank: 2			Speci	al Instr	uctions/Q(. Requirem	ents:	200		0.00	MOUNTS
Empty Kit Relinquished by:		Date:			Time:	1			Met	Method of Shipment.	#		
Reimquished by. (mal) WWW.	Date/Time:	0707	1700	Company	-Pitt Re	Received by:	F			Date/Time	me:		Company
Reinquished by:	Date/Time: Date/Time:			Company	2 2	Received by Received by	1	Bur		Date-Time	Date/Time:	viedmod 25.90	Company ETAST
		ľ		I,	ő	ooter Ten	nperature(s)	Cooler Temperature(s) "C and Other Remarks	emarks:	-	1		
A res A No					1								

Client: Southern Company Job Number: 180-108353-2

Login Number: 108353 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

Creator: Watson, Debbie		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

2

А

5

6

8

10

11

12

Client: Southern Company

Job Number: 180-108353-2

Login Number: 108353

List Number: 2

List Source: Eurofins TestAmerica, St. Louis

List Creation: 07/18/20 10:23 AM

Creator:	Boyd.	Jacob	C
Oloutol.	DOy u ,	OUCUD	•

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td>Common</td>	True	Common
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

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Andreas Shoredits

Company Name Wood Project Name AP2 Background #7 Site Name Plant Arkwright

00 0' 0" Latitude 00 0' 0" Longitude Sonde SN 369323

Turbidity Make/Model **HACH 2100Q** Pump placement from TOC

Alexis Peristaltic

HDPE

31 ft

23 ft

0.17 in

Well Information: Pumping Information:

Final Pumping Rate Well ID ARGWC-22 150 mL/min Total System Volume 0.3483661 L Well diameter 2.00 in Calculated Sample Rate Well Total Depth 27.87 ft 300 sec Screen Length Stabilization Drawdown 3.36 in 10 ft Depth to Water 13.83 ft **Total Volume Pumped** 3.7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS/	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

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

Pump Information:

Pump Model/Type Alexis Peristaltic

23 ft

Tubing TypeHDPETubing Diameter0.17 inTubing Length31 ft

Pump placement from TOC

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	рН	SpCond μS	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



Environment Testing America

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

LINKS

Review your project results through

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

Laboratory Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	10
QC Sample Results	14
QC Association Summary	17
Chain of Custody	19
Receint Checklists	21

Case Narrative

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

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.

3

5

6

O

0

9

10

1.

Definitions/Glossary

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

Qualifiers

	_			_
ш	п	. ~	/	~
п	_	LL	/ 1	١.

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.

Eisted 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

3

4

E

6

7

10

111

Accreditation/Certification Summary

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

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

 $^{^{\}star} \ \text{Accreditation/Certification renewal pending - accreditation/certification considered valid}.$

Eurofins TestAmerica, Pittsburgh

Sample Summary

Client: Southern Company Project/Site: Plant Arkwright Background Wells 22 23

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Ass
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	

Job ID: 180-111426-1

Method Summary

Client: Southern Company

Project/Site: Plant Arkwright Background Wells 22 23

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

1

5

8

9

. .

12

Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

Client Sample ID: EB-01

Client: Southern Company

Date Collected: 09/22/20 14:00 Date Received: 09/24/20 09:15

Lab Sample ID: 180-111426-1

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: INTEGRION		1			332195	10/03/20 22:54	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	332470	10/06/20 13:44	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: NEMO		1			332836	10/08/20 16:46	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	332506	10/07/20 18:42	MM1	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A t ID: HGZ		1			332827	10/08/20 18:40	KEM	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	331364	09/26/20 06:51	AVS	TAL PIT

Client Sample ID: ARGWC-22

Date Collected: 09/22/20 15:52

Date Received: 09/24/20 09:15

Lab Sample ID: 180-111426-2 **Matrix: Water**

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 at ID: INTEGRION		1			332195	10/03/20 21:10	MJH	TAL PIT
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 at ID: INTEGRION		10			332195	10/03/20 21:31	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	332470	10/06/20 13:44	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B at ID: NEMO		1			332836	10/08/20 16:49	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	332506	10/07/20 18:42	MM1	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A at ID: HGZ		1			332827	10/08/20 18:42	KEM	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	331364	09/26/20 06:51	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling		1			333009	09/22/20 15:52	AGJ	TAL PIT

Client Sample ID: ARGWC-23

Date Collected: 09/22/20 17:22

Date Received: 09/24/20 09:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: INTEGRION		1			332195	10/03/20 18:44	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	332470	10/06/20 13:44	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: NEMO		1			332836	10/08/20 16:51	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	332506	10/07/20 18:42	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A t ID: HGZ		1			332827	10/08/20 18:43	KEM	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Sample ID: 180-111426-3

Matrix: Water

Page 8 of 21

10/12/2020

Lab Chronicle

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	t ID: NOEQUIP								

Lab Sample ID: 180-111426-4 **Client Sample ID: DUP-01**

Date Collected: 09/22/20 00:00 **Matrix: Water**

Date Received: 09/24/20 09:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: INTEGRION		1			332195	10/03/20 21:52	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	332470	10/06/20 13:44	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: NEMO		1			332836	10/08/20 16:54	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	332506	10/07/20 18:42	MM1	TAL PIT
Total/NA	Analysis Instrumen	EPA 7470A t ID: HGZ		1			332827	10/08/20 18:44	KEM	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	331364	09/26/20 06:51	AVS	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			333009	09/22/20 00:00	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

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

Eurofins TestAmerica, Pittsburgh

10/12/2020

Page 9 of 21

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

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

Total Dissolved Solids

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 - N	letals (ICP/MS) - To	otal Recove	erable						
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 - N	lercury (CVAA)								
Analyte	• • •	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

<10

10 mg/L

10/12/2020

09/26/20 06:51

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

Client Sample ID: ARGWC-22

Date Collected: 09/22/20 15:52 Date Received: 09/24/20 09:15

Lab Sample ID: 180-111426-2

Matrix: Water

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 - Meta	als (ICP/MS) - To	otal Recove	erable						
Analyte		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 - Merc	cury (CVAA)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L	<u> </u>	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	<u> </u>		09/26/20 06:51	1
Method: Field Sampling -	Field Sampling								
Analyte	Result	Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
pH	5.77				SU			09/22/20 15:52	1

10/12/2020

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

Client Sample ID: ARGWC-23

Date Collected: 09/22/20 17:22

Lab Sample ID: 180-111426-3

Matrix: Water

Method: EPA 300.0 R2.1 - Analyte	•	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 - Meta	als (ICP/MS) - To	otal Recove	erable						
Analyte		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 - Mer	cury (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

2

3

5

7

a

10

12

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

Client Sample ID: DUP-01

Lab Sample ID: 180-111426-4

Matrix: Water

Date Collected: 09/22/20 00:00 Date Received: 09/24/20 09:15

Method: EPA 300.0 R2.1 -			-	ME.	11-24	_	B	A	D:: F
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Chloride	3.6		1.0		mg/L			10/03/20 21:52	1
Fluoride	0.32		0.10	0.026	U			10/03/20 21:52	1
Sulfate	67		1.0	0.38	mg/L			10/03/20 21:52	1
Method: EPA 6020B - Meta	als (ICP/MS) - To	otal Recove	erable						
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 - Mer	cury (CVAA)								
Analyte	• •	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		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.29				SU			09/22/20 00:00	1

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

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

<0.026

< 0.38

Lab Sample ID: MB 180-332195/6

Matrix: Water

Analyte

Chloride

Fluoride

Sulfate

Analysis Batch: 332195

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

10/03/20 06:50

10/03/20 06:50

MB MB Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac 0.32 mg/L < 0.32 1.0 10/03/20 06:50

0.026 mg/L

0.38 mg/L

Lab Sample ID: LCS 180-332195/5

Matrix: Water

Analysis Batch: 332195

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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	

0.10

1.0

Lab Sample ID: 180-111426-3 MS

Client Sample ID: ARGWC-23 **Matrix: Water** Prep Type: Total/NA Analysis Batch: 332195

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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 Balch: 332195	01-	0	011	MOD					0/ 🗖		-	
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

Client Sample ID: ARGWC-23

Prep Type: Total/NA

	MB	MB							
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 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

Page 14 of 21

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

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

Matrix: Water

Analysis Batch: 332836

Client Sample ID: Method Blank Prep Type: Total Recoverable Prep Batch: 332470 MB MB

Qualifier Analyte Result **MDL** Unit Prepared Analyzed Dil Fac Selenium <0.0015 0.0050 0.0015 mg/L 10/06/20 13:44 10/08/20 15:50 Thallium < 0.00015 0.0010 0.00015 mg/L 10/06/20 13:44 10/08/20 15:50

Lab Sample ID: LCS 180-332470/2-A

Lab Sample ID: MB 180-332470/1-A

Matrix: Water

Client Sample ID: Lab Control Sample **Prep Type: Total Recoverable** Prep Batch: 332470

Analysis Batch: 332836 Spike LCS LCS %Rec. Added Result Qualifier Limits Analyte Unit D %Rec 0.250 0.258 103 80 - 120 Antimony mg/L 1.00 0.943 94 80 - 120 Arsenic mg/L 107 Barium 1.00 1.07 mg/L 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 26.8 107 80 - 120 mg/L Chromium 0.500 0.490 80 - 120 mg/L 98 Cobalt 0.500 0.470 mg/L 94 80 - 120 Lead 0.500 0.487 97 80 - 120 mg/L Lithium 0.500 0.458 mg/L 92 80 - 120 Molybdenum 0.500 0.500 mg/L 100 80 - 120 98 Selenium 1.00 0.976 mg/L 80 - 120 Thallium 1.00 0.951 95 mg/L 80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-332506/1-A

Matrix: Water

Analysis Batch: 332827

MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Mercury <0.00013 0.00020 0.00013 mg/L 10/07/20 18:42 10/08/20 18:25

Lab Sample ID: LCS 180-332506/2-A

Matrix: Water

Analyte

Mercury

Analysis Batch: 332827

Spike Added

0.00250

LCS LCS Result Qualifier

0.00240

Unit

mg/L

%Rec. %Rec Limits

80 - 120

Client Sample ID: Method Blank

96

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 332506

Prep Type: Total/NA

Prep Batch: 332506

Prep Type: Total/NA

10/12/2020

10

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

Lab Sample ID: MB 180-331364/2

Matrix: Water

Analysis Batch: 331364

MB MB

Result Qualifier RL **MDL** Unit Prepared Analyzed Total Dissolved Solids <10 10 10 mg/L 09/26/20 06:51

Eurofins TestAmerica, Pittsburgh

QC Sample Results

Client: Southern Company Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

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

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

Matrix: Water

Analysis Batch: 331364

Lab Sample ID: LCS 180-331364/1

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Total Dissolved Solids	632	624		mg/L		99	80 - 120	

Lab Sample ID: 180-111426-3 DU Client Sample ID: ARGWC-23 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 331364

	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	310		306		mg/L		 2	10

Client Sample ID: DUP-01 Lab Sample ID: 180-111426-4 DU Prep Type: Total/NA

Matrix: Water

Analysis Batch: 331364

Sample Sample DU DU RPD Result Qualifier RPD Analyte Result Qualifier Unit Limit Total Dissolved Solids 300 310 mg/L

QC Association Summary

Client: Southern Company

Project/Site: Plant Arkwright Background Wells 22 23

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

Eurofins TestAmerica, Pittsburgh

Page 17 of 21

Job ID: 180-111426-1

QC Association Summary

Client: Southern Company

Job ID: 180-111426-1

Project/Site: Plant Arkwright Background Wells 22 23

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 180-111426-2	Client Sample ID ARGWC-22	Prep Type Total/NA	Matrix Water	Method Field Sampling	Prep Batch
180-111426-3	ARGWC-23	Total/NA	Water	Field Sampling	
180-111426-4	DUP-01	Total/NA	Water	Field Sampling	

L ID. 400 444400

10/12/2020

301 Alpha Drive RIDC Park Pitsburgh. PA 15238 Phone: 412-963-7058 Fax: 412-963-2468	c	nain of Custody Record	ustod	ly Rec	ord	1	-	=	5			Stranonord led America
Client Information	Daniel	Howard	Ø	Lab PM. Brown, Shali	ile	7	H		V TIV V Carperton	4-10-0	W 64070-12387.1	2387.1
Client Contact: Joju Abraham	Phone;			E-Mail: Shall:Brown@Eurofinset.com	wn@Eur	ofinset.c	mo				Page 1 of 1	
Campany. Southern Campany				-			Anal	rsis Re	Analysis Requested		Job #.	
Address 24.1 Rainh McGill Rivel SF R10.186	Due Date Requested:	1, 2,			1000	F	-				Preservation Codes	Codes:
Cory Alfanta State. Zip	TAT Requested (day	S &		T							A - HCL B - NaOH C - Zn Acetate D - Navic Acid	M - Hexane N - None O - AsNaO2 P - Na2O4S
GA, 30308				T	To Mark Co		otelli	(saı		_	F - MeOH	Q - Na2SO3 R - Na2S2O3
Phone	GPC11064570			(0)	700		ng əp	L) pox			G - Amethor H - Ascorbic Ac	S-H2SO4
Email JAbraham@scuthernco.com	WO#					9777	Fluori	lossiQ				U - Acetone V - MCAA
Project Name: CCR - Plant Arkwright	Project #: 18020201				526		abirolr	IstoT.			FOTA - EDA	W - pH 4-5 Z - other (specify)
Sae. Georgia	SSOWW				wnipe:		3D - CF	spilos,			of cor	
Sample Identification	Sammio Date	Sam Ty Sample (C=c Time	Sample (www. Type (www. C=comp, own.	benattiil blei	MS/M m107e ⁹ 8 - 855.6 A 210	D_8226F82245 F - 8526F1_0551	A07-b7 (8050)	:- boleD_D050			Tedmuk Isto	Successive Modes
CONTROL OF THE CONTRO	X	1	Preservation Code:	X	0	+	+-	-			1	III III SHAKWOII SHOKE
E8-01	9/22/20	1400 G	-		×	×	1.0	×		17	Pag.	
A RGWC-22	,	1552 G	3		×	×	×	×		7	S DH=	5,7.7
A RGWC-23		_			×	×	X	×		T	S H =	6:29
DWP-01	>	-	+		×	×	X			7	E H	67.9
										180-111428	180-111426 Chain of Custody	
100	Boicon B	- Dayloriva	Jeojeon	-	ample	lisposa To	(A fee	may be	assessed if	samples are n	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	an 1 month)
1		1		S	Special Instructions/QC Requirements	struction	NS/QC F	equirem	ents:	700	in a second	INCITATION
Empty Kit Relinquished by:		Date:		Time:				1	Method	Method of Shipment.		
Reinquished by. Howard Reinquished by.	9/23/20 GaleAfrime	11245	Company	any any	Received by:	200	3			Date/Time:	20 gis	Company Company
ReInquished by:	Date/Time:		Company	, Jun	Received by	od by				Date/Time:		Company
Custody Seals Intact: Custody Seal No.:			-		Cooler	Temperat	O _e (s)euro	Cooler Temperature(s) °C and Other Remarks	Remarks			
					4							

Do Not Lift Using This Tag

DRIEIN ID:NCGA (770) 421-3382 DANEEL HOURD WOOD E 4 IS 1075 BIG SHANTY RD NH STE 100 KENNESAL, GA 30144 UNITED STATES US

SHIP DATE: 23SEP20 ACTWGT: 57,90 LB CAD: 699634/SFE2110 DIMS: 23x13x13 IN BILL THIRD PARTY

PART 6 188897 9928/SHST/91898 11/20

EUROFINS TEST AMERICA PITTSBURGH PA 15238 O SAMPLE RECEIVING 301 ALPHA DR RIDC PARK

(412) 983-7058

FedEx

PRIORITY OVERNIGHT THU - 24 SEP 10:30A

3971 2220 7888

1 of 2

MASTER

늗

PA-US

Thermometer ID

O Initials 7

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

180-111426 Waybill

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.</td <td>True</td> <td></td>	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	

True True

N/A

Eurofins TestAmerica, Pittsburgh

Multiphasic samples are not present.

Residual Chlorine Checked.

Samples do not require splitting or compositing.



2

3

-4

6

8

10

12

1,



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:

🔅 eurofins

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

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

Laboratory Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	5
Certification Summary	
Sample Summary	7
Method Summary	8
Lab Chronicle	9
Client Sample Results	11
QC Sample Results	15
QC Association Summary	17
Chain of Custody	18
Racaint Chacklists	21

Case Narrative

Client: Southern Company

Project/Site: Plant Arkwright Background Wells 22 23

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:

-

Job ID: 180-111426-2

4

5

6

1

a

10

12

1.

Case Narrative

Client: Southern Company

Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

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.

3

4

5

8

11

12

Definitions/Glossary

Client: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

Qualifiers

Rad
Qualifier

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
1.1	Deput is less than the comple detection limit

U Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.

Eisted 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

3

4

6

7

_

10

11

12

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
lowa	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

5

7

a

10

10

Sample Summary

Client: Southern Company Project/Site: Plant Arkwright Background Wells 22 23

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset
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	

Job ID: 180-111426-2

Method Summary

Client: Southern Company

Project/Site: Plant Arkwright Background Wells 22 23

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

Job ID: 180-111426-2

Client: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

Client Sample ID: EB-01

Date Collected: 09/22/20 14:00

Lab Sample ID: 180-111426-1

Lab Sample ID: 180-111426-2

Matrix: Water

Matrix: Water

Date Received: 09/24/20 09:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumen	9315 t ID: GFPCRED		1			486850	10/26/20 09:56	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.95 mL	1.0 g	484437	10/02/20 07:05	AVB	TAL SL
Total/NA	Analysis Instrumen	9320 t ID: GFPCBLUE		1			486425	10/20/20 12:49	SCB	TAL SL
Total/NA	Analysis Instrumen	Ra226_Ra228 t ID: NOEQUIP		1			487753	11/02/20 20:51	GRW	TAL SL

Client Sample ID: ARGWC-22

Date Collected: 09/22/20 15:52

Date Received: 09/24/20 09:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			486850	10/26/20 09:56	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.70 mL	1.0 g	484437	10/02/20 07:05	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCORANGE	<u> </u>	1			486271	10/20/20 12:55	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			487753	11/02/20 20:51	GRW	TAL SL

Client Sample ID: ARGWC-23 Lab Sample ID: 180-111426-3 Date Collected: 09/22/20 17:22

Date Received: 09/24/20 09:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			486850	10/26/20 09:56	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.11 mL	1.0 g	484437	10/02/20 07:05	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCORANGE	Ē	1			486271	10/20/20 12:56	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228		1			487753	11/02/20 20:51	GRW	TAL SL

Client Sample ID: DUP-01 Lab Sample ID: 180-111426-4 Date Collected: 09/22/20 00:00

Date Received: 09/24/20 09:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	t ID: GFPCRED								

Eurofins TestAmerica, Pittsburgh

Page 9 of 22

Matrix: Water

Matrix: Water

Lab Chronicle

Client: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9320 nt ID: GFPCORANG	SE.	1			486271	10/20/20 12:56	SCB	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			487753	11/02/20 20:51	GRW	TAL SL

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

3

4

6

8

9

10

Client: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

Client Sample ID: EB-01

Date Collected: 09/22/20 14:00 Date Received: 09/24/20 09:15

Lab Sample ID: 180-111426-1 **Matrix: Water**

Method: 9315 - Ra	adium-226 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	ibined Rad	dium-226 a	nd Radium	1-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

Client Sample ID: ARGWC-22

Date Collected: 09/22/20 15:52 Date Received: 09/24/20 09:15 Lab Sample ID: 180-111426-2

Matrix: Water

Method: 9315 - F	Naululli-220 (GI FO)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - F	Radium-228 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 Ra	228 - Combined	l Radium-226 a	and Radiur	n-228					
_		Count	Total						
		Uncert.	Uncert.						
Analyte	Result Qualif	ier (2σ+/-)	(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: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

Client Sample ID: ARGWC-23

Date Collected: 09/22/20 17:22 Date Received: 09/24/20 09:15 Lab Sample ID: 180-111426-3

Matrix: Water

Method: 9315 - R	adium-226 (GFPC)	0	7.4.1						
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.119		0.304	0.304	1.00	0.565		10/02/20 07:05		1
Carrier		Qualifier	Limits	0.304	1.00	0.505	POWE	Prepared	Analyzed	Dil Fac
		Qualifier								- In rac
Ba Carrier	83.7		40 - 110					10/02/20 07:05	10/20/20 12:56	7
Y Carrier	72.9		40 - 110					10/02/20 07:05	10/20/20 12:56	1

Method: Ra226_Ra2	228 - Con	bined Rad	dium-226 a	nd Radiun	1-228					
_			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

Client Sample ID: DUP-01

Lab Sample ID: 180-111426-4

Matrix: Water

Date Collected: 09/22/20 00:00 Date Received: 09/24/20 09:15

Method: 9315 - R	adium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - F	Radium-228 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 Ra	228 - Con	bined Ra	dium-226 a	nd Radiun	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Eurofins TestAmerica, Pittsburgh

Client: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-484436/23-A

Matrix: Water

Analysis Batch: 486850

Lab Sample ID: LCS 160-484436/1-A

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 484436

MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac 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

Total

MB

Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 93.5 40 - 110 10/02/20 06:38 10/26/20 11:48

Client Sample ID: Lab Control Sample

75 - 125

Prep Type: Total/NA

Prep Batch: 484436

Matrix: Water Analysis Batch: 486850

Spike

Added

40 - 110

11.3

LCS LCS

Result Qual

17.39

Count

Total

1.87

1.00

%Rec. Uncert. $(2\sigma + / -)$ RL %Rec Limits MDC Unit 0.187 pCi/L

LCS LCS %Yield Qualifier Limits

Lab Sample ID: LCSD 160-484436/2-A

74.0

Matrix: Water

Analyte

Carrier

Ba Carrier

Radium-226

Analysis Batch: 486850

Client Sample ID: Lab Control Sample Dup

153

Prep Type: Total/NA

Prep Batch: 484436

Total LCSD LCSD %Rec. **RER** Spike Uncert. Analyte Added $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Result Qual RER Limit Radium-226 11.3 15.16 1.65 1.00 0.181 pCi/L 134 75 - 125 0.64

LCSD LCSD Carrier %Yield Qualifier Limits Ba Carrier 79.0 40 - 110

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

Count Total MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Dil Fac Analyzed Radium-228 0.2421 Ū 0.285 0.286 1.00 0.470 pCi/L 10/02/20 07:05 10/20/20 12:57

> MB MB

Carrier %Yield Qualifier Limits Prepared Dil Fac Analyzed Ba Carrier 93.5 40 - 110 10/02/20 07:05 10/20/20 12:57 40 - 110 Y Carrier 79.6 10/02/20 07:05 10/20/20 12:57

Eurofins TestAmerica, Pittsburgh

QC Sample Results

Client: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

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

Lab Sample ID: LCS 160-484437/1-A **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 486425

Prep Type: Total/NA Prep Batch: 484437

				iotai						
	Spike	LCS	LCS	Uncert.					%Rec.	
Analyte	Added	Result	Qual	(2σ+/-)	RL	MDC	Unit	%Rec	Limits	
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 **Client Sample ID: Lab Control Sample Dup**

Matrix: Water

Analysis Batch: 486425

Prep Type: Total/NA

Prep Batch: 484437

				Total						
	Spike	LCSD	LCSD	Uncert.				%Rec.		RER
Analyte	Added	Result	Qual	(2σ+/-)	RL	MDC U	nit %Rec	Limits	RER	Limit
Radium-228	7.72	7.414		0.983	1.00	0.465 pC	Ci/L 96	75 - 125	0.46	1

LCSD LCSD Carrier %Yield Qualifier Limits Ba Carrier 79.0 40 - 110 77.8 40 - 110 Y Carrier

11/5/2020

QC Association Summary

Client: Southern Company Job ID: 180-111426-2

Project/Site: Plant Arkwright Background Wells 22 23

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	

2

3

-

6

7

0

Eurofins TestAmerica, Pittsburgh 301 Alpha Drive RIDC Park Pitsburgh. PA 15238 Phone: 412-963-7058 Fax. 412-983-2468	Chain of Cu	Chain of Custody Record		Seurofins Environment beckin
Client Information	Daniel Howard	Lab PM. Brown, Shall	A TIMO Cardenia	st-77 (2.64070-12387.1
Client Centact: Joju Abraham		E-Mail: Shali.Brown@Eurofinset.com	ofinset.com	Page Page 1 of 1
Cempany: Southern Company			Analysis Requested	Job #:
Address. 241 Ratoh McGill Blvd SE B10185	Due Date Requested:			Pos
Cey. Atlanta	TAT Requested (days):			
State, Zip. GA, 30308				D - Niric Acid P - Na204S E - NaHSO4 D - Na2SO3
Phone	PO# GPC11084570	(0		32
Email JAbraham@southernco.com	WO #.	(oN	Pluorit	1 - Ice J - Di Water
Project Name: CCR - Plant Arkwright	Project #: 18020201	556 63 OL	822 abinol	R K - EDTA W - pH 4-5
Sae. Georgia	SSOWW	wuibe	PD - CP	of con
Sample Manification		Malrix Greater Grea	020, Fa.228, CF. 020, Fa.228, F. 020, CAGFFM_28 0208, 7470A	otal Number
Sample Identification	X	tion Code: XX D	2 Z Z S O O O O O	Special instructions/Note:
E8-01	9/22/20 1400 G	3	×××	1,1
A RGWC-22	1552	3	XXX	4 8 DH=5,7.7
A	-/	3	×××××	HO H
A	1	3	×	4 8 0 H=6,29
			80	180-111426 Chain of Custody
Possible Hazard Identification	Doicon B Theorem Dadiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	oles are retained longer than 1 month)
ssted: I, II, III, IV, Other (specify)			Special Instructions/QC Requirements:	STOTING FOR
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment	sment:
Refined by Howard Reinquisted by	9/23/20 / 12 4 5	Company Received by	2	Date Times Company Company Describes Company
Reinquished by:	Date/Time:	Company Received by		Date/Time: Company
Custody Seals Intact: Custody Seal No:		Cooler	Cooler Temperature(s) ⁹ C and Other Remarks:	
J				Vice 01/16/0010

Do Not Lift Using This Tag

DRIEIN ID:NCGA (770) 421-3382 DANEEL HOURD WOOD E 4 IS 1075 BIG SHANTY RD NH STE 100 KENNESAL, GA 30144 UNITED STATES US

SHIP DATE: 23SEP20 ACTWGT: 57,90 LB CAD: 699634/SFE2110 DIMS: 23x13x13 IN BILL THIRD PARTY

EUROFINS TEST AMERICA O SAMPLE RECEIVING

PART 6 188897 9928/SHST/91898 11/20

PITTSBURGH PA 15238 301 ALPHA DR RIDC PARK

(412) 983-7058

FedEx



THU - 24 SEP 10:30A PRIORITY OVERNIGHT

3971 2220 7888

MASTER

1 of 2

늗

PA-US

Thermometer ID

O Initials PT-WI-SR-001 effective 11/8/18 7

180-111426 Waybill

Ver. 01/16/2019

soment Testing Seurofins :

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238

Phone: 412-963-7058 Fax: 412-963-2468

	-	
	ь.	
	е-	
	Ę.	
	σ.	
-		
=		
=		
=		
-		
•		
•		
=		
•		
=		
=		
=		
=		
=		
=		
×		
-		
=		
-		
=		
=		
•		
=		
=		
=		
-		
•		
=		
•		
=		
-		
•		
-		
=		
_		
•		
,		
_		
-		
٠.		
ø		
3		
u		
2		
•		
-		
_		
-		
٠		
,		
•		
3		
٠		
3		
0		
-		
3		
_		

N - None
O - ANACAS
O - NAZOGS
O - NAZOGS
R - NAZOGS
R - NAZOGA
T - TSP Dodecahydrate
V - MCAN Social phoratory accreditations are subject to change. Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins establishmenical aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins establishmenical attentions. If all requested accreditations are current to date, return the signed Chain of Custody attenting to said complicance to Eurofins. TestAmerica. **ETASTL** Special Instructions/Note: W - pH 4-5 Z - other (specity) Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Mont reservation Codes A - HCL 8 - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 G - Amchlor H - Ascorbic Acid J - Di Water K - EDTA COC No: 180-412754.1 180-111426-2 02:30 Page 1 of 1 9/20/20 Total Number of containers -Date/Time: mer Tracking No(s) state of Origin Analysis Requested Georgia coler Temperature(s) "C and Other Remarks. Special Instructions/QC Requirements: E-Mait Shali.Brown@Eurofinset.com 8ZZ-unipey × × × × Sceived by.C Razzerazza GfPC/ Con ceived by: Received by × × × × decay 9315_RazzelPrecSep_21 Radium-226 (GFPC) - 21 day × × × × Brown, Shall Perform MS/MSD (Yes or No) ime (on so key) eign Company Of Preservation Code: Water Matrix Water Water Water ompany. Type (C=comp. G=grab) Sample Primary Deliverable Rank: 2 Eastern 15:52 Eastern 17:22 Eastern Eastern (AT Requested (days) Oue Date Requested: Sample Date 9/22/20 9/22/20 9/22/20 10/27/2020 9/22/20 Project #: 18020201 Date/Time: Date/Time: Client Information (Sub Contract Lab) eliverable Requested: I, II, III, IV, Other (specify) Custody Seals Intact: Custody Seal No. Sample Identification - Client ID (Lab ID) 314-298-8566(Tel) 314-298-8757(Fax) Plant Arkwright Background Wells 22 23 Fedex ossible Hazard Identification TestAmerica Laboratories, Inc. ARGWC-23 (180-111426-3) ARGWC-22 (180-111426-2) Empty Kit Relinquished by: DUP-01 (180-111426-4) 13715 Rider Trail North EB-01 (180-111426-1) Shipping/Receiving shed by: peuulinoou quished by: nquished by: State, Zip. MO, 63045 Earth City Arkwright

Client: Southern Company

Job Number: 180-111426-2

Login Number: 111426 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

Creator. Jay, Momas C		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

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.</td <td>True</td> <td>Comment</td>	True	Comment
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	

Eurofins TestAmerica, Pittsburgh

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

00 0' 0" Latitude 00 0' 0" Longitude 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	рН	SpCond µS/	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

Tubing Type

Tubing Diameter

Tubing Length

Project Information: Pump Information: Operator Name Pump Model/Type Daniel Howard

Company Name Wood E&IS Project Name Plant Arkwright AP2 CCR

Site Name ARGWC-23 00 0' 0" Latitude 00 0' 0" Longitude Sonde SN 369323

Turbidity Make/Model Hach 2100Q Pump placement from TOC

23.1 ft

Peristaltic

HDPE

.17 in

28.1 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	рН	SpCond μS	/cmTurb 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

Review your project results through

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

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	12
QC Sample Results	22
QC Association Summary	27
Chain of Custody	30
Receint Checklists	38

4

8

9

10

12

13

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.

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 Job ID: 180-111648-1

Project/Site: CCR - Plant Arkwright AP-2DAS

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.

Eisted 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

_ |

3

4

5

6

7

8

9

12

1,

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

•

-

9

10

46

13

 $^{^{\}star} \ \text{Accreditation/Certification renewal pending - accreditation/certification considered valid}.$

Eurofins TestAmerica, Pittsburgh

Sample Summary

Client: Southern Company Project/Site: CCR - Plant Arkwright AP-2DAS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
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

Job ID: 180-111648-1

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

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	TAI 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

Job ID: 180-111648-1

6

4

5

6

10

11

40

Client Sample ID: ARGWA-19

Date Collected: 09/29/20 15:25

Lab Sample ID: 180-111648-1

Matrix: Water

Date Received: 09/30/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: INTEGRION		1			332371	10/06/20 17:47	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	333113	10/12/20 15:58	TJO	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: NEMO		1			334462	10/22/20 14:59	RSK	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	331996	10/01/20 12:36	GRB	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			333130	09/29/20 15:25	AGJ	TAL PIT

Client Sample ID: ARGWA-20

Date Collected: 09/30/20 11:28

Lab Sample ID: 180-111686-1

Matrix: Water

Date Received: 10/01/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: INTEGRION		1			332371	10/06/20 20:14	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis Instrumen	EPA 6020B t ID: A		1			334271	10/21/20 20:13	RSK	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	332159	10/02/20 14:35	GRB	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			333128	09/30/20 11:28	AGJ	TAL PIT

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

Prep Type Total/NA	Batch Type Analysis Instrumer	Batch Method EPA 300.0 R2.1 at ID: INTEGRION	Run	Dil Factor	Initial Amount	Final Amount	Batch Number 332371	Prepared or Analyzed 10/06/20 08:45	Analyst MJH	Lab TAL PIT
Total Recoverable Total Recoverable	Prep Analysis Instrumer	3005A EPA 6020B nt ID: A		1	50 mL	50 mL	333214 334271	10/13/20 09:41 10/21/20 20:17		TAL PIT TAL PIT
Total/NA	Analysis Instrumer	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	332159	10/02/20 14:35	GRB	TAL PIT

Client Sample ID: ARGWC-22

Date Collected: 09/30/20 14:00

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
	Instrumen	t ID: INTEGRION								

Eurofins TestAmerica, Pittsburgh

Lab Sample ID: 180-111686-3

Matrix: Water

Job ID: 180-111648-1

Client Sample ID: ARGWC-22

Project/Site: CCR - Plant Arkwright AP-2DAS

Lab Sample ID: 180-111686-3 Date Collected: 09/30/20 14:00

Matrix: Water

Date Received: 10/01/20 09:00

Client: Southern Company

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrument	SM 2540C ID: NOEQUIP		1	100 mL	100 mL	332159	10/02/20 14:35	GRB	TAL PIT
Total/NA	Analysis Instrument	Field Sampling ID: NOEQUIP		1			333128	09/30/20 14:00	AGJ	TAL PIT

Client Sample ID: ARAMW-1

Date Collected: 09/30/20 15:56

Lab Sample ID: 180-111686-4

Date Received: 10/01/20 09:00

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrument	EPA 300.0 R2.1 ID: INTEGRION		1			332371	10/06/20 22:39	MJH	TAL PIT
Total/NA	Analysis Instrument	EPA 300.0 R2.1 ID: INTEGRION		5			332371	10/06/20 23:00	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PIT
Total Recoverable	Analysis Instrument	EPA 6020B ID: A		1			334271	10/21/20 20:24	RSK	TAL PIT
Total/NA	Analysis Instrument	SM 2540C ID: NOEQUIP		1	100 mL	100 mL	332159	10/02/20 14:35	GRB	TAL PIT
Total/NA	Analysis Instrument	Field Sampling ID: NOEQUIP		1			333128	09/30/20 15:56	AGJ	TAL PIT

Client Sample ID: FB-02

Date Collected: 10/01/20 09:35 Date Received: 10/02/20 09:00

Lab Sample ID: 180-111740-1 **Matrix: Water**

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t ID: INTEGRION		1			333015	10/12/20 15:12	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 20:53	RSK	TAL PIT
	Instrumen	t 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
	Instrumen	t ID: HGY								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
	Instrumen	t ID: NOEQUIP								

Job ID: 180-111648-1

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWC-23

Date Collected: 10/01/20 11:58 Date Received: 10/02/20 09:00

Client: Southern Company

Lab Sample ID: 180-111740-2

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t 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 Instrumen	EPA 7470A t ID: HGY		1			333677	10/15/20 19:34	KEM	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling t ID: NOEQUIP		1			333127	10/01/20 11:58	AGJ	TAL PIT

Lab Sample ID: 180-111740-3 **Client Sample ID: DUP-02** Date Collected: 10/01/20 00:00

Matrix: Water

Date Received: 10/02/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			333015	10/12/20 13:27	MJH	TAL PI
	Instrumen	t ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	333214	10/13/20 09:41	KHM	TAL PI
Total Recoverable	Analysis Instrumen	EPA 6020B at ID: A		1			334271	10/21/20 21:00	RSK	TAL PI
Total/NA	Analysis Instrumen	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	332342	10/05/20 16:37	GRB	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling		1			333127	10/01/20 00:00	AGJ	TAL PI

Client Sample ID: ARAMW-2 Lab Sample ID: 180-111741-1

Date Collected: 10/01/20 15:12

Date Received: 10/02/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 ID: INTEGRION		1			333015	10/12/20 12:25	MJH	TAL PIT
Total/NA	Analysis Instrumen	EPA 300.0 R2.1 t 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 Instrumen	EPA 6020B t ID: A		1			334271	10/21/20 21:03	RSK	TAL PIT
Total/NA	Analysis Instrumen	SM 2540C t ID: NOEQUIP		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Total/NA	Analysis Instrumen	Field Sampling		1			333127	10/01/20 15:12	AGJ	TAL PIT

Eurofins TestAmerica, Pittsburgh

Matrix: Water

Lab Chronicle

Client: Southern Company

Job ID: 180-111648-1

Project/Site: CCR - Plant Arkwright AP-2DAS

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 Instrumer	EPA 300.0 R2.1 at ID: INTEGRION		1			333015	10/12/20 12:46	MJH	TAL PIT
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at ID: INTEGRION		5			333147	10/13/20 08:17	MJH	TAL PIT
Total Recoverable Total Recoverable	Prep Analysis Instrumer	3005A EPA 6020B at ID: A		1	50 mL	50 mL	333214 334271	10/13/20 09:41 10/21/20 21:07		TAL PIT TAL PIT
Total/NA	Analysis Instrumer	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	332329	10/05/20 15:06	GRB	TAL PIT
Total/NA	Analysis Instrumer	Field Sampling at 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

6

9

12

1:

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWA-19

Date Collected: 09/29/20 15:25 Date Received: 09/30/20 09:00

Lab Sample ID: 180-111648-1

Matrix: Water

Job ID: 180-111648-1

Method: EPA 300.0 R2.1 - Ar	nions, Ion Chromat	tography						
Analyte	Result Quali	ifier 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

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	Dogult	Ovalifian	DI.	MDI	l lm:4	Б	Drawarad	Amahamad	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	ט	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: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWA-20

Date Collected: 09/30/20 11:28

Lab Sample ID: 180-111686-1

Matrix: Water

Job ID: 180-111648-1

Dat	e Received	10/01/20 09:00	

1	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
Н	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

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	•
Boron	0.083		0.080	0.039	mg/L		10/13/20 09:41	10/21/20 20:13	
Calcium	9.9		0.50	0.13	mg/L		10/13/20 09:41	10/21/20 20:13	•
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	•
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
Analyto

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: Fleid Sampling - Fleid	Sampling								
Analyte	Result (Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
рН	5.65				SU			09/30/20 11:28	1

Client: Southern Company Job ID: 180-111648-1

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: EB-02 Lab Sample ID: 180-111686-2

Date Collected: 09/30/20 12:20
Date Received: 10/01/20 09:00

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			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

Analyte	Result Qualifi	er 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: Southern Company

5.81

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWC-22

Date Collected: 09/30/20 14:00 Date Received: 10/01/20 09:00

pН

Lab Sample ID: 180-111686-3

Matrix: Water

Job ID: 180-111648-1

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 - Meta	als (ICP/MS) - To	otal Recove	erable						
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	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

SU

Eurofins TestAmerica, Pittsburgh

09/30/20 14:00

2

__

6

8

9

11

12

13

Client: Southern Company Job ID: 180-111648-1

Project/Site: CCR - Plant Arkwright AP-2DAS

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

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 - Meta	als (ICP/MS) - To	otal Recove	erable						
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
рН	6.16	·			SU			09/30/20 15:56	1

Client: Southern Company Job ID: 180-111648-1

Project/Site: CCR - Plant Arkwright AP-2DAS

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 R	2.1 - Anions, Ion Chr	omatography	/						
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) - To	tal Recovera	ble						
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

mothodi Elitti iliorodi y	(370)						
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	l CI	hemi	strv

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

6

7

9

10

12

13

2

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWC-23

Date Collected: 10/01/20 11:58

Lab Sample ID: 180-111740-2

Matrix: Water

Job ID: 180-111648-1

Date	Received:	10/02/20	09:00

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 - Meta	als (ICP/MS) - To	otal Recov	erable						
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 - Merc	cury (CVAA)								
Analyte		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 - I	Field Sampling								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.38				SU			10/01/20 11:58	1

Client: Southern Company Job ID: 180-111648-1

Project/Site: CCR - Plant Arkwright AP-2DAS

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

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 - Meta	als (ICP/MS) - To	otal Recove	rable						
Analyte	•	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		D	Prepared	Analyzed	Dil Fac
pH	6.38				SU			10/01/20 00:00	1

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARAMW-2

5.96

Lab Sample ID: 180-111741-1 Date Collected: 10/01/20 15:12 **Matrix: Water**

Date Received: 10/02/20 09:00

pН

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 - Me	tals (ICP/MS) - To	otal Recove	erable						
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

SU

Job ID: 180-111648-1

10/01/20 15:12

Client: Southern Company

500

5.99

Result Qualifier

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWC-21

Date Collected: 10/01/20 16:08 Date Received: 10/02/20 09:00

Total Dissolved Solids

Analyte

pН

Method: Field Sampling - Field Sampling

Lab Sample ID: 180-111741-2

Matrix: Water

Job ID: 180-111648-1

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 - Meta	als (ICP/MS) - To	otal Recove	rable						
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

10

RL

10 mg/L

MDL Unit

SU

10/05/20 15:06

Analyzed

10/01/20 16:08

Prepared

10/29/2020 (Rev. 1)

2

5

0

8

9

10

12

13

Dil Fac

Project/Site: CCR - Plant Arkwright AP-2DAS

Lab Sample ID: MB 180-332371/38

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

Client Sample ID: Method Blank

Prep Type: Total/NA

Job ID: 180-111648-1

Analysis Batch: 332371

Matrix: Water

	MB	MB							
Analyte	Result	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 Client Sample ID: Method Blank **Matrix: Water Prep Type: Total/NA**

Analysis Batch: 332371

	MR	MR							
Analyte	Result	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
	Chloride Fluoride	AnalyteResultChloride<0.32	Chloride <0.32 Fluoride <0.026	Analyte Result of the control of the cont	Analyte Result Chloride Qualifier RL Chloride MDL Chloride Fluoride <0.32	Analyte Result of the control of the cont	Analyte Result Chloride Qualifier RL RL O.32 MDL O.32 mg/L D MDL O.32 mg/L Fluoride <0.026	Analyte Result Chloride Qualifier RL NDL Unit Prepared D MDL Unit MDL Unit MDL MIT	Analyte Result Chloride Qualifier RL RL OLIGIDATION MDL Unit MDL Unit MDL Unit MDL MIT MDL

Lab Sample ID: LCS 180-332371/37 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA**

Analysis Batch: 332371

Spike LCS LCS %Rec. Added Result Qualifier Unit Limits Analyte D %Rec 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 90 - 110 94

Lab Sample ID: LCS 180-332371/5 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 332371

		Spike	LCS	LCS				%Rec.	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Chloride	 50.0	49.6		mg/L		99	90 - 110	_
ı	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 **Client Sample ID: ARGWA-20** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 332371

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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 **Client Sample ID: ARGWA-20 Matrix: Water** Prep Type: Total/NA

Analysis Batch: 332371

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	•	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

Eurofins TestAmerica, Pittsburgh

Job ID: 180-111648-1

10

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

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

Lab Sample ID: MB 180-333015/6 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 333015

Prep Type: Total/NA MB MB

Analyte Result Qualifier RL **MDL** Unit Dil Fac D **Prepared** Analyzed 0.32 mg/L Chloride < 0.32 1.0 10/12/20 06:06 Fluoride <0.026 0.10 0.026 mg/L 10/12/20 06:06

Lab Sample ID: LCS 180-333015/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 333015

%Rec. Spike LCS LCS Analyte Added Result Qualifier Unit %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 **Client Sample ID: DUP-02 Matrix: Water** Prep Type: Total/NA

Analysis Batch: 333015

Spike MS MS %Rec. Sample Sample Result Qualifier Added Analyte Result Qualifier Limits Unit D %Rec Chloride 3.8 50.0 56.1 105 90 - 110 mg/L 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 **Client Sample ID: DUP-02 Matrix: Water Prep Type: Total/NA**

Analysis Batch: 333015

_	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 333147

		MB						
Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<0.38		1.0	0.38 mg/L			10/13/20 05:08	

Lab Sample ID: LCS 180-333147/5 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Apolysia Databy 222447

Analysis balch: 555147								
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Sulfate		47.0		ma/l	_	94	90 _ 110	

Eurofins TestAmerica, Pittsburgh

10/29/2020 (Rev. 1)

Project/Site: CCR - Plant Arkwright AP-2DAS

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

Job ID: 180-111648-1

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 14:08	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

MB MB

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

Spike LCS LCS %Rec. Added Limits **Analyte** Result Qualifier Unit D %Rec Arsenic 1.00 1.02 mg/L 102 80 - 120 Barium 1.00 0.998 80 - 120 mg/L 100 Beryllium 0.500 0.516 mg/L 103 80 - 120 Boron 1.25 80 - 120 1.11 mg/L 89 Calcium 25.0 27.6 mg/L 110 80 - 120 Chromium 0.500 0.502 mg/L 100 80 - 120 Cobalt 0.500 0.502 100 80 - 120 mg/L Lead 0.500 0.505 101 80 - 120 mg/L 0.500 Lithium 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

	MB	MB							
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 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

Page 24 of 41

Job ID: 180-111648-1

Client: Southern Company Project/Site: CCR - Plant Arkwright AP-2DAS

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

Lab Sample ID: LCS 180-333214/2-A **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total Recoverable** Prep Batch: 333214

Analysis Ratch: 334271

Analysis batch: 334271							Prep Batch: 333214
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	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 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 334457

Prep Batch: 333214 Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit Calcium 25.0 27.7 111 80 - 120 mg/L

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-333418/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA Prep Batch: 333418

Analysis Batch: 333677

MB MB **MDL** Unit **Analyte** Result Qualifier RL Prepared Analyzed Dil Fac < 0.00013 0.00020 <u>10/14/20 13:01</u> <u>10/15/20 19:12</u> Mercury 0.00013 mg/L

Lab Sample ID: LCS 180-333418/2-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 333677 Prep Batch: 333418 Spike LCS LCS %Rec.

Analyte Added Result Qualifier Unit D %Rec Limits Mercury 0.00250 0.00234 94 80 - 120 mg/L

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

Lab Sample ID: MB 180-331996/2 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 331996

MB MB

Result Qualifier RL **MDL** Unit Analyte Prepared Analyzed Dil Fac 10 **Total Dissolved Solids** 10 mg/L 10/01/20 12:36 <10

Lab Sample ID: LCS 180-331996/1 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 331996

Spike LCS LCS %Rec. Added Analyte Result Qualifier Limits Unit %Rec Total Dissolved Solids 714 606 mg/L 85 80 - 120

Eurofins TestAmerica, Pittsburgh

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

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared 10 10/02/20 14:35 **Total Dissolved Solids** <10 10 mg/L

Lab Sample ID: LCS 180-332159/1

Matrix: Water

Analysis Batch: 332159

Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits 714 80 - 120 Total Dissolved Solids 742 mg/L

Lab Sample ID: 180-111686-4 DU

Matrix: Water

Analysis Batch: 332159

Sample Sample DU DU **RPD** Result Qualifier Result Qualifier **RPD** Limit Analyte Unit Total Dissolved Solids 520 516 0.4 mg/L

MDL Unit

10 ma/L

Lab Sample ID: MB 180-332329/2

Matrix: Water

Analysis Batch: 332329

MB MB

Analyte

Result Qualifier RL 10

Total Dissolved Solids <10

Lab Sample ID: LCS 180-332329/1

Matrix: Water

Analysis Batch: 332329

LCS LCS Spike Analyte Added Result Qualifier Limits Unit %Rec Total Dissolved Solids 357 336 94 80 - 120 mg/L

Lab Sample ID: MB 180-332342/2

Matrix: Water

Analysis Batch: 332342

MB MB

MDL Unit Analyte Result Qualifier RL Analyzed Dil Fac Prepared 10 10 mg/L Total Dissolved Solids <10

Lab Sample ID: LCS 180-332342/1

Matrix: Water

Analysis Batch: 332342

Spike LCS LCS Added Result Qualifier Unit D Limits %Rec Total Dissolved Solids 357 318 mg/L 89 80 - 120

Lab Sample ID: 180-111740-3 DU

Matrix: Water

Analysis Batch: 332342

DU DU **RPD** Sample Sample RPD Result Qualifier Result Qualifier Analyte Unit D Limit **Total Dissolved Solids** 290 310 mg/L

Eurofins TestAmerica, Pittsburgh

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

104

Client Sample ID: ARAMW-1

Prep Type: Total/NA

10

Client Sample ID: Method Blank

Prep Type: Total/NA

Prepared Analyzed Dil Fac 10/05/20 15:06

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

%Rec.

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

%Rec.

Prep Type: Total/NA

Project/Site: CCR - Plant Arkwright AP-2DAS

HPLC/IC

Analysis Batch: 332371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Pre	p 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 180-111741-1	Client Sample ID ARAMW-2	Prep Type Total/NA	Matrix Water	Method EPA 300.0 R2.1	Prep Batch
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 180-111648-1	Client Sample ID ARGWA-19	Prep Type Total Recoverable	Matrix Water	Method 3005A	Prep Batch
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

Page 27 of 41

Job ID: 180-111648-1

Job ID: 180-111648-1 Project/Site: CCR - Plant Arkwright AP-2DAS

Metals (Continued)

	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
	180-111741-2	ARGWC-21	Total Recoverable	Water	3005A	
İ	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 180-111648-1	Client Sample ID ARGWA-19	Prep Type Total Recoverable	Matrix Water	Method EPA 6020B	Prep Batch 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

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 180-111740-2	Client Sample ID ARGWC-23	Prep Type Total/NA	Matrix Water	Method Field Sampling	Prep Batch
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 180-111686-1	Client Sample ID ARGWA-20	Prep Type Total/NA	Matrix Water	Method Field Sampling	Prep Batch
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	

Eurofins TestAmerica, Pittsburgh

Job ID: 180-111648-1

Eurofins TestAmerica, Pittsburgh 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2468	Chain	ain of Custody Record		244- ATLANTA	LANT	fins Erwonsment Testing America
Client Information	Sampler DHO War	Leb PM Brown	Lab PM Brown, Shali	Camer Tracking No(s		COC No: 180-64149-11995.1
Client Contact. Joju Abraham	Phone:	E-Mail Shall	E-Mail. Shali Brown@Eurofinset.com		Page:	133
Company: Southern Company			An	Analysis Requested	Job M.	
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:				Preserva	Preservation Codes:
Crty. Atlanta	TAT Requested (days):				B - NaOH C - Zn Acetate	
State, Zip. GA, 30308					D - Nitric Ao	Acid PNa204S
Fhone:	PO#. GPC11084570		avlik e		G - Amchlor H - Ascorbic	Acid
Email JAbraham@southemco.com	WO#		(oN Viqqu		7 - 7	
Project Name: CCR - Plant Arkwright	Project# 18020201		226 pp IIIVA	558		
Site Georgia	SSOW#		SD (Y	_	of cor	
Committee of the sections	Sample Pote Time		Filed Filtered 3 940cm MS/M 00_ORGFM_28 540C_Calcd - 7	A - 85287_056	nedmuM lato	
Campre recurringstrom	A Addition	Preservation Code:	N O O	12		Special instructions/Note:
A 2 (-14/A-19	9/20/20 1525	3	×	u-	7	542
						ñ
		1				
		-				
			180-111648 Chain of Custody	Aby		
			Sample Disposal (A	essed h	mples are retained longe	r than 1 month)
Non-Hazard Flammable Skin initant Deliverable Requested 1, II, III, IV, Other (specify)	Poison B Unknown	Radiologica/	Special Instructions/QC Requirements	C Requirements:	Archive For	Months
Empty Kit Relinquished by:	Date:		Time:	Method of Shipment	Shipment:	
Remousined from Howard	9/29/20/1745	5 Company	A Received A	My wals	Deserting - 30- 2	Company AP. &
	Date/Time	Company	Received by:		Date/Time:	SO Company
	Date/Time:	Company	Received by:		Date/Time:	Company
Custody Seals Intact: Custody Seal No.:			Cooler Temperature(s)	Cooler Temperature(s) °C and Other Remarks:		
						Ver. 01/16/2019

N - None
O - AsNaO2
P - Na2O4S
Q - Na2SQ3
R - Na2S203
S - H2SQ4
T - TSP Dodecalydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Special Instructions/Note: Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Spisposal By Lab Archive For Month 0H=6.16 PH=5.65 0H=58 COC No: 180-64149-11995.3 reservation Codes: 180-111686 Chain of Custody Page Not & A - HCL B - NaOH C - Zn Aostale D - Nintc Acid E - NaHSO4 F - MeOH Archive For Total Number of containers Chain of Custody Recadd 4- ATLANTA Aethod of Shipment Analysis Requested Cooler Temperature(s) °C and Other Remarks Special Instructions/QC Requirements XXXX XXXXX Yaron - Mercury ×××××× Lab PM: Brown, Shali E-Mai: Shali Brown@Eurofinset.com ceived by: eceived by Received by Preservation Code: Sompany 33 Sompany 3 Radiologica/ Type (C=comp, G=grab) Sample 0 0 O 0 1815 1220 1400 9/30/20 1128 1556 Sample Unknown D Howard TAT Requested (days) 9/30/20 PO.ft. GPC11064570 Due Date Requeste Sample Date Project #: 18020201 SSOW#: Sate/Time: Poison B Skin frritant Eurofins TestAmerica, Pittsburgh Deliverable Requested: I, II, III, IV, Other (specify) ARGWA-20 E8-02 ARGWC-22 Custody Seal No. Phone: 412-963-7058 Fax: 412-963-2468 ARAMW-Mon-Hazard Hammable Address: 241 Ralph McGill Blvd SE B10185 Possible Hazard Identification Abraham@southernoo.com 301 Alpha Drive RIDC Park impty Kit Relinquished by Custody Seals Intact: Client Information Pittsburgh, PA 15238 Sample Identification CCR - Plant Arkwright Company: Southern Company Jame rished by: Joju Abraham nquished by: State, Zip. GA, 30308 Atlanta

12

S - H2SO4 T - TSP Dodecahydrate W. JULY U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Special Instructions/Note: O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 0H = 6,38 COC No. 180-64149-11995.2 0H=6.38 Ascorbic Acid 180-111740 Chain of Custody Natric Acid NaHSO4 MeOH 000 - DI Water Archive For 3/1/2 Total Number of containers Sate/Time Method of Shipment Analysis Requested coler Temperature(s) °C and Other Remarks Special Instructions/QC Requirements MONT × 1470A - Mercury × 9320 Ra228 - Radium 228 E-Mail: Shail:Brown@Eurofinset.com × eceived by: Brown, Shali Time: Wood Matrix Preservation Code 33 3 Type (C=comp, G=grab) Radiological Sample 0 00 1820 D Howard Due Date Requested:

STAA G.F.O.
TAT Requested (days): Sample 1158 Time 10/1/20 0935 1 Unknown 10/1/201 PO#. GPC11084570 WO#. Sample Date Project #. 18020201 SSOW#. Poison B Skin Imitant Deliverable Requested 1, III, IV, Other (specify) Manage A amed Howard Custody Seal No Pittsburgh, PA 15238 Phone: 412-963-7058 Fax, 412-963-2468 FB-62 ARGWG-23 Possible Hazard Identification 241 Ralph McGill Blvd SE B10185 Dup-02 JAbraham@southernco.com Empty Kit Relinquished by Custody Seals Intact: Client Information Sample Identification CCR - Plant Arkwright A Yes A No Company: Southern Company Joju Abraham nquished by: State, Zlp: GA, 30308 Georgia Atlanta

Environment Testing

244- ATLANTAurofins

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

13

N - None
O - ANACA
P - NAZSOA
Q - NAZSO3
R - NAZSO3
S - HZSO4
T - TSP Dodecatydrate **Environment Testing** Special Instructions/Note: COMPANY S Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

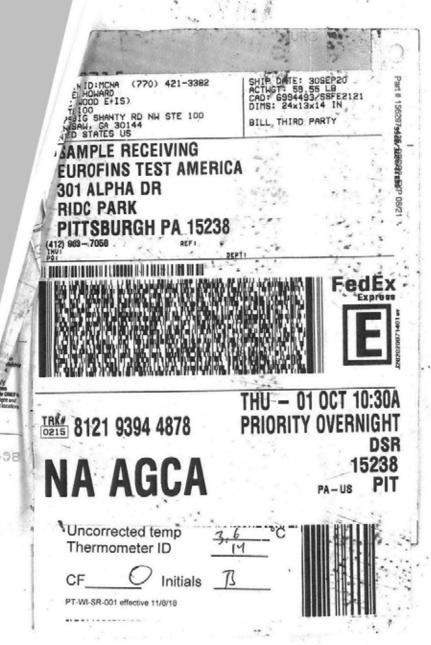
Return To Client Spisposal By Lab North COC No: 180-64149-11995.3 30H=5,99 Preservation Codes Chain of Custody Record 244- ATLANTA eurofins 30H=5.96 Page 8 of 5 180-111741 Chain of Custody 3 - Archive For Total Number of containers Date vime 0 2 23 Method of Shipment Analysis Requested ooler Temperature(s) °C and Other Remarks Special Instructions/QC Requirements: × 7470A - Mercury × Lab PM. Brown, Shali E-Mat Shali, Brown@Eurolinset.com 540C_Calcd - Total Dissolved Solids yd beviece ime Wood Type (wwwster, style) (C=Comp, correstation, G=grab) Int-Though A-A/A) Matrix Preservation Code €. 3 Radiological Sample 820 0 0 Sample 1608 10/1/20 1512 D HOWGE Date: Unknown 10/1/20 PO#: GPC11064570 Sample Date Project #: 18020201 ate/Time: Poison B Skin Irritant veliverable Requested: I, II, III, IV, Other (specify) ARAMW-2 ARGWC-21 Custody Seal No. Phone: 412-963-7058 Fax: 412-963-2468 241 Ralph McGill Blvd SE B10185 Won-Hazard Flammable ossible Hazard Identification JAbraham@southernco.com 301 Alpha Drive RIDC Park mpty Kit Relinquished by Custody Seals Intact: Client Information Sample Identification Pittsburgh, PA 15238 CCR - Plant Arkwright Company: Southern Company Joju Abraham inquished by: State, Zip: GA, 30308 Atlanta Georgia

Eurofins TestAmerica, Pittsburgh

Page 34 of 41



1,





12 13



PRIORITY OVERNIGHT 15238 PA-US PIT 121 9394 5690

Uncorrected temp 2.0 °C
Thermometer ID Initials PT-WI-SR-001 effective 11/ CF

S

DRIGIN ID: MCNA (770) 421-3382 PANIEL HOLMARD AMEC (MODD E+1S) 1075 BIG SHANTY RD NH STE 100

SHIP DATE: 010CT20 ACTMGT: 47.65 LB CAD: 6994493/SSFE2121 DIMS: 24x13x14 IN BILL THIRD PARTY

EUROFINS TEST AMERICA PITTSBURGH PA 15238 TO SAMPLE RECEIVING 301 ALPHA DR KENNESAW, GA 30144 UNITED STATES US RIDC PARK

Part # 156297g435, PROBE SKP 08/21

DEP T:

FRI - 02 OCT 10:30A PRIORITY OVERNIGHT

Initials Uncorrected temp Thermometer ID NA AGCA



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

Client: Southern Company

Job Number: 180-111648-1

Login Number: 111648

List Number: 1

Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Client: Southern Company

List Source: Eurofins TestAmerica, Pittsburgh

Job Number: 180-111648-1

Login Number: 111686 List Number: 1

Creator: Watson, Debbie

orditor: Wattori, Dobbio		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	

Client: Southern Company Job Number: 180-111648-1

Login Number: 111740 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Say, Thomas C

orcator. Oay, momas o		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Client: Southern Company Job Number: 180-111648-1

Login Number: 111741 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.</td <td>True</td> <td></td>	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	

N/A

Residual Chlorine Checked.



Environment Testing America

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 (615)301-5031

Shali.Brown@Eurofinset.com

LINKS

Review your project results through

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

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	5
Certification Summary	6
Sample Summary	7
Method Summary	8
Lab Chronicle	9
Client Sample Results	13
QC Sample Results	23
QC Association Summary	25
Chain of Custody	26
Receint Checklists	38

5

9

10

12

Case Narrative

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

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

3

Job ID: 180-111648-2

4

J

_

8

10

11

12

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.

Definitions/Glossary

Client: Southern Company Job ID: 180-111648-2

Project/Site: CCR - Plant Arkwright AP-2DAS

Qualifiers

R	a	d

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 n	ay not be present in this report.
---	-----------------------------------

Example 2 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

4

_

5

6

0

a

10

11

12

1,

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
lowa	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

-4

J

Ω

9

10

10

11:

Sample Summary

Client: Southern Company Project/Site: CCR - Plant Arkwright AP-2DAS

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	

Job ID: 180-111648-2

Method Summary

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

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

Job ID: 180-111648-2

3

4

5

Q

10

1:

Job ID: 180-111648-2

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWA-19 Lab Sample ID: 180-111648-1

Date Collected: 09/29/20 15:25 Date Received: 09/30/20 09:00 Matrix: Water

Batch Dil Initial Batch Batch Final Prepared Method Number or Analyzed **Prep Type** Type Run **Factor Amount** Amount **Analyst** Lab Total/NA 484743 10/06/20 11:14 TAL SL Prep PrecSep-21 999.04 mL 1.0 g Total/NA 487030 TAL SL 9315 10/28/20 12:51 SCB Analysis 1 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 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

Batch Batch Dil Initial Final Batch Prepared **Prep Type** Type Method Run Factor **Amount** Amount Number or Analyzed Analyst Lab Total/NA Prep PrecSep-21 999.06 mL 484743 10/06/20 11:14 AVB TAL SL 1.0 g Total/NA Analysis 9315 487030 10/28/20 12:52 SCB TAL SL Instrument ID: GFPCRED Total/NA Prep PrecSep 0 999.06 mL 484744 TAL SL 1.0 g 10/06/20 11:57 AVB Total/NA Analysis 9320 485907 10/15/20 12:56 FLC TAL SL 1 Instrument ID: GFPCBLUE Total/NA Analysis Ra226 Ra228 1 487751 11/02/20 19:07 SCB TAL SL

Client Sample ID: EB-02

Date Collected: 09/30/20 12:20

Lab Sample ID: 180-111686-2

Matrix: Water

Date Received: 10/01/20 09:00

Instrument ID: NOEQUIP

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			487030	10/28/20 12:52	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.04 mL	1.0 g	484744	10/06/20 11:57	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			485907	10/15/20 12:56	FLC	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228		1			487751	11/02/20 19:07	SCB	TAL SL

Client Sample ID: ARGWC-22 Lab Sample ID: 180-111686-3

Date Collected: 09/30/20 14:00 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
	Instrumen	t ID: GFPCRED								

Eurofins TestAmerica, Pittsburgh

Page 9 of 45

2

3

5

0

9

11

12

Project/Site: CCR - Plant Arkwright AP-2DAS

Froject/oile. CON - Flant Arkwinght AF-2DAG

Client Sample ID: ARGWC-22

Date Collected: 09/30/20 14:00 Date Received: 10/01/20 09:00 Lab Sample ID: 180-111686-3

Matrix: Water

Matrix: Water

Matrix: Water

Job ID: 180-111648-2

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9320 nt ID: GFPCBLUE		1			485907	10/15/20 12:56	FLC	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			487751	11/02/20 19:07	SCB	TAL SL

Client Sample ID: ARAMW-1 Lab Sample ID: 180-111686-4

Date Collected: 09/30/20 15:56

Date Received: 10/01/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 at ID: GFPCRED		1			487030	10/28/20 12:52	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.87 mL	1.0 g	484744	10/06/20 11:57	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 at ID: GFPCBLUE		1			485907	10/15/20 12:56	FLC	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			487751	11/02/20 19:07	SCB	TAL SL

Client Sample ID: FB-02 Lab Sample ID: 180-111740-1

Date Collected: 10/01/20 09:35 Date Received: 10/02/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			488215	11/04/20 10:26	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.23 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			487365	10/30/20 11:47	FLC	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 nt ID: NOEQUIP		1			489469	11/18/20 16:56	CAH	TAL SL

Client Sample ID: ARGWC-23 Lab Sample ID: 180-111740-2

Date Collected: 10/01/20 11:58 Date Received: 10/02/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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
	Instrumer	t 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
	Instrumer	t ID: GFPCBLUE								

Eurofins TestAmerica, Pittsburgh

Page 10 of 45

2

3

5

7

9

10

12

1

- - - - - - - -

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWC-23

Date Collected: 10/01/20 11:58 Date Received: 10/02/20 09:00 Lab Sample ID: 180-111740-2

Matrix: Water

Job ID: 180-111648-2

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
riep lype	Туре	_ Wethou	- Kuii	Factor	Aillouilt	Aillouilt	Number	Of Allalyzeu	Allalyst	
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
	Instrumer	t 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
	Instrumer	t ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			489469	11/18/20 16:56	CAH	TAL SL
	Instrumer	t ID: NOEQUIP								

Lab Sample ID: 180-111741-1 Client Sample ID: ARAMW-2

Date Collected: 10/01/20 15:12 Date Received: 10/02/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			488523	11/08/20 21:13	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.73 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			487365	10/30/20 11:47	FLC	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228		1			489469	11/18/20 16:56	CAH	TAL SL

Client Sample ID: ARGWC-21 Lab Sample ID: 180-111741-2

Date Collected: 10/01/20 16:08 Date Received: 10/02/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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 Instrumer	9315 nt ID: GFPCRED		1			488215	11/04/20 10:28	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.20 mL	1.0 g	485338	10/13/20 08:31	AVB	TAL SL
Total/NA	Analysis Instrumer	9320 nt ID: GFPCBLUE		1			487365	10/30/20 11:48	FLC	TAL SL
Total/NA	Analysis Instrumer	Ra226_Ra228 at ID: NOEQUIP		1			489469	11/18/20 16:56	CAH	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Eurofins TestAmerica, Pittsburgh

Page 11 of 45

Matrix: Water

11/18/2020

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

-6

4

5

6

8

9

. .

1.6

1:

Client: Southern Company Job ID: 180-111648-2

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWA-19

Lab Sample ID: 180-111648-1 Date Collected: 09/29/20 15:25 Date Received: 09/30/20 09:00

Matrix: Water

Method: 93	315 - Radium	-226	(GFPC)

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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	

Method: 9320 - Radium-228 (GFPC)

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Methou. Nazzo_Naz	20 - CUII	ibilieu Ka	ululli-220 a	iiu Nauiuiii	-220					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226	0.372	U	0.297	0.299	5.00	0.487	pCi/L		11/02/20 19:07	1

+ 228

Client: Southern Company Job ID: 180-111648-2

Project/Site: CCR - Plant Arkwright AP-2DAS

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 - R	adium-226 (GFPC)								
		•	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

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: 9315 - I	Radium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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	Χ	40 - 110					10/06/20 11:57	10/15/20 12:56	1

Method: Ra226_Ra2	28 - Con	bined Ra	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Job ID: 180-111648-2

Client: Southern Company Job ID: 180-111648-2

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWC-22

Date Collected: 09/30/20 14:00 Date Received: 10/01/20 09:00 Lab Sample ID: 180-111686-3

Method: 9315 - Rad	lium-226 ((GFPC)								
			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 (GFPC)								
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 Ra	228 - Con	nbined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-111648-2

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARAMW-1

Date Collected: 09/30/20 15:56 Date Received: 10/01/20 09:00 Lab Sample ID: 180-111686-4

Method: 9315 - Rad	dium-226 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 ((GFPC)								
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analvzed	Dil Fac
Radium-228	0.170		0.273	0.274	1.00	0.462		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_Ra2	28 - Con	nbined Rad	dium-226 a	nd Radium	-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company Job ID: 180-111648-2

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: FB-02 Lab Sample ID: 180-111740-1

. Matrix: Water

Date Collected: 10/01/20 09:35 Date Received: 10/02/20 09:00

Method: 9315 - Ra	adium-226 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - F	Radium-228 ((GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 Ra	228 - Con	bined Ra	dium-226 a	nd Radiun	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

11

12

Client: Southern Company Job ID: 180-111648-2

Project/Site: CCR - Plant Arkwright AP-2DAS

96.2

Client Sample ID: ARGWC-23

Date Collected: 10/01/20 11:58 Date Received: 10/02/20 09:00

Ba Carrier

Lab Sample ID: 180-111740-2

10/13/20 08:06 11/04/20 10:26

Matrix: Water

Method: 9315 - Ra	adium-226 (GF	PC)							
		Count							
		Uncert.	Uncert.						
Analyte	Result Qu	ıalifier (2σ+/-)	(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 Qu	alifier Limits					Prepared	Analyzed	Dil Fac

40 - 110

Method: 9320 - F	Radium-228 (GFPC)								
		•	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	bined Rad	dium-226 a	nd Radium	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

12

Client: Southern Company Job ID: 180-111648-2

Project/Site: CCR - Plant Arkwright AP-2DAS

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 - I	Radium-226 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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 - I	Radium-228 (GFPC)								
		,	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra2	28 - Con	ibined Rad	dium-226 a	nd Radium	-228					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

2

3

5

6

8

9

10

12

Client: Southern Company Job ID: 180-111648-2

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARAMW-2

Lab Sample ID: 180-111741-1

Matrix: Water

Date Collected: 10/01/20 15:12 Date Received: 10/02/20 09:00

Method: 9315 - R	adium-226 (GFPC)								
		•	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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_Ra	228 - Con	nbined Rad	dium-226 a	nd Radiun	1-228					
_			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

Client Sample ID: ARGWC-21

Date Collected: 10/01/20 16:08 Date Received: 10/02/20 09:00 Lab Sample ID: 180-111741-2

Matrix: Water

Job ID: 180-111648-2

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 Ba Carrier	% Yield 83.1	Qualifier	Limits 40 - 110					Prepared 10/13/20 08:06	Analyzed 11/04/20 10:28	Dil Fac

Method: 9320 - Radium-228 (GFPC)

Wethod: 9320 - F	(aululii-226 (GFPC)	Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(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

Wethou. Nazzo_Naz	.20 - 0011	ibilied ita	ululli- 22 0 a	ilia itaululi	1-220					
			Count	Total						
			Uncert.	Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226	0.496	U	0.336	0.338	5.00	0.509	pCi/L		11/18/20 16:56	1

+ 228

Eurofins TestAmerica, Pittsburgh

2

3

5

6

Ŏ

40

11

4 0

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-484743/24-A

Total

Count

Count

40 - 110

Matrix: Water

Analysis Batch: 487030

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 484743**

Job ID: 180-111648-2

MB MB Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-226 0.1797 0.0967 0.0981 1.00 0.112 pCi/L 10/06/20 11:14 10/28/20 14:42

MB

Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 82.2 40 - 110 10/06/20 11:14 10/28/20 14:42

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 484743

Matrix: Water Analysis Batch: 487030

Total

LCS LCS %Rec. **Spike** Uncert. Analyte Added Result Qual $(2\sigma + / -)$ RL %Rec Limits MDC Unit Radium-226 15.1 14.45 1.49 1.00 0.118 pCi/L 96 75 - 125

LCS LCS

Lab Sample ID: LCS 160-484743/1-A

Carrier %Yield Qualifier Limits Ba Carrier 85.2 40 - 110

Lab Sample ID: MB 160-485335/22-A Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 488215

Prep Type: Total/NA **Prep Batch: 485335**

Uncert. MB MB Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ **MDC** Unit Prepared Dil Fac RL Analyzed Radium-226 Ū 0.0606 0.0606 1.00 10/13/20 08:06 11/04/20 12:24 0.01934 0.116 pCi/L

Total

Total

MR MR Carrier %Yield Qualifier Limits 89.6

Dil Fac Prepared Analyzed 10/13/20 08:06 11/04/20 12:24

Lab Sample ID: LCS 160-485335/1-A

Matrix: Water

Ba Carrier

Analysis Batch: 488215

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

Prep Batch: 485335

Spike LCS LCS Uncert. %Rec. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits

Radium-226 11.3 9.598 1.05 1.00 0.120 pCi/L 85 75 - 125

LCS LCS

Carrier %Yield Qualifier Limits Ba Carrier 84.6 40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-484744/24-A Client Sample ID: Method Blank

Matrix: Water Prep Type: Total/NA Analysis Batch: 485729 Prep Batch: 484744 Total Count

MB MB Uncert. Uncert. Result Qualifier Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Dil Fac Analyzed 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

Eurofins TestAmerica, Pittsburgh

Page 23 of 45

11/18/2020

Client: Southern Company

Project/Site: CCR - Plant Arkwright AP-2DAS

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

	MB	МВ				
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	82.2		40 - 110	10/06/20 11:57	10/15/20 12:51	1
Y Carrier	79.3		40 - 110	10/06/20 11:57	10/15/20 12:51	1

Lab Sample ID: LCS 160-484744/1-A

Matrix: Water

Analysis Batch: 485907

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

Prep Batch: 484744

Job ID: 180-111648-2

				iotai					
	Spike	LCS	LCS	Uncert.				%Rec.	
Analyte	Added	Result	Qual	(2σ+/-)	RL	MDC Unit	%Rec	Limits	
Radium-228	10.3	10.33		1.33	1.00	0.594 pCi/L	100	75 - 125	

LCS LCS Carrier %Yield Qualifier Limits 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

,		МВ	Count Uncert.	Total Uncert.						
Analyte Radium-228	Result 0.1071	Qualifier	(2σ+/-) 0.271	(2 σ+/-) 0.272	RL 1.00	MDC 0.469		Prepared 10/13/20 08:31	Analyzed 10/30/20 11:50	Dil Fac
Radium-220		м в	0.271	0.272	1.00	0.469	pCi/L	10/13/20 06.31	10/30/20 11.30	'
O-mi-m	0/3/:-1-1	O	1 : :4-					Duamana	A	Dil E

Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 89.6 40 - 110 10/13/20 08:31 10/30/20 11:50 78.5 40 - 110 10/13/20 08:31 10/30/20 11:50 Y Carrier

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**

Total Spike LCS LCS Uncert. %Rec. Added $(2\sigma + / -)$ RL **MDC** Unit Limits **Analyte** Result Qual %Rec Radium-228 0.497 pCi/L 75 - 125 7.69 8.484 1.07 1.00 110

LCS LCS Carrier %Yield Qualifier Limits 40 - 110 Ba Carrier 84.6 Y Carrier 77.8 40 - 110

QC Association Summary

Client: Southern Company Project/Site: CCR - Plant Arkwright AP-2DAS

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	<u> </u>
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	

Job ID: 180-111648-2

Eurofins TestAmerica, Pittsburgh

N - Nene O - Ashao2 P - Na2O4S Q - Na2SQ3 R - Na2SQ4 S - H2SO4 T - TSP Dodecahydrah U - Acetone V - MCAA W - pH 4-5 Z - other (specity) Special Instructions/Note: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Return To Client Sisposal By Lab Archive For Month COC No. 180-64149-11995.1 244- ATLANTA G - Amehlor H - Ascorbic Acid Page: Page 1 of 3 C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH I · loe J · DI Water K · EDTA Archive For Total Number of containers My walny Deserting Method of Shipment Analysis Requested Cooler Temperature(s) 3C and Other Remarks Special Instructions/QC Requirements X 180-111648 Chain of Custody Lab PM: Brown, Shali E-Mail Shali Brown@Eurofinset.com Received by: Perform MS/MSD (Yes or No) Wood G=grab) er-haue, A-Au-)
Preservation Code: Matrix Radiologica/ Type (C=comp, G=grab) Sample 0 1745 Sample 9/29/20 1525 Time Standar TAT Requested (days): Unknown DHOWER 9/29/20/ Date/Time GPC11084570 Sample Date Project #. 18020201 SSOW#: Poison B Skin Irritant Possible Hazard Identification

Mon-Hazard — Flammable Skin Irrit
Deliverable Requested: I. III, IV, Other (specify) Custody Seal No Phone: 412-963-7058 Fax: 412-963-2468 241 Ralph McGill Blvd SE B10185 ARGWA-19 Howard JAbraham@southernco.com Empty Kit Relinquished by Custody Seals Intact Client Information Sample Identification CCR - Plant Arkwright Company: Southern Company Reinquished by Joju Abraham nquished by. State, Zip. GA, 30308 Atlanta

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238

N - None
O - AsNaC2
P - Na2O4S
Q - Na2SQ3
R - Na2S2Q3
S - H2SQ4
T - TSP Dodecatydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Special Instructions/Note: Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Spisposal By Lab Archive For Month 0H=6.16 PH=5.65 0H=58 COC No: 180-64149-11995.3 reservation Codes: 180-111686 Chain of Custody Page Not & A - HCL B - NaOH C - Zn Aostale D - Nintc Acid E - NaHSO4 F - MeOH Archive For Total Number of containers Chain of Custody Recadd 4- ATLANTA Aethod of Shipment Analysis Requested Cooler Temperature(s) °C and Other Remarks Special Instructions/QC Requirements: XXXX XXXXX Yaron - Mercury ×××××× Lab PM: Brown, Shali E-Mai: Shali Brown@Eurofinset.com ceived by: (eceived by Received by Preservation Code: Sompany 33 Sompany 3 Radiologica/ Type (C=comp, G=grab) Sample 0 0 O 0 1815 1220 1400 9/30/20 1128 1556 Sample D Howard Unknown TAT Requested (days) 9/30/20 PO.ft. GPC11064570 **Due Date Requeste** Sample Date Project #: 18020201 SSOW#: Sate/Time Poison B Skin frritant Eurofins TestAmerica, Pittsburgh Deliverable Requested: I, II, III, IV, Other (specify) ARGWA-20 E8-02 ARGWC-22 Custody Seal No. Phone: 412-963-7058 Fax: 412-963-2468 ARAMW-Mon-Hazard Flammable Address: 241 Ralph McGill Blvd SE B10185 Possible Hazard Identification JAbraham@southernoo.com 301 Alpha Drive RIDC Park Empty Kit Relinquished by Custody Seals Intact: A Yes A No Client Information Pittsburgh, PA 15238 Sample Identification CCR - Plant Arkwright Company: Southern Company Dome nauished by: Joju Abraham oquished by: State, Zip. GA, 30308 Atlanta

Eurofins TestAmerica, Pittsburgh 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 Phone: 412-983-7058 Fax: 412-983-2468	0	Chain of Custody Record	Custo	ody Rec	ord	Ñ	44	- ATI	244- ATLANTAurofins	**Aurofins	Environment Testing America
Client Information	Sampler D How	Ward		Lab PM. Brown, S	Shali			Camer Tracking No(s)	ng No(s):	COC No: 180-64149-11995	5.2
Client Contact Joju Abraham	Phone:			E-Mail: Shail.Bro	E-Mail: Shail.Brown@Eurofinset.com	inset.com				Page:	
Company. Southern Company				-		4	nalysis	Analysis Requested		Job #:	
Address: 241 Raiph McGill Blvd SE B10185	Due Date Requested	dard								8	PS:
City Atlanta	TAT Requested (da	ys]:									N - retaine N - None O - AsNaO2
State, 2tp: GA, 30308					(_				D - Nitric Acid E - NaHSO4	P - Na2O4S Q - Na2SO3
Ртоле:	PO#: GPC11084570			(0	avii8	yng ap				70	R - Na2S203 S - H2S04 T - TSP Dodecahydrate
Email: JAbraham@southernco.com	WO#:			N 10 8		houl					U - Acetone V - MCAA
Project Name. CCR - Plant Arkwright	Project #. 18020201			9X) 9I	556	abinote	228		ənistr		W - pH 4-5 Z - other (specify)
Site Georgia	SSOWE			dwes	wnipe;	8D - CF			of cor	Other:	
Connected to residence to	olene o	Sample (C	Sample Type (C=comp,	Matrix (Weater, Sepolic, Correspond, Fillered	915_Ra226 - R 020B - Custom	00_ORGFM_28	A - 8526.P_056 (huoram - A010		nedmuk lato		
Campia nemoration	August and august aug	1	- 100	103	6 0	Z	2	5	1	opecialing	opecial instructions/note:
F8-62	10/1/20	0935	0	3	1	×	×		~		
AR	_	1158	S	3	_	×	×		3	OH=6.38	×
Dup-02	>	1	O	Z	×	×			3		38
			1		+	1	\pm				
			\dagger		+	+			180-111740 Chain of Custody	n of Custody	
ant \square	Poison B Unknown	Ш	Radiological		Sample Dir	sposal (I fee ma	Disposal By	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Abisposal By Lab Mont	ed longer than 1 ive For.	month) Months
		1			Special Instructions/QC Requirements	tructions/	C Requ	uirements:			
Empty Kit Relinquished by:		Date:		Time:				Method	Method of Shipment		
Relinquished by Grand Howard	10/11/20	118	20 02	Wood	Received by	A. P.	7		DaterTime / 12 2	9 30	Company M
Relinquished by:	Class/Time.		8	mpany	Received by	1 p.c.			Data/Time:		Company
Relinquished by:	Cate/Time		S S	Company	Received by	d by:			Date/Time:		Company
Custody Seals Intact: Custody Seal No.:					Cooler Te	emperature	s) °C and	Cooler Temperature(s) °C and Other Remarks.			
					$\frac{1}{1}$						0100771110-077

Ver: 01/16/2019

12 13

N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2SA03
S - H2SA04
T - TSP Dodecahydrate **Environment Testing** Special Instructions/Note: COMPANY S Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Spisposal By Lab North COC No: 180-64149-11995.3 30H=5,99 Preservation Codes Chain of Custody Record 244- ATLANTA eurofins 30H=5.96 Page 8-eff Zn Acetate Nitric Acid NaHSO4 180-111741 Chain of Custody 3 - Archive For Total Number of containers Date vime 0 2 23 Method of Shipment Analysis Requested ooler Temperature(s) °C and Other Remarks Special Instructions/QC Requirements: × 7470A - Mercury × Lab PM. Brown, Shali E-Mat Shali, Brown@Eurolinset.com × 540C_Calcd - Total Dissolved Solids eceived by (of no set) GZMIZM mnohe ime Field Filtered Sample (Yes or No) Wood Type (wwwster, style) (C=Comp, correstation, G=grab) Int-Though A-A/A) Matrix Preservation Code €. 3 Radiological Sample 820 0 0 Sample 1608 10/1/20 1512 D HOWGE Date: Unknown 10/1/20 PO#: GPC11064570 Sample Date Project #: 18020201 ate/Time: Poison B Skin Irritant Eurofins TestAmerica, Pittsburgh Deliverable Requested: I, II, III, IV, Other (specify) ARAMW-2 ARGWC-21 Custody Seal No. Phone: 412-963-7058 Fax: 412-963-2468 241 Ralph McGill Blvd SE B10185 Won-Hazard Flammable ossible Hazard Identification JAbraham@southernco.com 301 Alpha Drive RIDC Park Empty Kit Relinquished by Custody Seals Intact: Client Information Sample Identification Pittsburgh, PA 15238 CCR - Plant Arkwright Company: Southern Company Joju Abraham nquished by: State, Zip: GA, 30308 Atlanta Georgia







Ш





12 13



121 9394 5690 PRIORITY OVERNIGHT 15238 PA-US PIT Uncorrected temp 2.0 °C Initials PT-VM-SR-001 effective 11/8/18

CF

Part # 156297g435, PROBE SKP 08/21

EUROFINS TEST AMERICA

301 ALPHA DR

RIDC PARK

TO SAMPLE RECEIVING

KENNESAW, GA 30144 UNITED STATES US

SHIP DATE: 010CT20 ACTMGT: 47.65 LB CAD: 6994493/SSFE2121 DIMS: 24x13x14 IN

DRIGIN ID: MCNA (770) 421-3382 PANIEL HOLMARD AMEC (MODD E+1S) 1075 BIG SHANTY RD NH STE 100

BILL THIRD PARTY

DEP T:

PITTSBURGH PA 15238

FRI - 02 0CT 10:30A PRIORITY OVERNIGHT

S S Uncorrected temp

NA AGCA

15238

Initials Thermometer ID

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

180-111741 Waybill

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pitsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2468

Client Information (Sub Contract Lab)				Brov	Brown, Shall				The second	- Carlon		180-413498.1		_
Client Contact	Phone:			E-Ma	E Brown &	Counting	-	00	State of Origin:			Page:		T -
Company				Sug	Shall Brown@Eurofinset.com	Eurofin	ser.com		Georgia			Page 1 of 1		7
TestAmerica Laboratories, Inc.					Accrediation	ns Kedo	Accreditations Required (See note).	1K				Job #. 180-111648-2		
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/12/2020	Ð					Ans	Analysis Requested	ested			Preservation Codes	des:	$\overline{}$
City. Earth City	TAT Requested (days)	1,75]:			Arp							B - NaOH	M - Hexane N - None O - AsNaO	
State, Zp. MO, 63045					C)-51		pue 9					D - Ninic Acid E - NaHSO4	P - Na2045 Q - Na2SO3	
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO#.						zz-wn					F - MeOH G - Ametrior H - Assemble Asid	R - Na2S203 S - H2S04	
Enail	WO B.				(0)	W	ibesi b				S		U - Acetone V - MCAA	
Project Name. CCR - Plant Arkwright	Project #. 18020201				62 OL W	0.00	anidmo				nənist	K-EDTA L-EDA	W - pH 4-5 Z - other (specify)	
Site: Arkwright	\$SOW#;				v) as	01.71.278	DO /Od:				ot con	Other		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Wearster, Seadild, Ornestated, ST-Throse, Arche)	Field Filtered MSM mohe9 9315_RAZZER16	9350 Ra228/Pre decay	Radium-228 Radium-228				Total Number	Special Ir	Special Instructions/Note:	
	X	X		Preservation Code:							X		V	_
ARGWA-19 (180-111648-1)	02/52/50	15:25		Water	É	>	>				1			7
		Eastern				+ + +								
								+	+					
						-			+	+				
									H					$\overline{}$
Note: Since isboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation out subconvicat laboratory accreditations in the State of Origin Islaed above for analysis/leststimative 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 be brought to Eurofins TestAmerica.	stAmerica places the ownershi Is/matrix being analyzed, the si urrent to date, return the signer	of method, a imples must b i Chain of Cus	nalyte & accred e shipped back tody attesting to	tation complia to the Eurofins said complica	TestAmericance to Eurofi	subcont siaborati ns TestA	ract laborator sty or other in merica.	es. This sample structions will be	shipment is for provided. Any	warded und changes to	ler chain-of- accreditatio	custody. If the labor in status should be b	of method, analyte & accreditation compliance upon out subcontact laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently indicate by shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Chain of Custody attesting to said complicance to Eurofins TestAmerica.	
Possible Hazard Identification					Samp	le Disp	osal (A fe	e may be as	sessed if sa	e saldun	re retaine	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	f month)	_
Unconfirmed Deliverable Recuested 1 II III IV Other (coacilis)	Primon Deliverable Dank	hle Dante]	Return	Return To Client]	Disposal By Lab	98	Archi	Archive For	Months	_
Control of the control of the control (specify)	rillingly Deliver	DIE NAIM.			chade	ar mistire	ACTION SOLD	special instructions/QC requirements						
Empty Kit Relinquished by:		Date:			Time:				Method of	Method of Shipment:				$\overline{}$
Relinquished by:	DateTime; 0 1 1 3	15a	2	Company /		Received by	Feder	6,00	100	Date/Time			Сопрану	$\overline{}$
Reinquistred by Feb.Cz	Date/Time:			Company	Re	Received by		AR.		Date/Time	02/2	22:60	Company STL	
	Date/Time			Company	Re	Received by	0	-		Date/Time			Company	_
Custody Seals Intact: Custody Seal No.:					S	oler Tem	perature(s) "C	Cooler Temperature(s) "C and Other Remarks:	arks:					_
					1	l					l		Ves-01:16:2010	7

Client Information (Sub Contract Lab)	Sampler,			Brown	Lab PM. Brown, Shali				Carrier Tracking No(s)	ug No(s):	COC No: 180-413708.1	
Client Contact: Shipping/Receiving	Phone:			E-M Sha	E-Mail: Shail. Brown@Eurofinset.com	Eurofinse	t.com		State of Origin Georgia	4	Page: Page 1 of 1	
Company: TestAmerica Laboratories, Inc.					Accreditations Required (See note):	ns Require	d (See not	30			Job #:	
Address: 13715 Rider Trail North,	Due Date Requested: 10/13/2020						Ans	Analysis Requested	uested		Preservation Codes:	Codes:
Osy. Earth City	TAT Requested (days)	*			Aep						A- HCL B-NaOH	M - Hexane N - None
MO, 63045					c) - 51	pue s	750				D - Neric Acid E - NaHSO4	P - Na204S Q - Na2503
314-298-8566(Tel) 314-298-8757(Fax)	PO#.					om-226					F-MeOH G-Amehlor	R - Na2S203 S - H2SO4
mas	WO #				(0)	Section 1						
Project Name. CCR - Plant Arkwright	Project #: 18020201				N 10 26						talners L-EDTA	W - pH 4-5 Z - other (specify)
Stee	SSOW#.				A) as	20100					of con	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample	Sample Type (C=comp, G=grab)	Matrix (Wester, Seedle, Oversteide,	Field Filtered M&M anoheq englessen_eree	8755687558 CH 8350 875581b.48 9663A	855-mulbe9				Total Number	Special Instructions/Note:
	X	X	1 90	Preservation Code:	X							
ARGWA-20 (180-111686-1)	9/30/20	11:28 Fastern		Water	×	×	×				1	
EB-02 (180-111686-2)	9/30/20	12:20 Fastern		Water	×	×	×				1	
ARGWC-22 (180-111686-3)	9/30/20	14:00 Fastern		Water	×	×	×				1	
ARAMW-1 (180-111686-4)	9/30/20	15:56 Eastern		Water	×	×	×				+	
Note: Since laboration accreditations are subject to change, Eurofins TestAmerica places the ownership maintain accreditation in the State of Origin fasted above for analysis/lests/imatrix being analyzed, the sar TestAmerica adention immediately. If all requested accreditations are current to date, return the signed	erica places the ownership of atrix boing analyzed, the sam it to date, return the signed C	/ method, an ples must be hain of Custo	ilyte & accred shipped back dy attesting to	Mation complic to the Eurofic said complic	nce upon out	subcontra s laboratory ns TestAm	ct laborator or other in erica.	es. This samp structions will b	e shipment is e provided. An	forwarded under	of method, analyte & accreditation compliance upon out subcontract laborationies. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently mples must be shipped back to the Eurofine TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofine. Chain of Custody attesting to said complicance to Eurofine TestAmerica.	boratory does not curre e brought to Eurofess
Possible Hazard Identification Unconfirmed					Samp	le Disposal (A I Return To Client	sal (A fe	e may be a	assessed if sam Disposal By Lab	samples are	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Mor	n 1 month) Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	le Rank: 2			Specie	al Instruc	tions/QC	Special Instructions/QC Requirements	15:			
Empty Kit Relinquished by:	a	Date:			Time:				Method	Method of Shipment:		
reinquished by Maddle Jack	10/2/20 I	200		Company	P. H. G	Received by:	The	Fedex		Date/Time:		Company
Reinquished by: 6 Fed 64	DateTime			Company	æ 6	Received by:	18	By		10/3/20	20 11:00	ETAST2
	nate/ ime			Company	N.	Received by:		-		OateTime		Company
Custody Seals Intact: Custody Seal No.: A Yes A No					S	oler Tempe	rature(s) "C	Cooler Temperature(s) "C and Other Remarks.	narks:			

12 13

seurofins Environment Testing

Chain of Custody Record

Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pittsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2468

Standard Standard	Client Information (Sub Contract Lab)	- CANCELLE SALE		Brown	Brown, Shall					1		dela firma		180-41	180-414270.1		
100 to the Requested (asys): 11,0,000	Cient Contact: Shipping/Receiving	Phone		E-Ma Sha	Brown	@Enr	ofinset	moo			State of G	Origini.		Page	1 of 1		
10 to Date Date Requested. 17,22,2020 17,122,2020 17,122,2020 17,122,2020 17,122,2020 17,122,2020 17,122,2020 17,122 17,123 17,124 1	Company: TestAmerica Laboratories, Inc.				Accred	ations	painte	(See note	4	1				180-1	11740-2		
TAT Requested (days): 190.0-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-	Address: 13715 Rider Trail North,	Due Date Request 11/3/2020	:04:					Ans	lysis	Regi	reste	-		Preser	rvation Cod	esc	
Sample Date Type Type Type Type Type Type Type Typ	Ohy. Earth City	TAT Requested (di	1,35):			Aep	H				-		\vdash	B - HO	DH Aceteta	M - Hexane N - None	
Sample Date Time (** A X X Redium-228 (OFF) Combined factium-228 (OFF) Comp. Overside (** A X X Redium-228 (OFF) Combined factium-228 (OFF) Combined factium	State, Zpc. MO, 63045					c)-51	pue g		-				_	E-Ner	ic Acid	P - Na204S Q - Na2503	
10/1/20 Eastern Water	Phone: 314-298-8566(Tel) 314-298-8757(Fax)	*			(4				_					G-Am	Chlor chlor	R - Na2S203 S - H2SO4 T - TSB Dedecabusers	4
Sample Date Sample (C=Comp. Type (************************************	Email	WO B.					1400						_		Valer	U-Acetone	200
Sample Date Time Sample ("weet," Type ("weet," "yeek ("weet," "yeek ("weet," "yeek ("weet," "yeek ("weet," "yeek ("weet," "yeek ("weet," "yeek ("weet," "yeek ("weet," "yeek ("weet," "yeek ("weet," "yeek ("weet," "yeek ("yeek (Project Name. CCR - Plant Arkwright	Project #: 18020201					AV HOUSE						_		TA	W - pH 4-5 Z - other (specify)	
Sample Date Type (w-man, Type (Parcella) (Bandle Date Time (C=Comp. Gracella) (Bandle Date Time (G=Comp. Gastern Matter X X X X X X X X X X X X X X X X X X X	Site: Arkwright	SSOWe					200		-					O'Services			
10/1/20	Sample Identification - Client ID (Lab ID)	Sample Date	Sample	 Matrix (W-water, Sweeted, Ownermood,		Аезар	R#226R#228_GF								Special lo	Special Instructions Note:	
10/1/20		X	X	tion Code:											Λ	V	
10/1/20	FB-02 (180-111740-1)	10/1/20	09:35 Fastern	Water		×							-	-			
10/1/20 Eastern Water X X X X X X X X X X X X X X X X X X X	ARGWC-23 (180-111740-2)	10/1/20	11:58 Eastern	Water		×							-	-			
	DUP-02 (180-111740-3)	10/1/20	Eastern	Water		×			H					~			
							+		+		+		+				
							+		+		+		+				
									-		-		-				

Eurofins accreditation in the State of Origin listed above for analysis less shaped back to the Eurofins Testalmenical abovalory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Testalmenical. Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Possible Hazard Identification

Ver: 01/16/2019 OCC + 4 8 PERZOCA: UFTA Archive For Disposal By Lab cooler Temperature(s) "C and Other Remarks. Special Instructions/OC Requirements: 3 Primary Deliverable Rank: 2 Date/Time: sirverable Requested: I, II, III, IV, Other (specify) Custody Seal No.: FEDEX Empty Kit Relinquished by: Custody Seals Intact: Street by: quished by:

Eurofins TestAmerica, Pittsburgh

Pittsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2468

Client Information (Sub Contract Lab)	Sampler			Lab PM: Brown, Shall	Shali			Carrier	Carrier Tracking No(s):		COC No. 180-414270.1	
Client Contact	Phane:			E-Mail:	ľ			State of Origin:	Origin:		Page;	
Shipping/Receiving				Shall.B	Shall.Brown@Eurofinset.com	urofinse	t.com	Georgia	ia		Page 1 of 1	
Company: TestAmerica Laboratories, Inc.				Ac	creditation	s Require	Accreditations Required (See note):				Job #. 180-111741-2	
Address: 13715 Rider Trail North,	Due Date Requested: 11/3/2020						Analy	Analysis Requested	Pé		opo	
Gry- Earth City State, Zio	TAT Requested (days):				Kep LZ - (pui					A - HGL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitro Acid P - Na2O4S	
MO. 63045 Prove 314-298-8566(Tel) 314-298-8757(Fax)	PO#;					9ZZ-win					F - MeCH R - Na22503 G - Americe S - 12504	
Email	WO'R.			ON 30	(0)						1 - Ice U - Acetone J - Di Water V - MCAA	canydrate
Project Name: CCR - Plant Arkwright	Project #: 18020201			\$8,78	88 OF N					roenist		(455
Site: Arkwright	SSOW#.			IdmeS	A) as	ACC. Yes				oo too	Other:	
Sample Identification - Client ID (Lab ID)	Sample Date Tir	Sample (C=	Sample (w Type (w C=comp, ow G=grab) sn-ra	Matrix (Wester September Commercial Commercial Commercial Commercial Field Filtered Filtered Commercial Commer	Perform MS/M 9315_Ra226/Pre decay	9320_Ra228/Pre 9320_Ra228/Pre	825-mulbeR			Total Number	Special Instructions/Note:	9
	X	1	100							X		
ARAMW-2 (180-111741-1)	10/1/20 15	15:12 astern	S	Water	×	×	×			-		
ARGWC-21 (180-111741-2)	10/1/20 16	16:08	S	Water	×	×						
		-								1-1		
Note: Since laboratory accreditations are subject to change. Eurofins TestAmerica places the ownership of method, analyte & accreditation out subcontact aboratory or other instructions will be provided. Any changes to accreditations the tamples must be shipped back to the Eurofins TestAmerica alteritor or other instructions will be provided. Any changes to accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.	America places the ownership of me matrix being analyzed, the samples i ext to date, return the signed Chain	thod, analyte must be shipl of Custody a	of method, analyte & accreditation compliance upon out subcorteast tab mples must be shaped back to the Eurofins TestAmenta laboratory or of Chain of Custody, attesting to said complicance to Eurofins TestAmenta.	Eurofins Ter complicance	upon out s stamenta l to Eurofine	ubcontract aboratory TestAme	t laboratories. or other instru rica.	This sample shipm ctors will be provid	ent is forwarded un ad. Any changes to	der chain-of- accreditatio	of method, analyte & accreditation compliance upon out subcontract laborationes. This sample shipment is forwarded under chaim-of-custody. If the laboratory does not currently inside must be shipped back to the Eurofins TestAmenta laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Chain of Custody attesting to said complicance to Eurofins TestAmenta.	rrently
Possible Hazard Identification					Sample	Dispos	sal (A fee i	nay be assesse	d if samples a	ire retaine	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed					ď	Return To Client	o Client	Disposal By Lab	1 By Lab	Archi	Archive For Months	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	ank: 2			Special	Instruct	Special Instructions/QC Requirements	quirements:				
Empty Kit Relinquished by:	Date:			T	Time:			W	Method of Shipment,			l
Reimpurched by.	DateTime:	35	Company	L. BATTO-O	Rece	Received by	E	FEDEX	DateTime		Company	
Reinquished by: FED EX	Date/Time		Company	any	-	THE VAL	2/6	Chininia	LOG LOWERT DCT	CT UB	8 707G.D See	2
1	Date/Time:		Company	зпу	Heed.	Judg Day			Date/Time			2
Custody Seals Intact: Custody Seal No.:					Cool	er Temper	ature(s) "C an	Cooler Temperature(s) "C and Other Remarks:				
					$\frac{1}{1}$							

Client: Southern Company

Job Number: 180-111648-2

Login Number: 111648

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Watson, Debbie

Creator. Watson, Debbie		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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 Number: 111648

List Number: 2

Creator: Boyd, Jacob C

List Source: Eurofins TestAmerica, St. Louis

List Creation: 10/03/20 12:56 PM

orcator. Boya, bacob o		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Client: Southern Company

Job Number: 180-111648-2

Login Number: 111686

 ${\bf List\ Source:\ Eurofins\ TestAmerica,\ Pittsburgh}$

List Number: 1

Creator: Watson, Debbie

QuestionAnswerCommentRadioactivity wasn't checked or is = background as measured by a survey meter.</td N/AThe cooler's custody seal, if present, is intact.TrueSample custody seals, if present, are intact.TrueThe cooler or samples do not appear to have been compromised or tampered with.TrueSamples were received on ice.TrueCooler Temperature is acceptable.TrueCooler Temperature is recorded.TrueCOC is present.TrueCOC is filled out in ink and legible.TrueCOC is filled out with all pertinent information.TrueIs the Field Sampler's name present on COC?TrueThere are no discrepancies between the containers received and the COC.True
meter. The cooler's custody seal, if present, is intact. Sample custody seals, if present, are intact. True The cooler or samples do not appear to have been compromised or tampered with. Samples were received on ice. Cooler Temperature is acceptable. Cooler Temperature is recorded. True COC is present. COC is filled out in ink and legible. True COC is filled out with all pertinent information. Is the Field Sampler's name present on COC?
Sample custody seals, if present, are intact. True The cooler or samples do not appear to have been compromised or tampered with. Samples were received on ice. 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. Is the Field Sampler's name present on COC?
The cooler or samples do not appear to have been compromised or tampered with. Samples were received on ice. 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. Is the Field Sampler's name present on COC?
tampered with. Samples were received on ice. Cooler Temperature is acceptable. Cooler Temperature is recorded. True COC is present. COC is filled out in ink and legible. COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? True
Cooler Temperature is acceptable. Cooler Temperature is recorded. True COC is present. COC is filled out in ink and legible. COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? True
Cooler Temperature is recorded. COC is present. COC is filled out in ink and legible. COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? True
COC is present. COC is filled out in ink and legible. COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? True
COC is filled out in ink and legible. COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? True
COC is filled out with all pertinent information. Is the Field Sampler's name present on COC? True
Is the Field Sampler's name present on COC?
·
There are no discrepancies between the containers received and the COC. True
Samples are received within Holding Time (excluding tests with immediate True HTs)
Sample containers have legible labels.
Containers are not broken or leaking.
Sample collection date/times are provided. True
Appropriate sample containers are used.
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").
Multiphasic samples are not present. True
Camples do not require enlitting or compositing
Samples do not require splitting or compositing. True

Login Number: 111686 List Number: 2 List Source: Eurofins TestAmerica, St. Louis

List Creation: 10/03/20 06:58 PM

Creator: Boyd, Jacob C

Creator. Boyu, Jacob C		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Client: Southern Company

Job Number: 180-111648-2

Login Number: 111740

List Number: 1

Creator: Say, Thomas C

List Source: Eurofins TestAmerica, Pittsburgh

Radioactivity wasn't checked or is = background as measured by a survey meter. The cooler's custody seal, if present, is intact. Sample custody seals, if present, are intact. The cooler or samples do not appear to have been compromised or tampered with. Samples were received on ice.</th <th>True</th> <th></th>	True	
Sample custody seals, if present, are intact. The cooler or samples do not appear to have been compromised or tampered with.		
The cooler or samples do not appear to have been compromised or tampered with.	True	
tampered with.	True	
Samples were received on ice.	True	
•	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 Number: 111740

List Source: Eurofins TestAmerica, St. Louis

List Number: 2

List Creation: 10/08/20 06:57 PM

Creator: Korrinhizer, Micha L

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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 Number: 111741 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.</td <td>True</td> <td></td>	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 Number: 111741

List Source: Eurofins TestAmerica, St. Louis

List Number: 2

List Creation: 10/08/20 06:57 PM

Creator: Korrinhizer, Micha L

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	

Date: 2020-09-29 15:27:14

Project Information:

Daniel Howard

Pump Model/Type Tubing Type QED Micropurge dedicated

Company Name Project Name Site Name

Operator Name

Wood E&IS
Plant Arkwright CCR AP2

Tubing Type
Tubing Diameter

Pump Information:

HDPE .25 in

Latitude

0° 0' 0"

ARGWA-19

Tubing Diamete Tubing Length

.25 in 52.8 ft

Longitude Sonde SN

541714

Hach 2100Q

Pump placement from TOC

47.74 ft

Well Information:

Turbidity Make/Model

Well ID
Well diameter
Well Total Depth
Screen Length
Depth to Water

ARGWA-19 2 in 52.74 ft 10 ft

26.6 ft

Pumping Information:

Final Pumping Rate
Total System Volume
Calculated Sample Rate
Stabilization Drawdown
Total Volume Pumped

200 mL/min 0.9896642 L

300 sec 0 in 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	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

Date: 2020-09-30 11:30:45

Project Information:

Operator Name

Company Name

Project Name

Daniel Howard Wood E&IS

Plant Arkwright CCR AP2

Site Name ARGWA-20
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 541714

Turbidity Make/Model Hach 2100Q

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

Pump Information:

Pump Model/Type QED Micropurge dedicated Tubing Type HDPE Tubing Diameter .25 in

Tubing Diameter .25 in Tubing Length 37.7 ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 150 mL/min
Total System Volume 0.843908 L
Calculated Sample Rate 300 sec
Stabilization Drawdown
Total Volume Pumped 4.75 L

32.7 ft

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	S/cm Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilizatio	n		+/- 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

Date: 2020-10-01 16:09:15

Project Information:

Daniel Howard

Pump Information:

Operator Name Company Name

Wood E&IS

Pump Model/Type QED Micropurge dedicated HDPE

Project Name Site Name Latitude

Plant Arkwright CCR AP2 ARGWC-21 0° 0' 0"

Tubing Type Tubing Diameter .25 in Tubing Length 27 ft

0° 0' 0" Longitude Sonde SN 541714

Pump placement from TOC

22 ft

Well Information:

Turbidity Make/Model

Well ID Well diameter Well Total Depth Screen Length Depth to Water

ARGWC-21 2 in 26.98 ft 10 ft 14.12 ft

Hach 2100Q

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	рН	SpCond μS	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.

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

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

Pump Information:

Pump Model/Type Peristaltic pump

22.8 ft

Tubing TypeHDPETubing Diameter.17 inTubing Length27.8 ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.6040831 L
Calculated Sample Rate 300 sec
Stabilization Drawdown
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	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

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

23 ft

Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 28.1 ft

Pump placement from TOC

Well Information:

Well IDARGWC-23Well diameter2 inWell Total Depth28.08 ftScreen Length10 ftDepth to Water12.1 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	рН	SpCond μS/cmTurb 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.

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

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

Pump Information:

Pump Model/Type Peristaltic pump

40.3 ft

Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 45.3 ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.682193 L
Calculated Sample Rate 300 sec
Stabilization Drawdown
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS/cmTurb 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

Date: 2020-10-01 15:13:03

Project Information:

Pump Information:
I Howard Pump Model/Type

Operator Name Daniel Howard
Company Name Wood E&IS
Project Name Plant Arkwright CCR AP2

Pump Model/Type Alexis Peristaltic pump
Tubing Type HDPE
Tubing Diameter .17 in
Tubing Length 24.9 ft

Site Name ARAMW-2
Latitude 0° 0' 0"

0, 0, 0,

Sonde SN 541714 Turbidity Make/Model Hach 2100Q

Pump placement from TOC 19.8 ft

Well Information:

Longitude

Well ID

rmation: Pumping Information: ARAMW-2 Final Pumping Rate

Well diameter 2 in
Well Total Depth 24.84 ft
Screen Length 10 ft
Depth to Water 13.58 ft

Final Pumping Rate 200 mL/min
Total System Volume 0.5911392 L
Calculated Sample Rate 300 sec
Stabilization Drawdown
Total Volume Pumped 15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS	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



Environment Testing America

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

Review your project results through

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

Client: Southern Company Project/Site: CCR - Arkwright Surfacewater Laboratory Job ID: 180-113158-1

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	10
QC Sample Results	13
QC Association Summary	16
Chain of Custody	18
Receipt Checklists	20

3

4

Q

9

11

12

1

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.

Definitions/Glossary

Client: Southern Company Job ID: 180-113158-1

Project/Site: CCR - Arkwright Surfacewater

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 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.

Eisted 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

G

9

10

12

11

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

- -

-

6

9

10

12

13

 $^{^{\}star} \ \text{Accreditation/Certification renewal pending - accreditation/certification considered valid}.$

Eurofins TestAmerica, Pittsburgh

Sample Summary

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

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	

Job ID: 180-113158-1

Method Summary

Client: Southern Company

Project/Site: CCR - Arkwright Surfacewater

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	рН	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

Job ID: 180-113158-1

3

4

£

7

8

3

10

15

13

Lab Chronicle

Client: Southern Company

Project/Site: CCR - Arkwright Surfacewater

Client Sample ID: BC-0.8 Lab Sample ID: 180-113158-1

Date Collected: 11/03/20 12:38 Date Received: 11/04/20 09:00

Matrix: Water

Job ID: 180-113158-1

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrumer	EPA 300.0 R2.1 at 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 Instrumer	EPA 6020B at ID: A		1			337118	11/13/20 20:09	RSK	TAL PIT
Total/NA	Analysis Instrumer	EPA 9040C at ID: NOEQUIP		1			336783	11/11/20 23:38	PMH	TAL PIT
Total/NA	Analysis Instrumer	SM 2540C at ID: NOEQUIP		1	100 mL	100 mL	336451	11/09/20 17:15	GRB	TAL PIT
Total/NA	Analysis Instrumer	SM2320 B		1			336113	11/05/20 18:39	AVS	TAL PIT

Lab Sample ID: 180-113158-2 **Client Sample ID: BC-0.5.5**

Date Collected: 11/03/20 11:24 **Matrix: Water** Date Received: 11/04/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			336638	11/11/20 13:41	SAT	TAL PIT
	Instrumen	t ID: CHIC2100A								
Total Recoverable	Prep	3005A			50 mL	50 mL	336278	11/07/20 08:11	KHM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			337118	11/13/20 20:18	RSK	TAL PIT
	Instrumen	t ID: A								
Total/NA	Analysis	EPA 9040C		1			336799	11/11/20 19:53	PMH	TAL PIT
	Instrumen	t ID: PCTITRATOR								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	336451	11/09/20 17:15	GRB	TAL PIT
	Instrumen	t ID: NOEQUIP								
Total/NA	Analysis	SM2320 B		1			336113	11/05/20 18:45	AVS	TAL PIT
	Instrumen	t ID: PCTITRATOR								

Client Sample ID: BC-BR Lab Sample ID: 180-113158-3 Date Collected: 11/03/20 11:49

Date Received: 11/04/20 09:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis Instrument	EPA 300.0 R2.1 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 Instrument	EPA 6020B : ID: A		1			337118	11/13/20 20:21	RSK	TAL PIT
Total/NA	Analysis Instrument	EPA 9040C ID: PCTITRATOR		1			336799	11/11/20 22:00	PMH	TAL PIT
Total/NA	Analysis Instrument	SM 2540C ID: NOEQUIP		1	100 mL	100 mL	336451	11/09/20 17:15	GRB	TAL PIT
Total/NA	Analysis Instrument	SM2320 B ID: PCTITRATOR		1			336113	11/05/20 18:50	AVS	TAL PIT

Eurofins TestAmerica, Pittsburgh

Page 8 of 20

Matrix: Water

11/18/2020

Lab Chronicle

Client: Southern Company

Job ID: 180-113158-1 Project/Site: CCR - Arkwright Surfacewater

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

Client Sample Results

Client: Southern Company Job ID: 180-113158-1

Project/Site: CCR - Arkwright Surfacewater

Lab Sample ID: 180-113158-1 Client Sample ID: BC-0.8

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										
Α	nalyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C	hloride	9.5		1.0	0.32	mg/L			11/11/20 18:17	1
F	luoride	0.066	J	0.10	0.044	mg/L			11/11/20 18:17	1
S	ulfate	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	D 14	0	D.	MDI	1114	_	B	Austral	D'I = -
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 Job ID: 180-113158-1

Project/Site: CCR - Arkwright Surfacewater

Lab Sample ID: 180-113158-2 Client Sample ID: BC-0.5.5 **Matrix: Water**

Date Collected: 11/03/20 11:24 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

Job ID: 180-113158-1

Project/Site: CCR - Arkwright Surfacewater

Client Sample ID: BC-BR Lab Sample ID: 180-113158-3

Date Collected: 11/03/20 11:49

Date Received: 11/04/20 09:00

Matrix: Water

-	_				
- 1					
			 A	Ion Chromatography	

Wethou. EPA 300.0 RZ.1 - All	ions, ion Ciliomatograpi	ııy					
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					
Cohalt	0.00048 .1	0.0025	0.00013 mg/l		11/07/20 08:11	11/13/20 20:21	-					

General Chemistry Analyte	Result	Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac
pH		HF _	0.1		SU	- -	opa. oa	11/11/20 22:00	1
Total Dissolved Solids	85	•••	10		mg/L			11/09/20 17:15	1
Total Alkalinity as CaCO3 to pH 4.5	55		5.0		mg/L			11/05/20 18:50	1
Bicarbonate Alkalinity as CaCO3	55		5.0	5.0	ma/l			11/05/20 18:50	1

3

6

q

10

11

12

1:

Job ID: 180-113158-1

Client: Southern Company

Project/Site: CCR - Arkwright Surfacewater

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

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac D Chloride 0.32 mg/L < 0.32 1.0 11/11/20 05:54 Fluoride <0.044 0.10 0.044 mg/L 11/11/20 05:54 Sulfate < 0.38 1.0 0.38 mg/L 11/11/20 05:54

Lab Sample ID: LCS 180-336638/5

Matrix: Water

Analysis Batch: 336638

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

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %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 90 - 110 50.0 mg/L 100

Lab Sample ID: MB 180-336722/6

Matrix: Water

Analysis Batch: 336722

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

Client Sample ID: Lab Control Sample

MB MB Result Qualifier Dil Fac Analyte RL **MDL** Unit Prepared Analyzed Chloride < 0.32 1.0 0.32 mg/L 11/11/20 12:23 Fluoride <0.044 0.10 0.044 mg/L 11/11/20 12:23 Sulfate 0.38 mg/L 11/11/20 12:23 < 0.38 1.0

Lab Sample ID: LCS 180-336722/5

Matrix: Water

Analysis Batch: 336722

7 thaifeld Batom 6007 22								
-	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%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

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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

Analysis Daton. 330122											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

Client Sample ID: BC-0.8

Prep Type: Total/NA

Prep Type: Total/NA

11/18/2020

Job ID: 180-113158-1

Project/Site: CCR - Arkwright Surfacewater

Lab Sample ID: MB 180-336278/1-A

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

Matrix: Water

Analysis Batch: 337118

Client: Southern Company

Client Sample ID: Method Blank **Prep Type: Total Recoverable Prep Batch: 336278** MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared 0.0025 11/07/20 08:11 11/13/20 19:41 Cobalt <0.00013 0.00013 mg/L

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

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: BC-BR

Prep Type: Total/NA

Prep Type: Total/NA

Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits Analyte Cobalt 0.500 0.504 mg/L 101 80 - 120 Calcium 25.0 28.6 mg/L 114 80 - 1201.25 mg/L Boron 1.21 97 80 - 120

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-336783/1

Matrix: Water

Analysis Batch: 336783

Spike LCS LCS %Rec. Added Result Qualifier Limits Analyte Unit D %Rec 7.00 SU 100 99 - 101 рΗ 7.0

Lab Sample ID: LCS 180-336799/29

Matrix: Water

Analysis Batch: 336799

LCS LCS %Rec. Spike Added Analyte Result Qualifier D %Rec Limits Unit рΗ 7.00 7.0 SU 100 99 - 101

Lab Sample ID: LCS 180-336799/3

Matrix: Water

Analysis Batch: 336799

Spike LCS LCS %Rec. Added **Analyte** Result Qualifier Unit D %Rec Limits 7.00 SU 99 - 101 7.0 100

Lab Sample ID: 180-113158-3 DU

Matrix: Water

Analysis Batch: 336799

DU DU RPD Sample Sample Analyte Result Qualifier Result Qualifier Unit D **RPD** Limit 7.4 HF pН 7.5 SU 0.5

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

Lab Sample ID: MB 180-336451/2

Matrix: Water

Analysis Batch: 336451

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed <10 10 10 mg/L 11/09/20 17:15 **Total Dissolved Solids**

Eurofins TestAmerica, Pittsburgh

Client Sample ID: Method Blank

10

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

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

Matrix: Water

Analysis Batch: 336451

		Spike	LCS	LCS				%Rec.	
Analyte		Added	Result	Qualifier	Unit)	%Rec	Limits	
Total Dissolved Solids		714	700		mg/L	_	98	80 - 120	

Method: SM2320 B - Alkalinity, Total

Lab Sample ID: MB 180-336113/53 **Client Sample ID: Method Blank Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 336113

	MB MB						
Analyte	Result 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 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 336113

Spike LCS LCS %Rec. Added Result Qualifier Unit Limits 250 236 95 90 - 110 Total Alkalinity as CaCO3 to pH mg/L

QC Association Summary

Client: Southern Company

Project/Site: CCR - Arkwright Surfacewater

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

Page 16 of 20

2

Job ID: 180-113158-1

3

6

_

9

11

1:

11/18/2020

QC Association Summary

Client: Southern Company

Job ID: 180-113158-1

Project/Site: CCR - Arkwright Surfacewater

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	- <u> </u>
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	

1

3

Λ

5

_

8

11

1:

Chain of Custody Record

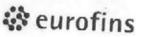
Eurofins TestAmerica, Pittsburgh

301 Alpha Drive RIDC Park

Pitsburgh, PA 15238 Phone: 412-963-7058 Fax: 412-963-2488

244- ATLANTA

	Sampler	١.		Lab PM		-	1			amer Tracking No(s):		COC No:		
Client Information	KAGO	JOHNSON	2005	Lanie	-demy-A	5	125	ひかい	3			180-65384-13119	4-13119.1	
Clent Contact Warren Johnson	Prone 48	15	8968	Jerry Jerry	Spine	₹ Euro	A PIL. CARG	200	7 6 83			Page: Page:1 of 1		
Company ARCADIS U.S., Inc.								- Lu	enalysis Regu	Requested		H gor		
Address 2839 Paces Ferry Road SE Suite 900	Due Date Requested	:pa				\vdash	L	127			F	Preservation Codes	n Cod	
City. Atlanta	TAT Requested (days	ays):						بيدير ا				B - NaOH C - Zn Acetaba	3	
State, Zio. GA, 30339		7	DAY			- 1		20	0			D - Nitric Aci	P - Na2045 4 Q - Na2503	
Phone 404-952-1615(Tel)	Port SCS	Series A	2606					543				G - Amchior H - Ascorbio	Acid	3 perahudisha
Emait warren johnson@arcadis.com	WO#				(oN			PM+	144				200	
Project Name: Georgia Power CCR	Project #: 18023144				10 89			1709	N-1					ecty)
SIR PLANT ARCHURICHT	*WOSS				Y) asi			507				of con		
-	Sample Date	Sample	Sample Type (C=comp, G=grab)	Matrix (Wwwater, Swoold, Ownasteloil, ST-Tissue Ande)	Field Filtered Perform MS/M	5020B - Metals 2320B, 9040C,	- poleC_Dated -	- <u>80200</u>				TedmuM listoT	Special Instructions Note:	. story
	V	X	4 (6)		X	-	-							
36-0.8	11/3/20	1238	9	Water		×	×	×				35,28	SZ,27,7-83.	W, 02, 24.
BC-0,5.5	11/3/20	1124	3	Water		×	×	×			-	32,22	14"H/-83	45,00 M
Bc-BR	11/3/20	1149	.5	Water		×	X					32, 22,	12"W/-83"	41,28,1h
				Water										
				Water										
				Water										
										180-113158 Chain of Custody	Chain	of Custody		
						\dashv	_			-	7			
Possible Hazard Identification					San	- Q ejou	Spoos	// A fee	marcheas	olomes if sesses	S are ret	resout poster	than 1 month	
Non-Hazard Flammable Skin Imtant Poison B	usan B Unknown	╙	Radiologica!		ш	Reft	m To	Client	NO Sico	Return To Client Disposal By Lab Archive For Mont		rchive For	Months	
Deliverable Requested: I, II, III, IV, Other (specify)					Spe	cial Ins	tructio	ns/QC F	Special Instructions/QC Requirements	16				
Empty Kit Relinquished by:		Date:			ime:	П				Method of Shipment	ant			
Reinquished by	11/03/20 20	[] oz	00	Arca 1	ų	Page	12	10	Say	Clist	120	12	the ob	
Reinquigned by, (1/872e)	Date/Time:	18,00		Company		300		3	S.	Clare	7/12	000	A. C	4
Custody Society Hards Cool No.													6 mdu oo	
						200ier	етрега	ture(s) °C	Dooler Temperature(s) °C and Other Rema	narks.				
													Ver. 01/16/2019	/2019



Environment Testing TestAmerica

ORIGIN ID:LIYA (678) 966-9891 GEORGE TAYLOR EUROFINS TESTAMERICA 6500 MCDONDUGH DRIVE SUITE C-10 NORCROSS, GA 30093 UNITED STATES US

SHIP DATE: 03NDV20 ACTWGT: 23.00 LB CAD: 859116/CAFE3406

BILL RECIPIENT

10 SAMPLE RECIEVING **EUROFINS TESTAMERICA PITTSBURGH** 301 ALPHA DR. RIDC PARK PITTSBURGH PA 15238

(412) 963-7068 REF: ARCADIS PLT ARTW

11**0-1**13158 Waybill 180-113158 Waybill





TRK# 1516 9325 7929

WED - 04 NOV 10:30A PRIORITY OVERNIGHT

NA AGCA

15238 PIT'

ncorrected temp ermometer ID





Client: Southern Company

Job Number: 180-113158-1

List Source: Eurofins TestAmerica, Pittsburgh

Login Number: 113158

List Number: 1

Creator: Say, Thomas C

oreator. Say, momas o		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	
s 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	