

REPORT

Assessment of Corrective Measures

Georgia Power Company - Plant Branch Ash Ponds B, C and D, Putnam County, Georgia

Submitted to:



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Table of Contents

1.0	INTR	ODUCTION	1
	1.1	Purpose	1
	1.2	Site Location and Description	2
	1.3	Pond Closure and Source Control	2
2.0	CON	CEPTUAL SITE MODEL	3
	2.1	Regional and Hydrogeologic Setting	3
	2.2	Uppermost Groundwater Aquifer	3
	2.3	Groundwater Flow Conditions	4
3.0	ΝΑΤΙ	JRE AND EXTENT OF APPENDIX IV CONSTITUENTS	4
	3.1	Groundwater Monitoring and Constituents of Concern	5
	3.1.1	Groundwater Monitoring Program	5
	3.1.2	SSLs for Appendix IV Constituents	5
	3.2	Field Investigation Activities	5
	3.2.1	Delineation Wells	6
	3.2.2	Groundwater Sampling	6
	3.2.3	Surface Water Sampling	6
	3.3	Nature and Extent Evaluation	7
4.0	GRO	UNDWATER CORRECTIVE MEASURES	7
	4.1	Objectives of the Corrective Measures	7
	4.2	Summary of Potential Groundwater Corrective Measures	7
	4.2.1	Geochemical Approaches (In-Situ Injection)	8
	4.2.2	Hydraulic Containment (Pump and Treat)	9
	4.2.3	In-Situ Stabilization	9
	4.2.4	Monitored Natural Attenuation	9
	4.2.5	Permeable Reactive Barriers1	0
	4.2.6	Subsurface Vertical Barrier Walls1	1

5.0	REME	DY SELECTION PROCESS	12
	5.1	Source Control (Pond Closure) and Site Management Strategy	12
	5.2	Additional Data Gathering	12
	5.3	Schedule, Reporting & Next Steps	13
6.0	REFE	RENCES	13

TABLES

Table 1:	Monitoring Well Network Summary
Table 2:	Piezometer Network Summary
Table 3:	Summary of Groundwater Protection Standards
Table 4A:	Analytical Data Summary – Pond BCD August 2020
Table 4B:	Assessment Monitoring Analytical Data Summary – Pond BCD August 2020
Table 4C:	Analytical Data Summary – Pond BCD September 2020
Table 4D:	Assessment Monitoring Analytical Data Summary – Pond BCD September & October 2020
Table 5:	Surface Water Analytical Data Summary – Pond BCD
Table 6:	Evaluation of Remedial Technologies

FIGURES

Figure 1:	Site Location Map
Figure 2:	Subsurface Profile Orientation Map
Figure 3:	Geologic Cross-Section A-A'
Figure 4:	Geologic Cross-Section B-B'
Figure 5A:	Potentiometric Surface Contour Map – March 2, 2020
Figure 5B:	Potentiometric Surface Contour Map – September 2020
Figure 6:	Cadmium Isoconcentration Contour Map – Pond BCD March 2020
Figure 7:	Cobalt Isoconcentration Contour Map – Pond BCD March 2020
Figure 8:	Cadmium Isoconcentration Contour Map – Pond BCD September 2020
Figure 9:	Cobalt Isoconcentration Contour Map – Pond BCD September 2020

APPENDICES

- Appendix A: Risk Evaluation Report
- Appendix B: Piezometer Installation Report
- Appendix C: Laboratory Analytical Results

1.0 INTRODUCTION

This Assessment of Corrective Measures (ACM) has been prepared in accordance with the Georgia (GA) Environmental Protection Division (EPD) Rule 391-3-4-.10(6), to evaluate potential groundwater corrective measures at Plant Branch Ash Ponds, B, C, and D, together referred to as a multi-unit AP-BCD (AP-BCD, Site). For ease of reference, we have included citations for the applicable portions of the Code of Federal Regulations (i.e., 40 CFR 257.97-98) as they are included by reference in the GA EPD rule. The ACM was initiated on July 9, 2020, within 90 days of identifying SSLs. A 60-day extension until December 4, 2020 for completion of the ACM was documented on October 7, 2020. Based on the results of the ACM, further evaluation may be performed, site-specific studies completed, and a corrective action plan developed and implemented in accordance with 40 CFR 257.97-98 and GA EPD's CCR Rule 391-3-10.

This ACM evaluates potential corrective measures to address statistically significant levels (SSLs) of cobalt and cadmium in groundwater at AP-BCD identified on May 8, 2020.

Based on the results of the ACM, further evaluation may be performed, site-specific studies completed, and a final long-term corrective action plan developed and implemented pursuant to 40 CFR 257.97-98 and 391-3-4-.10(6). As part of the ACM, the nature and extent evaluation of target constituents, cobalt and cadmium, in groundwater is complete. Due to the proximity of Lake Sinclair in the downgradient direction of the well showing SSLs of cobalt and cadmium (i.e., BRGWC-50), installation of additional wells to horizontally characterize this area is infeasible. Georgia Power proactively collected surface water samples from Lake Sinclair downgradient of AP-BCD on October 22, 2020. The results from surface water samples collected from Lake Sinclair indicate that cobalt and cadmium are not detected and no impacts to surface water have been identified.

Based on data collected to date, horizontal and vertical delineation of groundwater constituents showing SSLs at AP-BCD at Plant Branch is considered complete. Ongoing ACM evaluations will be provided in subsequent semiannual remedy selection progress reports. These progress reports will be included as attachments to the *Semi-Annual Groundwater Monitoring and Corrective Action Reports*. The next semi-annual report is planned for February 2021.

Georgia Power conducted a human health and ecological risk evaluation to evaluate constituents that exhibit SSLs in groundwater, cobalt and cadmium, at AP-BCD. The risk evaluation used a conservative, health-protective approach that is consistent with United States Environmental Protection Agency (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-BCD was conducted and consisted of reviewing federal, state, and county records and online sources, in addition to conducting a windshield survey of the area. The risk evaluation relied on groundwater data collected by Georgia Power from March 2018 to March 2020 in compliance with the state CCR rules. Based upon this risk evaluation, which included multiple conservative assumptions, concentrations of cobalt and cadmium detected in groundwater at AP-BCD are not expected to pose a risk to human health or the environment. The *Risk Evaluation Report* (Wood/Geosyntec, 2020) and associated well survey are provided as Appendix A.

1.1 Purpose

The purpose of this ACM is to identify potential corrective measure(s) for groundwater at AP-BCD. 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-BCD.

Once potential corrective measures are identified, they will be further evaluated using the criteria outlined in 40 CFR 257.97-98 and GA EPD's CCR Rule 391-3-10(6), which states that corrective measures assessment should include an analysis of the following:

- Performance
- Reliability
- Ease of implementation
- Potential impacts
- The time required to begin and complete the remedy
- Any institutional requirements that could affect implementation of the remedy.

These evaluation criteria, discussed in more detail in the following sections, were considered for each potential remedy.

1.2 Site Location and Description

Plant Branch is located in Putnam County, GA, approximately 8 miles north of Milledgeville. The plant is primarily surrounded by agricultural, residential, and light commercial land use. The property occupies approximately 3,200 acres and is bounded on the south and east by Lake Sinclair, which is an approximate 15,330-acre hydroelectric reservoir that was created in 1953 by the impoundment of the Oconee River. A site location map and a detailed site map are included as Figure 1. The physical address of the plant is 1100 Milledgeville Road, Milledgeville, GA 31061.

Plant Branch formerly operated as a coal-fired power plant since the 1960s until its retirement in 2015. Plant Branch is no longer active and is currently decommissioned. During its operation, five ash ponds were used for management of the CCR on the plant property. These ponds are identified as Ponds A, B, C, D, and E. Ash Pond A, the first ash pond constructed at the Site, was taken out of service in the late 1960s and was closed in April 2016 by the removal and relocation of its stored CCR to Ash Pond E. Ponds B, C, D, and E are currently inactive, and will be closed by removal by relocation of the stored CCR material to a proposed lined landfill located on the plant property. This report documents the assessment of corrective measures at the multi-unit AP-BCD.

Plant Branch ceased producing electricity prior to April 2015. Therefore, Ash Ponds B, C, and D are not subject to the USEPA CCR Rule.

1.3 Pond Closure and Source Control

Georgia Power retired Plant Branch in 2015 and began a dewatering process which is necessary to facilitate permanent closure of the ash ponds. Plant Branch will remove all four ash ponds (Ponds B, C, D, and E) and consolidate the ash in a new, lined onsite landfill. The closure of the AP-BCD in the manner described above provides a source control measure that reduces the potential for migration of CCR constituents to groundwater. Corrective measures discussed in this ACM are being evaluated to address SSLs in groundwater at the waste boundary.

2.0 CONCEPTUAL SITE MODEL

The following section summarizes the geologic and hydrogeologic conditions at Plant Branch as described in the November 2020 *Hydrogeologic Assessment Report, Revision 1* (Geosyntec, 2020).

2.1 Regional and Hydrogeologic Setting

The following section and subsections include a general description of regional geologic and hydrogeologic characteristics of formations that occur beneath the site. Figure 2 presents a series of subsurface profiles for the site. Subsurface geologic profiles are included as Figures 3 and 4 present a summary of the geologic and hydrogeologic information for Plant Branch. Sections A-A' and B-B' (Figures 3 and 4) depict the geologic profile and hydrogeologic conditions both in the direction of groundwater flow and perpendicular through the detection groundwater network.

The Site is located in the Piedmont/Blue Ridge geologic province, which contains some of the oldest rock formations in the southeastern US. These late Precambrian to late Paleozoic rocks have undergone repeated cycles of igneous intrusions and extrusions, metamorphism, folding, faulting, shearing, and silicification. Based on site-specific mapping, bedrock beneath is primarily characterized by poorly-jointed, feldspathic biotite gneiss with a localized zone of highly concentrated layers of amphibolite/hornblende gneiss interlayered with the biotite gneiss. Isolated diabase intrusive masses are also present on site.

Residual soils, micaceous, locally saprolitic soils, consisting primarily of clay, silty clay, silt, and sandy clay occur as a variably-thick blanket of residuum overlying bedrock across most of the site. These thickness of residual saprolitic soils along with saprolitic transitionally or partially weathered rock, collectively the overburden, range between approximately 11 to 139 feet in thickness across the site, with an average thickness of approximately 41 feet. Saprolitic rock is considered to be transitionally weathered rock (TWR) or partially weathered rock (PWR). PWR if defined by Standard Penetration Test (SPT) blow counts that exceed 50 blows/six inches.

A regional, unconfined surficial aquifer system is present at the site, existing within the overburden soils and weathered and fractured upper bedrock (e.g., approximately the first 30 feet), depending on topographic location. Recharge primarily occurs through precipitation and subsequent infiltration. Generally, groundwater flow occurs through intergranular pore spaces in the overburden and is controlled by topography and top of rock variations. However, a relatively higher transmissive zone is interpreted to occur at the base of the overburden, at the interface of weathered bedrock and competent bedrock and is believed to be the primary groundwater flow path. The overburden has an average horizontal hydraulic conductivity of 10⁻⁴ centimeters per second (cm/s) and is interpreted to flow south-southeast.

A limited and localized bedrock aquifer system also occurs beneath the site. The upper bedrock is fractured and weathered, connected hydraulically with groundwater in the overburden soils, and is considered part of the uppermost surficial aquifer. The silt/clay-rich soils of the overburden may act to retard recharge into the aquifer system. Deeper bedrock (i.e., approximately greater than 30 feet into the bedrock) is unweathered with few discontinuities (e.g., fractures) available to store groundwater.

2.2 Uppermost Groundwater Aquifer

Boring logs and monitoring well/piezometer installation logs were used to evaluate the hydrostratigraphy of the Site. Piezometers at the Site have been used for water level measurements and enhance the understanding of local hydrogeology. Material types identified included residual soils, saprolitic soils, saprolitic rock (TWR or PWR

if blow counts were available), and competent bedrock. Based on review of the logs, the screen/filter pack interval for most of the piezometers and monitoring wells installed on site provides connection to overburden that is saturated, indicating that the site is underlain by a regional groundwater aquifer that occurs within the overburden.

Localized groundwater flow directions within this aquifer are influenced by topographic and top of rock variations on site. Potentiometric maps for the site are presented as Figure 5A and 5B, Potentiometric Surface Elevation Contour Map Pond BCD – March 2, 2020, and Potentiometric Surface Elevation Contour Map Pond BCD – September 14, 2020. As illustrated on the Potentiometric Surfaces shown on Figure 5A and Figure 5B are a subdued reflection of topography at the site, with groundwater generally flowing east, southeast, and southwest toward Lake Sinclair.

2.3 Groundwater Flow Conditions

Relatively thick silt/clay-rich overburden is present across most of the site which may retard recharge from the uppermost aquifer into the underlying bedrock aquifer systems. Additionally, boring logs indicate that some areas, particularly topographic highs, correlate with bedrock that is resistant to weathering and massive (i.e., few discontinuities); consequently, bedrock aquifer systems are likely not well-developed and/or interconnected in these areas. Preferential groundwater flow in bedrock is anticipated along lineaments and discontinuities.

It is expected that a significant amount of groundwater flow occurs in the residual soils, saprolite, and TWR/PWR (i.e., overburden). This is typical of the Piedmont, as discussed in Fetter (Fetter, 1988). The significance of groundwater flow between the overburden and upper fractured bedrock is dependent on the degree of hydraulic connectivity between the units. Generally, the majority of groundwater flow across the site occurs laterally in the TWR zone. Because the site is underlain by clay-rich residual soils and relatively massive bedrock, groundwater is expected to move laterally more than vertically within the TWR, which is considered to have a higher hydraulic conductivity relative to the overlying clay-rich and underlying massive bedrock material.

The vertical hydraulic gradient is dependent on topographic location. Vertical gradient calculations show that the flow component is variable in both topographically high and low areas. In typical Piedmont settings, an upward vertical gradient would be expected in topographically low areas, as observed in well pairs PZ-51I/PZ-51S. Groundwater in the underlying bedrock is isolated within secondary porosity features, limited in extent (i.e., not laterally continuous). Recharge to the uppermost aquifer is primarily through precipitation and this aquifer is considered to be hydraulically unconfined.

Based on review of the potentiometric contours (Figures 5A and 5B), horizontal hydraulic gradient is also variable and reflects topography at the site. The horizontal gradient appears to be steeper around the downgradient perimeter of the ponds, particularly along embankments where groundwater flow lines are influenced by the constructed slopes for the dams. Hydraulic gradient is calculated as the difference in groundwater elevation (in feet) divided by the distance between two piezometers or wells (in feet). Overall average hydraulic gradients for the Site derived using these horizontal gradients are 0.0235 foot/foot (ft/ft) and 0.0075 ft/ft, respectively.

3.0 NATURE AND EXTENT OF APPENDIX IV CONSTITUENTS

The following sections describe Site assessment activities performed through October 2020 in support of 1) delineating the nature and extent of SSLs in groundwater and 2) evaluating potential corrective measures to address them.

3.1 Groundwater Monitoring and Constituents of Concern

3.1.1 Groundwater Monitoring Program

A groundwater monitoring well network was installed, 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 for unit AP-BCD at Plant Branch. The general locations, spacing, and depths of these wells were selected based on the characterization of site-specific hydrogeologic conditions and justification for placement is presented in the October 2020 *Hydrogeologic Assessment Report Revision 1* submitted to EPD (Geosyntec, 2020). The certified compliance monitoring well network consists of a total of seventeen (17) monitoring wells [i.e., eight (8) upgradient wells and nine (9) downgradient wells]. Detection monitoring well locations for AP-BCD are tabulated on Table 1 and are shown on Figure 2.

The piezometer network for the ash ponds currently consists of sixty-three (63) site piezometers (Table 2) installed at the Site to characterize groundwater conditions. Piezometers are identified in Table 2 and shown on Figure 2. Groundwater is currently monitored at AP-BCD under the assessment monitoring program pursuant to 40 CFR 257.97-98 and GA EPD's CCR Rule 391-3-10.

Boring logs and well construction logs for detection monitoring wells and site piezometers are presented in *Well Installation and Design Report Addendum* (Golder, 2020a).

3.1.2 SSLs for Appendix IV Constituents

During the assessment sampling events, groundwater samples were collected and analyzed for Appendix IV parameters in accordance with 40 CFR 257.97-98 and GA EPD's CCR Rule 391-3-10(6). Analytical data from the semi-annual assessment monitoring events have been statistically analyzed pursuant to §257.93(f) and in general accordance with the USEPA document Statistical Analysis of Groundwater Data at RCRA Facilities Unified Guidance; USEPA, 2009). Following federal and state rule requirements, separate groundwater protection standards (GWPS) were established for statistical comparisons of Appendix IV groundwater monitoring parameters. Site-specific GWPS are presented on Table 3. Details regarding the statistical analyses are provided in the 2020 Annual Groundwater and Corrective Action Monitoring Report (Golder, 2020b).

SSL of Appendix IV groundwater monitoring parameters include cadmium and cobalt at BRGWC-50.

3.2 Field Investigation Activities

The following summarizes the field investigation activities and data evaluations completed since the 2020 Annual Groundwater Monitoring and Corrective Action Report in July 2020 (Golder, 2020b).

- August and September 2020: Two routine assessment monitoring events were conducted. Horizontal delineation piezometers PZ-51S and PZ-51I, downgradient of detection monitoring well BRGWC-50 and adjacent to Lake Sinclair, were sampled in August and September 2020 for analysis of Appendix III and Appendix IV SSLs.
- October 2020: Piezometers PZ-50D and PZ-51D were installed to vertically characterize the groundwater flow and quality conditions downgradient of AP-BCD.

- October 2020: The newly installed piezometers and converted delineation wells were sampled for analysis of Appendix III and Appendix IV constituents.
- October 2020: Surface water samples were collected for analysis of Appendix III constituents, SSL constituents (cobalt and cadmium), and major cations and anions in support of evaluating the geochemical composition of the surface water.

3.2.1 Delineation Wells

To delineate groundwater impacts, two (2) horizontal delineation piezometers (PZ-51S and PZ-51I) and two (2) vertical delineation piezometers (PZ-50D and PZ-51D) were installed at locations downgradient of the monitoring well where Appendix IV SSLs were observed. Piezometer PZ-51S and PZ-51I were installed in August 2018, while PZ-50D and PZ-51D were installed in October 2020. The AP-BCD network and delineation wells along with the identified SSLs are shown on the March 2020 and September 2020 isoconcentration maps presented as Figures 6 and 7 (March 2020) and Figures 8 and 9 (September 2020).

Horizontal delineation piezometers were installed in the uppermost aquifer at PZ-51S and PZ-51I at locations downgradient of detection monitoring well BRGWC-50 and adjacent to Lake Sinclair.

Vertical delineation wells, within a minimum 20-foot screen separation from detection monitoring wells, were installed within the bedrock aquifer and slightly off-set from locations BRGWC-50 and PZ-51I resulting in a shallow and deep well pair at each of these locations.

Detailed boring and piezometer construction logs for the vertical delineation piezometers are provided in Appendix B. The locations for each of the site wells and piezometers are shown on Figure 2 and well and piezometer construction details are shown in Tables 1 and 2.

3.2.2 Groundwater Sampling

Pursuant to GA EPD Rule 391-3-4-.10(6) and listed in 40 CFR 257.96, groundwater in the vicinity of AP-BCD continues to be monitored in accordance with the assessment monitoring program established for AP-BCD. During August 2020, groundwater samples were collected from the detection monitoring wells and select assessment monitoring wells listed in Table 3.2.1 and analyzed for the full suite of Appendix IV constituents per GA EPD Rule 391-3-4-.10(6) and listed in 40 CFR 257.95(b). Groundwater samples were also collected in September 2020, for Appendix III and detected Appendix IV constituents. Groundwater analytical results from the August and September sampling events are summarized in Table 4A through 4D. Laboratory reports associated with these sampling events are provided in Appendix C.

3.2.3 Surface Water Sampling

Due to the presence of surface water in the downgradient direction of BRGWC-50 (refer to Figures 6 through 9), installation of additional wells to horizontally characterize this area is infeasible. Georgia Power proactively collected surface water samples from Lake Sinclair on October 22, 2020. Four (4) samples were collected from each of the locations presented on Figure 2. Analytical results are tabulated in Table 5 and presented in Appendix C. Review of analytical results shows concentrations below reporting limits and therefore, no impacts to surface water have been identified.

3.3 Nature and Extent Evaluation

Based on data collected to date, horizontal and vertical delineation of Appendix IV SSLs for AP-BCD at Plant Branch is considered complete.

4.0 GROUNDWATER CORRECTIVE MEASURES

This section reviews potentially applicable remediation alternatives for groundwater corrective measures at the Site.

4.1 Objectives of the Corrective Measures

In evaluating the effectiveness of potential corrective measures using the criteria in accordance with 40 CFR 257.97-98 and GA EPD Rule 391-3-10(6), including performance, reliability, ease of implementation, potential impacts, remedy duration, and institutional and public health requirements, the following criteria listed in 40 CFR 257.97(b) must be met by the corrective measure when selected:

- Protect human health and the environment
- Attain applicable GWPS as specified pursuant to 40 CFR 257.95(h)
- Control the sources of releases to reduce or eliminate, to the maximum extent feasible, further releases of Appendix IV constituents to the environment
- Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, considering factors such as avoiding inappropriate disturbance of sensitive ecosystems
- Comply with standards for management of wastes as specified in 40 CFR 257.98(d).

Corrective measures selected for evaluation for potential use at AP-BCD Unit are anticipated to satisfy the above criteria.

4.2 Summary of Potential Groundwater Corrective Measures

The following presents a summary of potential corrective measures evaluated as part of this ACM. Based on specific information and knowledge of corrective alternatives and conditions at AP-BCD, the following remedies – or combination of remedies are being evaluated using the criteria specified in referenced in GA EPD Rule 391-3-4-.10(6) and listed in 40 CFR 257.96(c):

- Geochemical Approaches (In-Situ Injection)
- Hydraulic Containment (Pump and Treat)
- In-Situ Solidification/Stabilization
- Monitored Natural Attenuation (MNA)
- Permeable Reactive Barrier (PRB)
- Phytoremediation
- Subsurface Vertical Barrier Walls

Following the preliminary assessment, a more detailed evaluation of these corrective measures is required to (i) verify the feasibility of each; and (ii) provide sufficient information to design a corrective action system that meets the criteria specified in 40 CFR 257.97(b). Table 6 provides a summary of the remedial technologies compared to the evaluation criteria as applied to site conditions.

Phytoremediation technologies are not feasible at Plant Branch due to the depth of groundwater and the limited physical space for installation of a phytoremediation system between the AP-BCD and the adjacent surface water bodies. Thus, while phytoremediation is technically feasible as a remedial technology for cobalt and cadmium, it will not be retained for further evaluation.

4.2.1 Geochemical Approaches (In-Situ Injection)

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

Cadmium and cobalt can be precipitated and/or immobilized under different combinations of geochemical 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 these constituents although some are mutually exclusive when these metals are found at the same location.

Recent success with cobalt has been the biological incorporation into biomass that retards and substantially immobilizes cobalt from parts per million (ppm) concentrations to less than ten of parts per billion (ppb) using active biogeochemistry. To understand the biogeochemical processes that would effectively immobilize cadmium and cobalt in groundwater, bench-scale treatability studies and/or field-scale pilot tests specific to the conditions at AP-BCD are needed to evaluate amendment effectiveness to promote appropriate conditions for the precipitation and/or sorption of these inorganics without mobilizing other naturally-occurring constituents. Once precipitated, these minerals are often stable even if geochemical conditions revert to a different redox environment.

In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility and/or bioavailability of certain inorganic compounds, including cobalt and cadmium. Air sparging can be used to provide oxygen to the subsurface in an attempt to precipitate (or make more "sorptive") compounds that are generally more soluble and mobile under reducing conditions. This can also promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of cadmium and cobalt 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.

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

4.2.2 Hydraulic Containment (Pump and Treat)

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

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

Extracted groundwater may need to be treated prior to discharge (depending on discharge permit requirements) but does have the potential to be used for reuse (as process water), irrigation (e.g., of a cover system or other vegetated areas at Plant Branch), or dust suppression purposes. During ash pond closure, there will be an on-site wastewater treatment plant that may be available for treatment of extracted groundwater. Therefore, P&T is a potentially viable corrective measure for cobalt and cadmium in groundwater at Plant Branch and will be retained for further evaluation.

4.2.3 In-Situ Stabilization

In-situ stabilization is a technique that uses mixing of the CCR with additives to solidify the material in place and reduce future dissolution of CCR compounds from the stabilized material. Additives typically include Portland cement, and the solidification is completed in-situ using large diameter augers. Groundwater impacts would be addressed through the processes of natural attenuation. This alternative would isolate/secure the source in a bound matrix, and over time, allow the concentrations of target constituents showing SSLs in downgradient groundwater to decline to below applicable standards.

Implementation of ISS will require a detailed design effort with bench scale testing to determine the appropriate amendment mix for a variety of overburden geologic materials. Pilot testing will also be needed to verify the ability of equipment to solidify material at depth.

While ISS is generally considered a viable option for either small source areas or targeted zones within a larger footprint, this potential corrective measure may not be a viable corrective measure at AP-BCD. The closure of AP-BCD as previously described will remove CCR materials and place them into a lined, landfill onsite. However, this option may be viable for targeted areas as stated above and will be retained for further evaluation.

4.2.4 Monitored Natural Attenuation

USEPA defines MNA as the reliance on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a time frame that is

reasonable compared to that offered by other more active methods. The natural attenuation processes that are at work in such a remediation approach include a variety of physical, chemical, and/or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of constituents in soil or groundwater. These in-situ processes include the following: dispersion; dilution; sorption; volatilization; radioactive decay; and chemical or biological stabilization, precipitation, transformation, or destruction of inorganic constituents (USEPA, 2015).

Attenuation mechanisms for inorganic constituents, such as cobalt and cadmium are either physical (e.g., dilution, dispersion, flushing, and related processes) or chemical (e.g., sorption or oxidation reduction reactions). Select chemical processes can be facilitated by biogeochemical reactions. Per USEPA (2015):

MNA may, under certain conditions (e.g., through sorption or oxidation-reduction reactions), effectively reduce the dissolved concentrations and/or toxic forms of inorganic contaminants in groundwater and soil. Both metals and non-metals (including radionuclides) may be attenuated by sorption reactions such as precipitation, adsorption on the surfaces of soil minerals, absorption into the matrix of soil minerals, or partitioning into organic matter. Oxidation-reduction (redox) reactions can transform the valence states of some inorganic contaminants to less soluble and thus less mobile forms (e.g., hexavalent uranium to tetravalent uranium) and/or to less toxic forms (e.g., hexavalent chromium).

The USEPA uses four tiers to establish whether MNA can be successfully implemented for inorganics at a given site, including:

- Tier 1: Demonstration that SSLs in groundwater are delineated and stable.
- **Tier 2:** Evaluation of the mechanisms and rates of attenuation.
- **Tier 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.
- **Tier 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 an understanding of hydrogeologic conditions, geochemistry, and long-term monitoring of site conditions.

Under current conditions, attenuation processes for cadmium and cobalt are already occurring as evidenced by groundwater data from delineation wells. Therefore, MNA is a potentially viable corrective measure for cobalt and cadmium in groundwater at Plant Branch and will be retained for further evaluation.

4.2.5 Permeable Reactive Barriers

Permeable reactive barriers (PRBs) typically involve the installation of a permeable subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through. PRBs can be installed in downgradient locations using conventional excavation methods or one-pass trenching method. Excavated

trenches are backfilled with reactive media to create a barrier that treats dissolved constituents as they passively flow through the PRB with the groundwater (e.g., ITRC, 2011). These systems can either be constructed as continuous "walls" or as "funnel-and-gate" systems where (impermeable) slurry walls create a "funnel" that directs groundwater to permeable "treatment gates" filled with reactive materials. Since the costs for reactive materials [e.g., zero-valent iron (ZVI) or similar] are generally higher than bentonite-based slurry wall construction, the funnel-and-gate configurations with a smaller treatment area help lower construction and maintenance costs. PRBs are typically keyed into an underlying low-permeability unit such as a clay layer.

PRBs may present a viable alternative for in-situ treatment of cobalt and cadmium. The technology typically includes reactive media such as ZVI, biologically active media (to induce oxidizing or reducing conditions), or clays, apatite, zeolites, and/or peat moss (to promote ionic exchange and/or sorption). While uncommon, addition of a sulfate source to a PRB may be an effective technology for remediation of cobalt and cadmium. PRBs have proven to be effective in passively treating several inorganic constituents (e.g., ITRC, 2011).

The installation depths of a PRB using conventional engineering techniques are generally limited to about 90 ft below ground surface (bgs). However, novel engineering may extend this depth to more than 100 ft bgs. Given the proximity of the adjacent canals to the unit, space constraints may be an issue for installation of a PRB.

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

4.2.6 Subsurface Vertical Barrier Walls

Vertical barrier walls have been used for decades to control the flow of groundwater in both environmental applications as well as general foundation construction. Soil-bentonite walls are constructed by excavating a narrow vertical trench and injecting bentonite slurry to support the trench walls. The bentonite slurry used to support the trench walls is generally a mixture of pulverized bentonite in water. Water from the slurry bleeds into the trench wall, leaving behind a mat of particles known as filter cake, which along with the hydrostatic force of the slurry, holds the trench open. Once the trench reaches final grade, the trench is backfilled with a mixture of soil from the excavation, slurry, and soil from other sources, as necessary, to achieve the desired properties of strength and hydraulic conductivity. The backfill is generally placed with a tremie, clamshell, and/or a bulldozer, displacing the trench support slurry. The filter cake remains in place and, along with the gradation of the backfill used in the wall, is a function of the hydraulic conductivity of the final wall. Installation of soil-bentonite barrier walls can require significant amounts of space for mixing backfill (Bliss, 2014). At CCR facilities, berms may be constructed to provide the working space for barrier wall emplacement.

Cement-bentonite barrier walls are similar to soil-bentonite walls except that the stabilizing fluid used during excavation is a cement-bentonite water mix. The slurry remains in place to form the wall, so a separate operation to mix the backfill and displace the slurry is not necessary. Since the excavated material is not used in the backfill mix, significant amounts of spoil are generated with this type of barrier wall. Also, due to the method of excavation with the slurry, there can be a significant amount of slurry waste (up to 40% of the total trench/panel volume) during excavation (EPRI, 2015).

Barrier walls used alone at the Site could produce groundwater mounding, with possible rise of groundwater to the surface, and could produce groundwater flow around the end of the barrier walls. However, barrier walls could be

used to improve the subsurface hydraulic (flow) conditions for PRB walls and pump-and-treat. For example, barrier walls could form the impermeable portions of a funnel-and-gate PRB wall to direct groundwater to the treatment gates containing reactive media and could be used in a similar way to direct groundwater toward pumping wells in a pump-and-treat system. Because they could be part of PRB or hydraulic control (pump-and-treat) systems, barriers walls are viable corrective measures at the Site, and therefore will be retained for further evaluation.

5.0 REMEDY SELECTION PROCESS

The purpose of this ACM is to identify potential corrective measure(s) for groundwater using the criteria outlined in 40 CFR 257.96 and GA Rule 391-3-4-.10(6)(a). The following sections present the pond closure and site management strategy, additional data gathering, schedule, reporting, and next steps.

5.1 Source Control (Pond Closure) and Site Management Strategy

Georgia Power retired AP-BCD at Plant Branch in 2015 and will consolidate the ash to a new lined landfill. The current conceptual model may need to be refined and/or updated as more data are collected and analyzed. GPC plans to proactively utilize adaptive site management for Plant Branch to support the remedial strategy and address potential changes in groundwater conditions at AP-BCD (e.g., successful reduction of constituent concentrations or changing trends) 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 Gathering

Additional data, data 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 supplemental sampling, if required.

Additional data collection that may include aquifer testing, groundwater modeling, material compatibility testing, bench scale studies, and/or pilot tests may require an estimated one to two additional years to complete. Once sufficient data are available to arrive at 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 EPD Rule 391-3-4-.10(6) and listed in 40 CFR 257.98.

A groundwater remedy process that incorporates one or more remedies described in this ACM will be implemented at the former CCR Unit. The remedy process will be designed to meet the performance standards as referenced in EPD Rule 391-3-4-.10(6) and listed in 40 CFR 257.98(c). Since the groundwater remedy may incorporate multiple approaches, additional data and analysis will be required to (i) perform a thorough location-specific evaluation regarding the feasibility of each potential remedy and (ii) to design or configure a groundwater corrective action plan.

The following summarizes typical additional data needed to evaluate and select a remedy:

- Geochemical studies of groundwater and aquifer media
- Geochemical, groundwater flow, or fate and transport modeling
- Material compatibility tests
- Laboratory treatability studies on groundwater, aquifer media, reactive media, and potential treatment solutions for injection
- Field pilot studies based on results of laboratory treatability studies.

Some of the data needed to evaluate potential remedies may be collected concurrently with routine groundwater monitoring events or during supplementary sampling events, if required. Additional data collection or feasibility evaluations may require up to 18 to 24 months to complete.

5.3 Schedule, Reporting & Next Steps

Additional data collection is ongoing to refine the understanding of the nature and extent of constituents resulting in SSLs. Georgia Power will prepare semi-annual progress reports to document groundwater conditions for AP-BCD at Plant Branch, results associated with additional data collection, and the progress in selecting and designing the remedy in accordance with 40 CFR 257.97(a).

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 40 CFR 257.96(e). The final remedy selection report will be developed as outlined in 40 CFR 257.97(a). Once the remedy has been selected, the implementation of the remedy will be initiated in accordance with 40 CFR 257.98.

6.0 **REFERENCES**

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Signature Page

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https://golderassociates.sharepoint.com/sites/11952g/shared documents/200 reports/assessment of corrective measures/final report/branch ap-bcd acm final v.4.12.4.2020.docx

TABLES

TABLE 1 MONITORING WELL NETWORK SUMMARY (AP-BCD)

Georgia Power - Plant Branch

Milledgeville, GA

Well-ID	Hydraulic Location	Geologic Unit Screened ⁽³⁾	NAD 83 Northing	NAD 83 Easting	Latitude	Longitude	Ground Surface Elevation (feet NAVD88)	Top of Casing Elevation (feet NAVD88)	Total Depth (feet bgs)	Top of Screen Elevation (feet NAVD88)	Bottom of Screen Elevation (feet NAVD88)	Top of Seal Elevation (feet NAVD88)	Top of Filter Pack Elevation (feet NAVD88)	Bottom of Well Elevation (feet NAVD88)	Screen Length (feet)	Date of Installation
ASH POND BCD MO	NITORING WELL NETWO	RK														
BRGWA-2S	Upgradient BCD & E	Saprolite	1167139.7	2549952.6	33.205940	-83.338294	440.4	443.20	44.6	406.2	396.2	410.4	408.4	395.8	10.0	4/2/2014
BRGWA-2I	Upgradient BCD & E	Amphibolite Gneiss	1167130.0	2549957.3	33.205913	-83.338279	440.5	443.14	64.3	386.6	376.6	391.9	389.9	376.2	10.0	3/14/2014
BRGWA-5S	Upgradient BCD & E	Saprolite	1170177.5	2549415.5	33.214300	-83.339971	440.8	443.86	40.0	411.2	401.2	415.2	412.2	400.8	10.0	4/3/2014
BRGWA-5I	Upgradient BCD & E	Amphibolite Gneiss	1170183.7	2549408.0	33.214317	-83.339996	441.1	443.79	61.2	390.3	380.3	395.1	393.1	379.9	10.0	4/3/2014
BRGWA-6S	Upgradient BCD & E	Saprolite	1170732.9	2551540.8	33.215780	-83.333008	455.8	458.96	49.7	416.5	406.5	420.8	418.6	406.1	10.0	4/1/2014
BRGWA-12S	Upgradient BCD	Residuum	1164286.6	2557142.9	33.197941	-83.314864	431.6	434.64	58.3	383.7	373.7	389.6	386.6	373.3	10.0	3/4/2014
BRGWA-12I	Upgradient BCD	Biotote Gneiss	1164301.2	2557138.9	33.197981	-83.314877	431.5	434.39	77.6	364.3	354.3	375.5	366.6	353.9	10.0	2/20/2014
BRGWA-23S	Upgradient BCD	Saprolite/TWR	1162971.7	2557868.1	33.194311	-83.312528	425.5	428.24	40.8	394.7	384.7	403.0	398.0	384.7	10.0	7/26/2016
BRGWC-25I	Downgradient B	Saprolite/TWR/Biotite Gneiss	1160583.7	2561315.1	33.187670	-83.301326	355.0	357.37	20.5	344.5	334.5	352.5	347.5	334.5	10.0	7/25/2016
BRGWC-27I	Downgradient C	Saprolite	1159695.3	2559712.2	33.185265	-83.306589	364.0	366.86	24.0	350.0	340.0	360.0	355.0	340.0	10.0	7/22/2016
BRGWC-29I	Downgradient C	TWR	1160297.6	2561050.2	33.186890	-83.302200	350.6	353.23	20.0	340.6	330.6	348.6	343.6	330.6	10.0	7/23/2016
BRGWC-30I	Downgradient D	Saprolite/TWR/Biotite Gneiss	1161607.6	2557691.8	33.190566	-83.313141	350.0	352.61	20.3	340.0	330.0	348.0	343.0	329.8	10.0	7/18/2016
BRGWC-32S	Downgradient D	Saprolite	1160677.7	2558497.9	33.187992	-83.310531	403.6	406.39	45.0	368.6	358.6	376.6	371.6	358.6	10.0	7/20/2016
BRGWC-45	Downgradient B	Saprolite/TWR/Biotite Gneiss	1162229.8	2561075.5	33.192199	-83.302065	381.6	384.58	57.0	335.0	325.0	341.6	336.6	324.6	10.0	2/3/2018
BRGWC-47	Downgradient D	TWR	1162700.7	2559456.7	33.193530	-83.307343	408.8	411.20	92.0	327.2	317.2	333.8	328.8	316.8	10.0	1/25/2018
BRGWC-50	Downgradient B	Residuum/Biotite Gneiss	1161593.3	2562372.9	33.190421	-83.297841	378.8	381.35	65.0	324.2	314.2	330.8	325.8	313.8	10.0	1/31/2018
BRGWC-52I	Downgradient B	Biotite Gneiss	1161275.0	2562145.3	33.189551	-83.298594	381.2	383.87	73.9	317.3	307.3	330.8	321.5	307.3	10.0	8/6/2018

Notes:

1. feet NAVD88 = feet North American Vertical Datum 1988 feet NAD83 = North American Datum 1983

feet bgs = feet below ground surface
 TWR = Transitionally Weathered Rock

. 4. Wells resurved by Metro Engineering & Surveying Co., Inc between June-July 2020

TABLE 2 GROUNDWATER PIEZOMETER DETAILS

Georgia Power - Plant Branch Milledgeville, GA

Well-ID	Hydraulic Location	Geologic Unit Screened ^[3]	NAD 83 Northing	NAD 83 Easting	Latitude	Longitude	Ground Surface Elevation (feet NAVD88)	Top of Casing Elevation (feet NAVD88)	Total Depth (feet bgs)	Top of Screen Elevation (feet NAVD88)	Bottom of Screen Elevation (feet NAVD88)	Top of Seal Elevation (feet NAVD88)	Top of Filter Pack Elevation (feet NAVD88)	Bottom of Well Elevation (feet NAVD88)	Screen Length (feet)	Date of Installation
PZ-1D	Upgradient	Biotite Gneiss	1171999.0	2551598.1	33.219259	-83.332788	462.9	463.41	160.0	NA	302.9	NA	NA	302.9	NA	4/4/2014
PZ-1I	Upgradient	Biotite Gneiss	1171995.8	2551577.8	33.219250	-83.332855	461.9	464.71	79.5	392.8	382.8	398.8	394.7	382.4	10.0	3/10/2014
PZ-1S	Upgradient	Saprolite	1171996.4	2551588.0	33.219251	-83.332821	462.4	465.07	65.0	407.8	397.8	431.4	424.3	397.4	10.0	3/20/2014
PZ-3D	Upgradient	Biotite Gneiss	1165474.4	2550275.1	33.201356	-83.337283	486.7	487.50	130.0	NA	358.6	NA	NA	356.7	NA	3/27/2014
PZ-3I	Upgradient	Biotite Gneiss	1165494.5	2550273.2	33.201412	-83.337289	486.5	489.49	54.6	442.3	432.3	450.5	445.7	431.9	10.0	3/11/2014
PZ-3S	Upgradient	Saprolite	1165484.5	2550274.6	33.201384	-83.337284	487.0	490.53	39.9	457.5	447.5	464.6	461.0	447.1	10.0	3/11/2014
PZ-4I	Upgradient	Biotite Gneiss	1163246.8	2551282.0	33.195212	-83.334049	479.9	482.98	46.8	443.5	433.5	451.4	446.3	433.1	10.0	3/11/2014
PZ-4S	Upgradient	Saprolite	1163247.8	2551270.1	33.195216	-83.334088	479.9	482.87	30.0	460.3	450.3	466.4	462.9	449.9	10.0	3/10/2014
PZ-7S	Downgradient	Saprolite	1169419.2	2553055.6	33.212137	-83.328090	449.0	451.57	44.5	414.9	404.9	419.0	417.0	404.5	10.0	4/1/2014
PZ-8S	Upgradient	Saprolite	1167801.1	2551188.9	33.207731	-83.334235	450.5	453.08	49.5	411.4	401.4	414.5	412.5	401.0	10.0	4/1/2014
PZ-9S	Upgradient	Saprolite	1162633.3	2553089.6	33.193487	-83.328157	466.1	469.28	48.0	428.5	418.5	435.6	431.5	418.1	10.0	3/5/2014
PZ-10S	Downgradient	Saprolite	1164021.5	2554990.5	33.197260	-83.321907	431.0	433.85	39.0	402.4	392.4	407.5	405.0	392.0	10.0	3/5/2014
PZ-11S	Downgradient	Saprolite	1162467.3	2557002.5	33.192944	-83.315371	390.9	393.99	24.5	376.8	366.8	382.9	380.9	366.4	10.0	2/20/2014
PZ-12D	Downgradient	Biotite Gneiss	1164311.9	2557136.4	33.198010	-83.314885	431.4	434.09	141.7	350.1	290.1	376.0	359.4	289.7	60.0	4/14/2014
PZ-13S	Downgradient	Saprolite	1168011.4	2555276.7	33.208218	-83.320866	406.5	409.97	34.7	382.2	372.2	386.3	384.3	371.8	10.0	3/19/2014
PZ-14I	Downgradient	Biotite Gneiss	1168398.2	2554365.6	33.209302	-83.323834	419.9	422.71	53.8	376.5	366.5	382.6	380.2	366.1	10.0	3/20/2014
PZ-14S	Downgradient	Saprolite	1168398.7	2554359.2	33.209303	-83.323855	420.2	423.31	37.6	393.0	383.0	397.1	395.1	382.6	10.0	3/20/2014
PZ-15I	Downgradient	Biotite Gneiss/Amphibolite	1167720.9	2554399.2	33.207440	-83.323742	400.2	403.06	88.7	321.9	311.9	327.2	325.2	311.5	10.0	3/25/2014
PZ-15S	Downgradient	Saprolite	1167720.3	2554394.0	33.207438	-83.323759	400.1	402.90	39.9	370.2	360.2	374.6	372.2	360.2	10.0	3/27/2014
PZ-16I	Downgradient	Amphibolite Gneiss	1166980.7	2554587.5	33.205401	-83.323146	379.5	382.45	38.6	351.3	341.3	355.1	353.1	340.9	10.0	3/14/2014
PZ-16S	Downgradient	Saprolite	1166977.8	2554581.4	33.205393	-83.323166	379.3	382.52	19.1	370.6	360.6	374.3	372.3	360.2	10.0	3/18/2014
PZ-17I	Downgradient	Amphibolite Gneiss	1166313.8	2554702.5	33.203566	-83.322788	362.3	365.33	43.5	329.2	319.2	333.5	330.2	318.8	10.0	3/17/2014



TABLE 2 **GROUNDWATER PIEZOMETER DETAILS**

Georgia Power - Plant Branch Milledgeville, GA

Well-ID	Hydraulic Location	Geologic Unit Screened ^[3]	NAD 83 Northing	NAD 83 Easting	Latitude	Longitude	Ground Surface Elevation (feet NAVD88)	Top of Casing Elevation (feet NAVD88)	Total Depth (feet bgs)	Top of Screen Elevation (feet NAVD88)	Bottom of Screen Elevation (feet NAVD88)	Top of Seal Elevation (feet NAVD88)	Top of Filter Pack Elevation (feet NAVD88)	Bottom of Well Elevation (feet NAVD88)	Screen Length (feet)	Date of Installation
PZ-18I	Downgradient	Biotite Gneiss	1160766.2	2557745.5	33.188252	-83.312988	359.6	362.55	38.4	331.3	321.3	339.6	333.3	321.2	10.0	2/26/2014
PZ-18S	Downgradient	Saprolite	1160757.3	2557747.4	33.188228	-83.312982	359.7	362.82	24.2	345.0	335.0	350.2	348.1	335.5	10.0	3/26/2014
PZ-19I	Downgradient	Biotite Gneiss	1159797.1	2558900.0	33.185563	-83.309241	368.9	371.74	43.7	335.6	325.6	341.3	338.3	325.2	10.0	3/4/2014
PZ-19S	Downgradient	Saprolite	1159805.4	2558894.5	33.185586	-83.309258	368.4	371.42	28.0	350.8	340.8	355.1	352.7	340.4	10.0	3/4/2014
PZ-201	Downgradient	Biotite Gneiss	1159495.4	2560160.2	33.184705	-83.305130	362.2	365.34	29.5	343.1	333.1	348.1	345.8	332.7	10.0	3/5/2014
PZ-20S	Downgradient	Saprolite	1159490.3	2560157.0	33.184691	-83.305140	362.2	365.41	15.3	357.3	347.3	361.2	359.2	346.9	10.0	3/5/2014
PZ-211	Downgradient	Biotite Gneiss	1160591.6	2561328.2	33.187691	-83.301283	355.8	358.92	24.4	341.8	331.8	346.0	344.0	331.4	10.0	3/10/2014
PZ-21S	Downgradient	Residuum/Saprolite	1160592.4	2561321.3	33.187694	-83.301305	355.5	358.52	9.8	351.1	346.1	355.4	353.5	345.7	5.0	3/11/2014
PZ-231	Downgradient	Biotite Gneiss	1162975.4	2557877.7	33.194321	-83.312497	425.1	427.74	66.5	368.6	358.6	376.6	371.1	358.6	10.0	7/29/2016
PZ-24S	Downgradient	Saprolite	1162400.9	2562862.2	33.192629	-83.296220	351.4	354.10	42.0	319.9	309.9	327.9	322.9	309.4	10.0	7/27/2016
PZ-26I	Downgradient	Biotite Gneiss	1160669.0	2561626.4	33.187898	-83.300306	368.0	370.63	30.5	347.5	337.5	356.0	351.0	337.5	10.0	7/26/2016
PZ-28I	Downgradient	TWR/Biotite Gneiss	1159505.1	2560151.7	33.184732	-83.305158	362.5	364.81	24.0	348.5	338.5	356.5	351.5	338.5	10.0	7/24/2016
PZ-31S	Downgradient	TWR	1160936.9	2557971.8	33.188716	-83.312244	374.3	376.77	39.5	344.8	334.8	352.8	347.8	334.8	10.0	7/26/2016
PZ-39	Downgradient	Saprolite	1163675.4	2557460.5	33.196254	-83.313842	432.0	434.78	44.7	397.3	387.3	405.8	400.6	387.3	10.0	7/30/2016
PZ-40S	Downgradient	Residuum	1162414.9	2562807.7	33.192669	-83.296398	353.2	355.96	40.2	324.4	314.4	328.5	325.4	313.0	10.0	2/14/2017
PZ-41S	Downgradient	Saprolite	1162431.8	2562759.4	33.192716	-83.296555	354.3	357.17	44.2	320.5	310.5	325.0	322.3	310.1	10.0	2/14/2017
PZ-42S	Downgradient	Residuum	1162845.7	2562735.0	33.193854	-83.296624	359.0	361.66	32.2	337.2	327.2	345.0	342.8	326.8	10.0	2/9/2017
PZ-43	Downgradient	Residuum/Biotite Gneiss	1162159.8	2562031.3	33.191985	-83.298942	381.0	383.71	40.4	351.0	341.0	358.0	353.0	340.6	10.0	2/7/2018
PZ-44	Downgradient	Saprolite/TWR/Biotite Gneiss	1161724.6	2561587.5	33.190799	-83.300405	380.5	383.04	57.0	333.9	323.9	340.5	335.5	323.5	10.0	2/2/2018
PZ-46	Downgradient	Saprolite/TWR/Biotite Gneiss	1162756.2	2560559.0	33.193658	-83.303739	382.1	384.64	45.6	346.5	336.5	353.1	348.1	336.5	10.0	2/5/2018
PZ-48	Downgradient	Saprolite/TWR/Amphibolite	1163046.7	2558444.6	33.194504	-83.310642	418.3	420.90	67.0	361.7	351.7	368.3	363.3	351.3	10.0	1/24/2018
PZ-49	Downgradient	Residuum/Biotite Gneiss	1163321.2	2561125.7	33.195198	-83.301871	382.2	384.99	17.0	375.6	365.6	379.7	377.2	365.2	10.0	1/30/2018
PZ-50D	Downgradient	Biotite Gneiss	1161588.9	2562381.2	33.190410	-83.297817	378.3	380.86	106.0	282.3	272.3	288.6	284.4	272.3	10.0	10/8/2020
PZ-51S	Downgradient	Residuum	1161613.4	2562433.1	33.190474	-83.297644	377.9	380.27	45.4	337.9	332.9	344.7	342.2	332.5	5.0	8/1/2018
PZ-511	Downgradient	Saprolilte/TWR/Biotite Gneiss	1161631.1	2562439.3	33.190523	-83.297623	378.0	380.52	65.0	323.1	313.1	328.8	325.5	313.0	10.0	8/1/2018
PZ-51D	Downgradient	Biotite Gneiss	1161639.8	2562434.0	33.190548	-83.297643	378.1	380.75	106.0	282.1	272.1	288.6	284.5	272.1	10.0	10/9/2020
PZ-52D	Downgradient	Biotite Gneiss	1168053.9	2554051.7	33.208362	-83.324870	414.3	417.03	59.5	364.8	354.8	371.3	367.3	354.8	10.0	5/14/2020
PZ-53D	Downgradient	Saprolilte/TWR/Biotite Gneiss	1164393.8	2554984.3	33.198283	-83.321917	431.6	434.68	139.4	302.2	292.2	310.6	305.0	292.2	10.0	5/17/2020
PZ-54	Downgradient	Saprolite/TWR	1164828.7	2555458.3	33.199468	-83.320356	440.8	443.86	52.0	398.8	388.8	404.3	400.8	388.8	10.0	5/15/2020
PZ-55	Downgradient	Saprolite/TWR/Biotite Gneiss	1163208.0	2554783.6	33.195029	-83.322604	450.2	453.07	49.3	410.9	400.9	416.2	413.8	400.9	10.0	5/19/2020
PZ-56	Downgradient	Saprolilte/TWR/Biotite Gneiss	1162965.1	2554086.3	33.194377	-83.324890	416.2	418.84	29.3	396.9	386.9	402.7	399.2	386.9	10.0	5/20/2020
PB-1S	Downgradient	Saprolite/PWR	1164910.5	2556355.9	33.199673	-83.317420	400.4	403.16	38.0	372.4	362.4	377.4	374.4	362.4	10.0	1/22/2019
PB-2D	Downgradient	Gneiss	1164853.6	2556914.2	33.199504	-83.315596	414.9	416.71	57.0	367.9	357.9	374.9	370.9	357.9	10.0	12/4/2018
PB-4S	Downgradient	Saprolite/PWR	1164335.1	2556069.2	33.198098	-83.318372	409.3	411.15	48.0	371.3	361.3	378.3	372.3	361.3	10.0	1/16/2019
PB-4D	Downgradient	Gneiss	1164339.6	2556060.7	33.198110	-83.318400	409.0	412.12	114.5	304.5	294.5	311.0	306.0	294.5	10.0	1/16/2019
PB-7S	Downgradient	Saprolite/PWR	1163831.3	2556186.2	33.196710	-83.318003	399.7	402.88	33.0	376.7	366.7	381.7	378.7	366.7	10.0	1/14/2019
PB-8S	Downgradient	Saprolite/PWR	1163018.2	2556792.3	33.194463	-83.316044	398.6	401.82	35.0	373.6	363.6	378.6	375.6	363.6	10.0	1/8/2018
PB-8D	Downgradient	Gneiss	1163024.4	2556786.7	33.194480	-83.316062	398.2	401.74	106.0	304.2	294.2	307.2	305.2	292.2	10.0	1/8/2018
PB-10S	Downgradient	Saprolite	1163588.9	2558551.2	33.195992	-83.310279	397.6	400.91	33.0	374.6	364.6	379.6	376.6	364.6	10.0	1/16/2019
PB-10D	Downgradient	Gneiss	1163593.4	2558546.7	33.196004	-83.310294	397.5	400.31	85.0	322.5	312.5	328.5	324.5	312.5	10.0	1/16/2019
PB-13S	Downgradient	Saprolite	1162084.4	2556626.1	33.191900	-83.316612	370.8	373.31	50.0	330.8	320.8	335.8	332.8	320.8	10.0	12/10/2018
PB-13D	Downgradient	Gneiss	1162084.5	2556638.8	33.191900	-83.316570	371.1	373.77	97.0	284.1	274.1	295.1	291.1	274.1	10.0	12/10/2018

Notes:

1. feet NAVD88 = feet North American Vertical Datum 1988 feet ; NAD83 = North American Datum 1983

2. feet bgs = feet below ground surface

3. TWR = Transitionally Weathered Rock

4. NA = Not applicable

Piezometers may be used to collect waters levels. They are not considered compliance monitoring locations.
 Wells resurvyed by Metro Engineering & Surveying Co., Inc between June-July 2020





TABLE 3 SUMMARY OF GROUNDWATER PROTECTION STANDARDS

Georgia Power - Plant Branch Milledgeville, Georgia

Analyte	Units	Maximum Contaminant Level (MCL)	Site Specific Background March 2020 ^[1]	GWPS ^[2]
Antimony	mg/L	0.006	0.012	0.012
Arsenic	mg/L	0.01	0.005	0.01
Barium	mg/L	2	0.13	2
Beryllium	mg/L	0.004	0.003	0.004
Cadmium	mg/L	0.005	0.0025	0.005
Chromium	mg/L	0.1	0.016	0.1
Cobalt	mg/L	NA	0.0135	0.0135
Fluoride	mg/L	4	0.42	4
Lead	mg/L	NA	0.005	0.005
Lithium	mg/L	NA	0.089	0.089
Mercury	mg/L	0.002	0.0005	0.002
Molybdenum	mg/L	NA	0.01	0.01
Radium (226 + 228)	pCi/L	5	1.903	5
Selenium	mg/L	0.05	0.01	0.05
Thallium	mg/L	0.002	0.001	0.002

Notes:

Mg/L = milligrams per liter; pCi/L = picocuries per liter; NA = Not Available

[1] The background limits are 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 existing EPD rules, the GWPS is: (i) the MCL, (ii) where the MCL is not established, the background concentration, or (iii) background levels for constituents where the background level is higher than the MCL.



TABLE 4A ANALYTICAL DATA SUMMARY Ash Pond BCD - August 2020 Georgia Power - Plant Branch Milledgeville, Georgia

		Well ID												
Analyte	Units	BRGWA-12S	BRGWA-12I	BRGWA-23S	BRGWC-25I	BRGWC-27I	BRGWC-29I	BRGWC-30I	BRGWC-32S	BRGWC-45	BRGWC-47	BRGWC-50	BRGWC-52I	
		8/18/2020	8/18/2020	8/18/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/20/2020	8/20/2020	8/20/2020	8/20/2020	
Appendix III														
BORON, TOTAL	mg/L	Not Analyzed												
CALCIUM, TOTAL	mg/L	Not Analyzed												
CHLORIDE, TOTAL	mg/L	Not Analyzed												
FLUORIDE, TOTAL	mg/L	< 0.050	0.052 J	< 0.050	0.17	0.19	0.12	0.14	< 0.050	< 0.050	< 0.050	0.39	0.23	
рН	S.U.	5.75	6.25	5.56	6.32	5.81	4.67	6.36	5.97	5.86	5.75	5.26	6.85	
SULFATE, TOTAL	mg/L	Not Analyzed												
TOTAL DISSOLVED SOLIDS	mg/L	Not Analyzed												
Appendix IV														
ANTIMONY, TOTAL	mg/L	< 0.00028	0.0067	< 0.00028	< 0.00028	< 0.00028	< 0.00028	< 0.00028	< 0.00028	0.0031	< 0.00028	< 0.00028	< 0.00028	
ARSENIC, TOTAL	mg/L	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	0.00089 J	< 0.00078	0.0031 J	
BARIUM, TOTAL	mg/L	0.058	0.053	0.067	0.027	0.016	0.019	0.026	0.025	0.083	0.035	0.019	0.017	
BERYLLIUM, TOTAL	mg/L	< 0.000046	< 0.000046	< 0.000046	< 0.000046	0.000099 J	0.00074 J	< 0.000046	< 0.000046	0.000046 J	0.000047 J	0.0044	< 0.000046	
CADMIUM, TOTAL	mg/L	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	0.00014 J	< 0.00012	0.0079	< 0.00012	
CHROMIUM, TOTAL	mg/L	0.0029 J	0.0023 J	0.0017 J	< 0.00055	< 0.00055	< 0.00055	< 0.00055	0.0021 J	0.0010 J	0.00064 J	0.00065 J	< 0.00055	
COBALT, TOTAL	mg/L	< 0.00038	< 0.00038	0.00067 J	0.0039 J	0.0078	0.0065	0.00080 J	< 0.00038	0.022	0.00043 J	1.4	< 0.00038	
FLUORIDE, TOTAL	mg/L	< 0.050	0.052 J	< 0.050	0.17	0.19	0.12	0.14	< 0.050	< 0.050	< 0.050	0.39	0.23	
LEAD, TOTAL	mg/L	< 0.000036	< 0.000036	< 0.000036	< 0.000036	< 0.000036	0.00025 J	< 0.000036	< 0.000036	0.00021 J	0.000048 J	0.000067 J	< 0.000036	
LITHIUM, TOTAL	mg/L	< 0.00081	0.0039 J	0.0099 J	< 0.00081	0.0014 J	0.0029 J	0.018 J	0.0020 J	0.0034 J	0.044	0.040	0.0022 J	
MERCURY, TOTAL	mg/L	< 0.000078	< 0.000078	< 0.000078	0.000083 J	< 0.000078	0.000098 J	0.000082 J	0.000082 J	< 0.000078	< 0.000078	< 0.000078	< 0.000078	
MOLYBDENUM, TOTAL	mg/L	< 0.00069	< 0.00069	< 0.00069	0.00081 J	< 0.00069	< 0.00069	0.00078 J	< 0.00069	0.00076 J	< 0.00069	< 0.00069	0.0012 J	
RADIUM (226 + 228)	pCi/L	0.969 U	0.988 U	0.784 U	0.467 U	0.684 U	0.876 U	1.00 U	0.482 U	0.501 U	1.64	2.78	2.97	
SELENIUM, TOTAL	mg/L	< 0.0016	< 0.0016	0.0033 J	< 0.0016	< 0.0016	< 0.0016	< 0.0016	0.099	< 0.0016	0.0016 J	0.0037 J	< 0.0016	
THALLIUM, TOTAL	mg/L	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	0.00016 J	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	

NOTES:

1. mg/L - milligrams per Liter

2. pCi/L - picocuries per Liter

3. S.U. - Standard Units

4. < indicates the substance was not detected above the analytical method detection limit (MDL). The value displayed is the method detection limit.

5. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed is qualified by the laboratory as an estimated number.

6. Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed as less than the MDC and considered an undetected result (U qualified). The MDC varies depending upon the sample amount and elapsed time of the measurement.



TABLE 4B ASSESSMENT MONITORING ANALYTICAL DATA SUMMARY Ash Pond BCD - August 2020

Georgia Power - Plant Branch

Milledgeville, Georgia

		Well ID					
Analyte	Units	PZ-511	PZ-51S				
		8/20/2020	8/20/2020				
Appendix III							
BORON, TOTAL	mg/L	Not Analyzed	Not Analyzed				
CALCIUM, TOTAL	mg/L	Not Analyzed	Not Analyzed				
CHLORIDE, TOTAL	mg/L	Not Analyzed	Not Analyzed				
FLUORIDE, TOTAL	mg/L	< 0.050	0.056 J				
рН	S.U.	5.57	6.15				
SULFATE, TOTAL	mg/L	Not Analyzed	Not Analyzed				
TOTAL DISSOLVED SOLIDS	mg/L	Not Analyzed	Not Analyzed				
Appendix IV							
ANTIMONY, TOTAL	mg/L	0.0017 J	< 0.00028				
ARSENIC, TOTAL	mg/L	< 0.00078	< 0.00078				
BARIUM, TOTAL	mg/L	0.013	0.030				
BERYLLIUM, TOTAL	mg/L	0.000077 J	< 0.000046				
CADMIUM, TOTAL	mg/L	0.0019 J	< 0.00012				
CHROMIUM, TOTAL	mg/L	< 0.00055	0.00063 J				
COBALT, TOTAL	mg/L	0.020	0.0039 J				
FLUORIDE, TOTAL	mg/L	< 0.050	0.056 J				
LEAD, TOTAL	mg/L	< 0.000036	< 0.000036				
LITHIUM, TOTAL	mg/L	0.019 J	< 0.00081				
MERCURY, TOTAL	mg/L	0.000099 J	< 0.000078				
MOLYBDENUM, TOTAL	mg/L	< 0.00069	< 0.00069				
RADIUM (226 + 228)	pCi/L	0.937 U	1.19				
SELENIUM, TOTAL	mg/L	< 0.0016	< 0.0016				
THALLIUM, TOTAL	mg/l	< 0.00014	< 0.00014				

NOTES:

1. mg/L - milligrams per Liter

2. pCi/L - picocuries per Liter

3. S.U. - Standard Units

4. < indicates the substance was not detected above the analytical method detection limit (MDL). The value displayed is the method detection limit.

5. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed is qualified by the laboratory as an estimated number.

6. Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed as less than the MDC and considered an undetected result (U qualified). The MDC varies depending upon the sample amount and elapsed time of the measurement.



TABLE 4C ANALYTICAL DATA SUMMARY Ash Pond BCD - September 2020 Georgia Power - Plant Branch Milledgeville, Georgia

							Wel	ID					
Analyte	Units	BRGWA-12S	BRGWA-12I	BRGWA-23S	BRGWC-25I	BRGWC-27I	BRGWC-29I	BRGWC-30I	BRGWC-32S	BRGWC-45	BRGWC-47	BRGWC-50	BRGWC-52I
		9/15/2020	9/15/2020	9/15/2020	9/15/2020	9/16/2020	9/15/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/17/2020	9/17/2020
Appendix III													
BORON, TOTAL	mg/L	< 0.0052	0.0071 J	0.033 J	1.2	1.2	1.1	1.7	1.4	0.028 J	0.47	0.36	1.9
CALCIUM, TOTAL	mg/L	5.7	14.5	10.7	40.1	62.5	55.1	106	43.1	39.7	309	206	35.4
CHLORIDE, TOTAL	mg/L	3.5	2.4	3.1	4.9	5.4	5.5	4.4	5.6	54.9	4.1	20.1	6.3
FLUORIDE, TOTAL	mg/L	< 0.050	0.062 J	< 0.050	0.15	0.15	0.057 J	0.13	< 0.050	0.052 J	< 0.050	0.46	0.074 J
рН	S.U.	6	6.01	5.72	6	5.81	4.53	6.29	5.79	5.27	5.76	4.41	6.12
SULFATE, TOTAL	mg/L	< 0.50	1.7	41.5	126	190	241	334	255	103	1360	1330	165
TOTAL DISSOLVED SOLIDS	mg/L	60	95	109	272	301	281	634	428	275	2090	1910	329
Appendix IV		<u>.</u>	<u>.</u>	<u>.</u>	<u>.</u>		<u>.</u>	<u>.</u>	<u>.</u>	<u>.</u>			
ANTIMONY, TOTAL	mg/L	< 0.00028	0.010	0.00033 J	< 0.00028	< 0.00028	< 0.00028	< 0.00028	< 0.00028	0.0012 J	0.00035 J	0.00041 J	< 0.00028
ARSENIC, TOTAL	mg/L	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078
BARIUM, TOTAL	mg/L	0.058	0.059	0.086	0.024	0.016	0.017	0.022	0.024	0.085	0.028	0.020	0.020
BERYLLIUM, TOTAL	mg/L	< 0.000046	< 0.000046	< 0.000046	< 0.000046	0.00011 J	0.00071 J	< 0.000046	< 0.000046	< 0.000046	< 0.000046	0.0065	< 0.000046
CADMIUM, TOTAL	mg/L	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	0.021	< 0.00012
CHROMIUM, TOTAL	mg/L	0.0025 J	0.00096 J	0.0019 J	< 0.00055	< 0.00055	< 0.00055	0.014	0.0025 J	0.0014 J	< 0.00055	0.00098 J	< 0.00055
COBALT, TOTAL	mg/L	< 0.00038	< 0.00038	0.00076 J	0.0035 J	0.008	0.0064	0.00080 J	< 0.00038	0.0049 J	0.00053 J	1.4	0.00046 J
FLUORIDE, TOTAL	mg/L	< 0.050	0.062 J	< 0.050	0.15	0.15	0.057 J	0.13	< 0.050	0.052 J	< 0.050	0.46	0.074 J
LEAD, TOTAL	mg/L	< 0.000036	< 0.000036	< 0.000036	< 0.000036	< 0.000036	0.00029 J	0.00011 J	< 0.000036	0.000053 J	0.000066 J	0.00015 J	< 0.000036
LITHIUM, TOTAL	mg/L	< 0.00081	0.0037 J	0.011 J	< 0.00081	0.0014 J	0.0030 J	0.016 J	0.0022 J	0.0036 J	0.039	0.052	0.0058 J
MERCURY, TOTAL	mg/L	< 0.000078	< 0.000078	< 0.000078	< 0.000078	< 0.000078	< 0.000078	< 0.000078	< 0.000078	< 0.000078	< 0.000078	< 0.000078	< 0.000078
MOLYBDENUM, TOTAL	mg/L	< 0.00069	< 0.00069	< 0.00069	0.0008 J	< 0.00069	< 0.00069	0.0022 J	< 0.00069	< 0.00069	< 0.00069	< 0.00069	0.00070 J
RADIUM (226 + 228)	pCi/L	0.359 U	0.762 U	1.04 U	0.205 U	0.175 U	1.23 U	0.430 U	0.195 U	0.254 U	0.510 U	0.717 U	2.04
SELENIUM, TOTAL	mg/L	< 0.0016	< 0.0016	0.0028 J	< 0.0016	0.0042 J	< 0.0016	< 0.0016	0.12	< 0.0016	0.0020 J	< 0.0016	< 0.0016
THALLIUM, TOTAL	mg/L	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	0.00016 J	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014

NOTES:

1. mg/L - milligrams per Liter

2. pCi/L - picocuries per Liter

3. S.U. - Standard Units

4. < indicates the substance was not detected above the analytical method detection limit (MDL). The value displayed is the method detection limit.

J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed is qualified by the laboratory as an estimated number.
 Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed as less than the MDC and considered an undetected result (U qualified). The MDC varies depending upon the sample amount and elapsed time of the measurement.



TABLE 4D ASSESSMENT MONITORING ANALYTICAL DATA SUMMARY Ash Pond BCD - September and October 2020

Georgia Power - Plant Branch Milledgeville, Georgia

		Well ID											
Analyte	Units	PZ-511	PZ-51S	PZ-50D	PZ-51D	PZ-511							
		9/17/2020	9/17/2020	10/27/2020	10/27/2020	10/27/2020							
Appendix III													
BORON, TOTAL	mg/L	0.43	0.0063 J	0.15	0.029 J	0.37							
CALCIUM, TOTAL	mg/L	168	7.7	159	132	183							
CHLORIDE, TOTAL	mg/L	10.5	4.6	5.6	6.3	11.0							
FLUORIDE, TOTAL	mg/L	< 0.050	0.062 J	0.28	0.21	< 0.050							
рН	S.U.	4.93	5.77	6.47	6.79	5.49							
SULFATE, TOTAL	mg/L	1030	0.53 J	492	357	893							
TOTAL DISSOLVED SOLIDS	mg/L	1600	101	914	680	1200							
Appendix IV		L											
ANTIMONY, TOTAL	mg/L	< 0.00028	0.00043 J	NA	NA	NA							
ARSENIC, TOTAL	mg/L	< 0.00078	< 0.00078	NA	NA	NA							
BARIUM, TOTAL	mg/L	0.015	0.033	NA	NA	NA							
BERYLLIUM, TOTAL	mg/L	0.000096 J	< 0.000046	NA	NA	NA							
CADMIUM, TOTAL	mg/L	0.033	< 0.00012	< 0.00012	< 0.00012	0.0051							
CHROMIUM, TOTAL	mg/L	0.00098 J	< 0.00055	NA	NA	NA							
COBALT, TOTAL	mg/L	0.022	0.0062	0.0037 J	0.00041 J	0.020							
FLUORIDE, TOTAL	mg/L	< 0.050	0.062 J	0.28	0.21	< 0.050							
LEAD, TOTAL	mg/L	0.00036 J	< 0.000036	NA	NA	NA							
LITHIUM, TOTAL	mg/L	0.021 J	< 0.00081	NA	NA	NA							
MERCURY, TOTAL	mg/L	< 0.000078	< 0.000078	NA	NA	NA							
MOLYBDENUM, TOTAL	mg/L	< 0.00069	< 0.00069	NA	NA	NA							
RADIUM (226 + 228)	pCi/L	1.76	0.952 U	NA	NA	NA							
SELENIUM, TOTAL	mg/L	< 0.0016	< 0.0016	NA	NA	NA							
THALLIUM, TOTAL	mg/L	< 0.00014	< 0.00014	NA	NA	NA							

NOTES:

1. mg/L - milligrams per Liter

2. pCi/L - picocuries per Liter

3. S.U. - Standard Units

4. NA - Not Analyzed

5. < indicates the substance was not detected above the analytical method detection limit (MDL). The value displayed is the method detection limit.

6. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed is qualified by the laboratory as an estimated number.

7. Radium data is a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed as less than the MDC and considered an undetected result (U qualified). The MDC varies depending upon the sample amount and elapsed time of the measurement.



TABLE 5ANALYTICAL DATA SUMMARYSurface Water - October 2020GPC PLANT BRANCHMILLDEGEVILLE, GEORGIA

	SURFACE WATER SAMPLE LOCATION				
Analyte	Units	LR-1	LR+8	LR+9	LR+10
		10/22/2020	10/22/2020	10/22/2020	10/22/2020
Appendix III					
Boron, Total	mg/L	<0.040	<0.040	<0.040	<0.040
Calcium, Total	mg/L	3.7	4.2	4.3	4.5
Chloride, Total	mg/L	3.3	3.7	3.8	4.0
Fluoride, Total	mg/L	<0.10	<0.10	<0.10	<0.10
Sulfate, Total	mg/L	2.1	2.5	2.6	2.6
рН	S.U.	7.1	7.2	7.2	7.1
Total Dissolved Solids	mg/L	59	60	57	59
Appendix IV					
Cadmium, Total	mg/L	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, Total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050
Other					
Sodium , Total	mg/L	4.4	4.9	4.9	5.1
Magnesium, Total	mg/L	2.0	2.1	2.1	2.1
Potassium, Total	mg/L	2.7	2.8	2.9	2.8
Alkalinity, Bicarbonate (CaCO ₃)	mg/L	24.2	25.6	25.8	26.5
Alkalinity, Total (CaCO ₃)	mg/L	24.2	25.6	25.8	26.5

Notes:

mg/L = milligrams per Liter; S.U. = Standard Units

< = substance was not detected above the analytical reporting limit (RL). The value displayed is the RL.



TABLE 6 - Evaluation of Remedial Technologies

Plant Branch - Milledgeville, GA

Corrective Measure	Corrective Measure REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96		
	Description	Performance	
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 cadmium (Cd) and cobalt (Co). Under anaerobic conditions, Co would be attenuated within sparingly soluble sulfide minerals; this approach might also increase the attenuation of Cd. Under aerobic conditions, soluble iron or manganese and oxygen (either via air sparging or through a chemical oxidant) would be injected to promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of Co and Cd onto these mineral phases. If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption. In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility of certain inorganic compounds, including Co. However, the main attenuation mechanism for Co and Cd is sorption, which is more dependent on pH than redox.	The effective immobilization of Co has been shown under aerobic and anaerobic conditions; however, the anaerobic approach (involving the injection of an electron donor together with iron or manganese and sulfur) requires careful study and testing. While aerobic approaches are somewhat less complex, additional aquifer characterization is needed to further evaluate these options. It is currently not well understood whether cadmium can be efficiently attenuated using in-situ redox manipulations due to slow reaction kinetics. Cd attenuation under both aerobic and anaerobic conditions needs to be further evaluated but is expected to occur. Cd is more strongly sorbed to aluminum oxides than other metal oxides, and it is generally less sorptive and more mobile compared to Co.	Reliability depend secondary iron or soluble iron or ma approach). Reliab aquifer. Bench- a biogeochemical pi
Hydraulic Containment (pump- and-treat)	Hydraulic containment 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, coal combustion residual (CCR) conditioning, etc.]. It is applicable to a variable mix of inorganic constituents, including dissolved Co and Cd.	Pump and treat (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 AP-BCD, implementation of the corrective measure is contingent on completing additional assessment activities (i.e., high-resolution site characterization, additional pump tests, flow modeling, and capture zone analysis). This is needed to refine the constituent distribution in the subsurface to target specific zones for pumping for improved mass recovery efficiency/ effectiveness and to further evaluate the potential remedy performance.	Generally reliable remediation goals attenuation mecha
In-Situ Stabilization	In-situ stabilization is a technique that uses mixing of the CCR with additives to solidify the material in place and reduce future dissolution of CCR compounds from the stabilized material. Additives typically include Portland cement, and the solidification is completed in-situ using large diameter augers. CCR located beneath the water table would be isolated by ISS.	Medium to high, groundwater impacts would be addressed through the processes of natural attenuation. This alternative would isolate/secure the source in a bound matrix, and over time, allow the concentrations of Co and Cd in downgradient groundwater to decline to below applicable standards.	In-situ stabilizatior Reliability is deper
Monitored Natural Attenuation (MNA)	MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame relative to more active methods. Under certain conditions (e.g., through sorption, mineral precipitation or oxidation-reduction reactions), MNA effectively reduces the dissolved concentrations of inorganic constituents in groundwater. Attenuation mechanisms for inorganic constituents at CCR sites, including Co and Cd at AP-BCD are either physical (e.g. dilution, dispersion, flushing, and related processes) or chemical (sorption or oxidation reduction reactions). Chemical attenuation processes include precipitation, and sorption reactions such as adsorption on the surfaces of soil minerals, absorption into the matrix of soil minerals, or partitioning into organic matter. Further, oxidation-reduction (redox) reactions, via abiotic or biotic processes, can transform the valence states of some inorganic constituents to less soluble and thus less mobile forms. For Co and Cd, the main attenuation processes include sorption to iron and manganese oxides (Co and Cd), and formation of sparingly soluble sulfide minerals (Co).	Physical and chemical MNA mechanisms for cobalt and cadmium, including dilution, dispersion, sorption, and oxidation reduction reactions can be effective at achieving groundwater protection standards (GWPS) within a reasonable time frame. Attenuation processes for Co and Cd are already occurring at the site as evidenced by groundwater data from the delineation wells. Source control will improve the mass balance such that the buffer capacity of the aquifer is unlikely to be exhausted, and the attenuation processes already at work for Co and Cd at AP-BCD will further enhance ongoing MNA.	Reliable as long a and/or are being e can either be usec Co and/or Cd, or i
Permeable Reactive Barrier (PRB)	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 most likely viable for the concurrent removal of Co and Cd. The carbon could be composed of peat moss, mulch or another carbon source. Exact placement of the PRB would be contingent on finalization of the nature and extent characterization. PRB walls are typically keyed into the bedrock. While the shallow groundwater in the residuum and fractured bedrock is connected to the groundwater in more competent bedrock, the higher permeability/conductivity of the PRB is not expected to impede groundwater flow. PRBs can also be constructed as "funnel and gate" systems, where a barrier wall directs groundwater to a smaller "treatment gate" filled with reactive media.	PRBs have been shown to effectively address Co and Cd in groundwater if the right mix of reactive materials (e.g., ZVI and carbon) is selected for concurrent removal/immobilization of these constituents. The approach is expected to achieve GWPS for both constituents as impacted groundwater passes through the reactive barrier. Cadmium redox kinetics may be slow and hence a thicker wall might be needed relative to solely treating for Co. Furthermore, additional testing is required to select the appropriate sorptive media mix, especially related to Cd.	Reliable groundwa re-installation dep conducting a benc mechanisms and/o
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. Though highly effective, vertical barrier walls may serve as groundwater dams, so mounding of groundwater behind barrier walls, or flow of groundwater around the ends of barrier walls, should be considered in corrective action design.	Barrier walls are a proven technology for groundwater cutoff at impoundments. Slurry walls are limited by the depth of installation, which is approximately 90 feet below ground surface (bgs). However, site-specific geologic and technology-specific considerations specific to the former CCR Unit may limit this depth to shallower installations. Within the context of the former CCR Unit, 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 cobalt and cadmium 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 and compatibility testing with groundwater from the former CCR Unit will be needed.	Generally reliable downgradient grou

Reliability

lent on permeability of the subsurface and the amount and distribution of manganese (oxy-) hydroxides (for aerobic approach), or electron donors and anganese and sulfur that can be consistently distributed (for anaerobic ble technology if injected materials can be distributed throughout the impacted and/or pilot-scale treatability testing programs are needed to understand the processes that would effectively reduce migration of Co and Cd in groundwater.

for hydraulic containment, but uncertainty exists whether groundwater can be achieved within a reasonable time frame without further understanding anisms

n can be a reliable corrective measure for Co, and Cd in groundwater. Indent on the permeability of the subsurface and mechanics of injection.

as the aquifer conditions that result in Co and Cd attenuation remain favorable enhanced and sufficient attenuation capacity is present. MNA is reliable and d as a stand-alone corrective measure for groundwater impacted by dissolved in combination with a second technology.

ater corrective measure technology, but loss of reactivity over time may require bending on the duration of the remedy. Additional data collection, including ch and/or pilot study, is needed to better characterize current attenuation /or select the appropriate reactive media mix for a PRB wall.

as a barrier to groundwater flow; however, treatment of undwater is incidental and not the primary objective.



TABLE 6 - Evaluation of Remedial Technologies

Plant Branch - Milledgeville, GA

Corrective Measure	REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96(C)(1)				
	Ease of Implementation	Potential Impacts			
Geochemical Approaches (in situ injection)	Moderate. Installation of injection well network or other injection infrastructure would be required. Alternative installation approaches may be considered, such as along the downgradient edge of impacted groundwater, which would function similar to a PRB application. Potential for clogging of aquifer matrix and/or injection well infrastructure. Chemical distribution during injections (i.e., radius of influence) needs to be evaluated.	Minimal impacts are expected if remedy works as designed, based on a thorough pre-design investigation, geochemical modeling, and bench/pilot study results. Redox-altering processes have the potential to mobilize naturally-occurring constituents as an unintended consequence if not properly evaluated and implemented. Consideration of groundwater flow to nearby sensitive environments may be needed.	Installation of the ir However, a thoroug testing will be requ corrective measure achieve GWPS wit process kinetics of materials througho		
Hydraulic Containment (pump- and-treat)	Moderate. Proven approach, and supplemental installation of extraction wells/trenches is fairly straightforward. The extracted groundwater may potentially require an above-ground treatment system. A variety of sorption and precipitation approaches exist for ex-situ treatment of Co and Cd. Operation and maintenance (O&M) requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals	Moderate. The main potential impacts are related to the presence and operation of an on-site above-ground water treatment facility and related infrastructure to convey and treat extracted groundwater. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone.	Installation of extra months). However, may be required, w contingent on the s be achieved relativ respect to the time attenuation mechan		
In-Situ Stabilization	Easy to moderate, implementation of ISS will require a detailed design effort with bench scale testing to determine the appropriate amendment mix for a variety of overburden geologic materials. Pilot testing will also be needed to verify the ability of equipment to solidify material at depth. ISS has not been commonly used to stabilize entire ash units as part of a closure strategy.	Potential impacts of the remedy will be negligible.	In-situ stabilization complete, dependir		
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 t capacity can be tim successful within a implemented durin closure activities an impacts remain sta		
PRB	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 PR final location and c design parameters months. Once insta relatively quick.		
Subsurface Vertical Barrier Wells	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 remedy construction 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. Groundwater extraction may unintentionally alter the geochemistry within the wall that may result in the mobilization of other constituents that require treatment.	Installation of a bar depending on the f aquifer and compa preventing migratic Since this approacl prevents migration and coupled with o		

Time Requirement to Begin/Complete

injection network can be accomplished relatively quickly (1 to 2 months). ugh pre-design investigation, geochemical modeling, and/or bench- and/or pilotuired to obtain design parameters prior to design and construction of the re, which may take up to 24 months. Once installed, the time required to ithin the treatment area may be relatively quick but depends on the attenuation of each targeted constituent. The time for complete distribution of the injected out the treatment area is also variable.

raction wells and/or trenches can be accomplished relatively quickly (1 to 2 r, additional aquifer testing, system design and installation, and permit approval which may take up to 24 months. The initiation of the approach would be start-up of the wastewater treatment infrastructure. Hydraulic containment can ively quickly after startup of the extraction system, but uncertainty exists with e to achieve GWPS without additional data collection to better understand anisms for Co and Cd.

n around the area of exceedance is predicted to take a number of years to ling on the availability of specialized contractors and equipment.

to initiate MNA is already in place. Demonstrating attenuation mechanisms and me-consuming and can take up to 24 months. MNA is expected to be a reasonable time frame following pond closure. Engineering measures will be ng closure of AP-BCD to minimize potential impacts to the subsurface during and routine groundwater monitoring will be used to verify that groundwater table or decrease over time.

RB can be accomplished relatively quickly (6 to 12 months), depending on the configuration. However, bench- and/or pilot testing would be required to obtain is prior to design and construction of the remedy, which may take up to 24 talled, the time to achieve GWPS downgradient of the PRB is anticipated to be

arrier wall can be accomplished relatively quickly (i.e., 6 to 12 months), final location and configuration. However, some design phase and additional atibility testing will be required, which may take up to 24 months. Once installed, ion of constituents dissolved in groundwater is anticipated to be relatively quick. ch does not treat the downgradient area of impacted groundwater but n from a source area, it will likely have to be maintained long-term other approaches.



TABLE 6 - Evaluation of Remedial Technologies

Plant Branch - Milledgeville, GA

Corrective Measure	REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96(C)(1)				
	Institutional Requirements	Other Env. Or Public Health Requirements			
Geochemical Approaches (in situ injection)	Deed restrictions may be necessary until in-situ treatment has achieved GWPS. An underground injection control (UIC) permit would be required to implement this corrective measure. No other institutional requirements are expected at this time.	None expected at this point. Potential for mobilization of redox-sensitive constituents exists during implementation of an anerobic attenuation approach. Following installation, the remedy is passive.	Medium (depending derived design para		
Hydraulic Containment (pump- and-treat)	Depending on the effluent management strategy, modifications to the existing National Pollutant Discharge Elimination System (NPDES) permit may be required, or obtaining a new 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 (de and volume of wate		
In-Situ Stabilization	Deed restrictions may be necessary until groundwater concentrations are below GWPS. No other institutional requirements that may limit application of this technology are expected at this time.	Changes to groundwater chemistry relative to the mobility of Appendix IV constituents following completion of ISS, where large volumes of amendments (typically Portland cement) are added to the subsurface, are unknown and would require pilot testing.	Medium, depending		
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		
PRB	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		
Subsurface Vertical Barrier Wells	Deed restrictions may be necessary until groundwater concentrations are below GWPS. No other institutional requirements that may limit application of this technology 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 (de complexity of above		

Relative Costs

ng on expanse of injection network required and injectate volume required per arameters)

lepending on remedy duration, complexity of above-ground treatment system, ter processed)

ng on permeability of aquifer.

or installation) - minimal O&M requirements if replacement is not necessary

depending on length and depth of wall, remedy duration and ve-ground treatment system)



FIGURES

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LEGEND

- ----- BH-05 🔶 PZ-6S BRGWC-12I
- 🔶 IW-D-1
- APPROXIMATE PROPERTY BOUNDARY ESTIMATED EXTENT OF SURFACE IMPOUNDMENTS CROSS SECTION LOCATION EXISTING BORING LOCATIONS EXISTING PIEZOMETER LOCATIONS EXISTING MONITORING WELL LOCATIONS INTERSTITIAL WELL LOCATIONS SW LOCATIONS

NOTES

- 1. TOPOGRAPHIC CONTOUR INTERVAL = 10 FEET
- 2. TOP OF ROCK SURFACE CONTOUR INTERVAL = 20 FEET

2. WELL/PIEZOMETER LOCATIONS SURVEYED BY METRO 3. BEDROCK CONTOURS BASED ON LINEAR INTERPOLATION ENGINEERING (2020). BETWEEN AND EXTRAPOLATION FROM KNOWN DATA, AND TOPOGRAPHIC CONTOURS. THEREFORE, CONTOURS MAY 3. IW LOCATIONS SURVEYED ON JULY 29, 2016 BY E&CS CIVIL FIELD SERVICES. NOT REFLECT ACTUAL CONDITIONS.

4. ESTIMATED CCR LIMITS PROVIDED BY GPC AND ADJUSTED WITH AVAILABLE DATA FROM IW BORINGS.

REFERENCES

1. BORING LOCATIONS AND PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES, INC.

CLIENT GEORGIA POWER COMPANY



4. TOPOGRAPHY PROVIDED BY GEORGIA POWER LAND DEPARTMENT, DATE OF SURVEY 3-15-2018.

CONSULTANT



YYYY-MM-DD	2020-10-14
DESIGNED	BS
PREPARED	DJC
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APPROVED	RPK

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	NOTES 1. BEDROCK IN THIS PART OF THE SITE CONSISTS PRIMARILY OF BIOTITE GNEISS AND AMPHIBOLITE		
LEGEND EXISTING TOPOGRAPHY (SEE REFERENCE 3)	2.* THE TOP OF ROCK ELEVATION FOR BRGWC-47 APPEARS ANOMALOUS AND WAS THEREFORE NOT USED FOR BEDROCK CONTOURING		
OVERBURDEN/RESIDUUM	3. ESTIMATED CCR LIMITS PROVIDED BY GPC AND ADJUSTED WITH AVAILABLE DATA FROM IW BORINGS.		
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GROUNDWATER ELEVATION MEASURED ON 9/14/2020	3. IW LOCATIONS SURVEYED ON JULY 29, 2016 BY E&CS CIVIL FIELD SERVICES.	CONSULTANT YYYY-M	IM-DD 2020-10-14
SCREEN	4. TOPOGRAPHY PROVIDED BY GEORGIA POWER LAND DEPARTMENT, DATE OF SURVEY 3-15-2018.		ED BS
		APPRO'	VED RPK





B-B'



NOTES

1. BEDROCK IN THIS PART OF THE SITE CONSISTS PRIMARILY OF BIOTITE GNEISS AND AMPHIBOLITE.

2. * THE TOP OF ROCK ELEVATIONS FOR PZ-21I AND PZ-26I APPEAR ANOMALOUS AND WERE THEREFORE NOT USED FOR BEDROCK CONTOURING.

3. ESTIMATED CCR LIMITS PROVIDED BY GPC AND ADJUSTED WITH AVAILABLE DATA FROM IW BORINGS.

REFERENCES

1. BORING LOCATIONS AND PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES, INC.

2. WELL/PIEZOMETER LOCATIONS SURVEYED BY METRO ENGINEERING (2020).

3. IW LOCATIONS SURVEYED ON JULY 29, 2016 BY E&CS CIVIL FIELD SERVICES.

4. TOPOGRAPHY PROVIDED BY GEORGIA POWER LAND DEPARTMENT, DATE OF SURVEY 3-15-2018.







L IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FRO




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LEGEND MONITORING WELL PIEZOMETER INFERRED POTENTIOMETRIC SURACE (NAVD88) PROPERTY BOUNDARY APPROXIMATE ASH POND BOUNDARY APPROXIMATE SURFACE WATER LIMITS NOTES 1. GROUNDWATER SURFACE CONTOUR INTERVAL = 10 FEET 2. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATA, AND TOPOGRAPHIC CONTOURS. THEREFORE, CONTOURS MAY NOT REFLECT ACTUAL CONDITIONS. 3. DEEP (D) AND INTERMEDIATE (I) WELL ELEVATIONS WERE NOT USED FOR GROUNDWATER CONTOURING. 4. NAVD88=NORTH AMERICAN VERTICAL DATUM 88 5. GROUNDWATER ELEVATIONS RECORDED SEPTEMBER 14, 2020. REFERENCE 1. SERVICE LAYER CREDITS: ESRI, HERE, GARMIN, (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY 2. COORDINATE SYSTEM: NAD 1983 STATE PLAN GEORGIA WEST (U.S. FEET). 3. BORING/PIEZOMETER LOCATIONS PROVIDED BY METRO ENGINEERING & SURVEYING CO., INC. 4. PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES. KEY MAP SITE LOCATION GEORGIA 1500 750 1500 0 Feet Georgia Power GEORGIA POWER COMPANY PLANT BRANCH PROJECT ASSESSMENT OF CORRECTIVE MEASURES REPORT POTENTIOMETRIC SURFACE CONTOUR MAP SEPTEMBER 14, 2020 CONSULTANT YYYY-MM-DD 2020-09-25 PREPARED SEB DESIGN ED GOLDER REVIEW RK

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FIGURE



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۲	MONITORING	WELL		
	PIEZOMETER			
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	PROPERTY BC	UNDARY		
	INFERRED PO	TENTIOME	TRIC SURACE	(MAR 2020)
		ASH PON	D BOUNDARY	
		SURFACE		rs
NOTE	S DUNDWATER CONCENT	RATIONS IN M	ILLIGRAMS PER L	ITER (MG/L)
2. ISO STANI	CONTOURS SHOWN RE DARD	PRESENT GR	OUNDWATER PRO	TECTION
2. GOI NS = N RSL =	JNDWATER CONCENTR NOT SAMPLED. GWPS = FEDERAL REGIONAL S	ATIONS IN MIL GROUNDWAT CREENING LEV	LIGRAMS PER LIT ER PROTECTION : /EL.	ER (MG/L). STANDARD.
3. DAT EVEN	A SHOWN REPRESENT TRESULTS AS WELL AS	THE MARCH S APPLICABLE I	EMI-ANNUAL MON DELINEATION WEL	NITORING LL DATA.
4. GW AS TH BACK	PS IS EQUAL TO SITE S ERE IS NO MCL AND TH GROUND	PECIFIC BACK E RSL IS BELC	GROUND CONCE W SITE SPECIFIC	NTRATION
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SURFACE WAT	TER S	AMPLE	
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FIEZOWETER			
-0005- CADMIUM GW	'PS IS	OCONTOUF	R (INFERRED)
INFERRED PO	TENT	IOMETRIC S	SURACE (SEPT 2020)
	סמעכ	ARY	
APPROXIMATE	E ASH	POND BOU	JNDARY
APPROXIMATE	E SUR	FACE WATE	ER LIMITS
NOTES			
1. GOUNDWATER CONCENTI GWPS = GROUNDWATER PRO	RATION	S IN MILLIGRAM	MS PER LITER (MG/L).
2. ISOCONTOURS SHOWN RE STANDARD	EPRESE	NT GROUNDW	ATER PROTECTION
3. DATA SHOWN REPRESENT MONITORING EVENT RESULT DATA. SAMPLE RESULTS FRC 2020.	THE SI TS AS W OM PZ-5	EPTEMBER SEM (ELL AS APPLIC (OD AND PZ-51E	MI-ANNUAL ABLE DELINEATION D FROM OCTOBER
4. SURFACE WATER SAMPLE	COLLE	CTED BY ARCA	DIS IN OCTOBER 2020
Analyte I	Units	GWPS	
Cadmium	mg/L	0.005	
REFERENCE			
1. SERVICE LAYER CREDITS:	SOURC	E: ESRI, MAXA	R, GEOEYE,
AFROGRID IGN AND THE GI	, CNES//	AIRBUS DS, US	DA, USGS,
AEROGRID, IGN, AND THE GI	, CNES// S USER	AIRBUS DS, US COMMUNITY	DA, USGS,
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APPENDIX A

Risk Evaluation Report





RISK EVALUATION REPORT PLANT BRANCH ASH PONDS B, C, AND D MILLEDGEVILLE, PUTNAM COUNTY, GEORGIA

Prepared for

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Prepared by

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Project Number GZ7112BR

December 2020

TABLE OF CONTENTS

EXEC	UTIV	'E SUM	MARY	v
1	Intro	duction.		1
2	Basi Mod	s And B	ackground For The Development Of The Conceptual Exposu	re 3
	2.1	Site De	escription	
		2.1.1	Topography and Surface Hydrology	4
		2.1.2	Geology and Hydrogeology	4
	2.2	Potenti	al Transport Pathways	5
	2.3	Potenti	al Exposure Pathways and Receptors	6
3	Risk	Evaluat	ion Screening	9
	3.1	Data U	sed in Risk Evaluation Screening	9
		3.1.1	Groundwater Data	10
		3.1.2	Background Groundwater Quality	10
	3.2	Ground	lwater Screening Evaluation	11
4	Refi	ned Risk	Evaluation	14
	4.1	Refined	d Groundwater Risk Evaluation	14
		4.1.1	Groundwater Exposure Point Calculation	14
		4.1.2	COPI Concentration Trend Analysis	15
		4.1.3	Refined Groundwater Risk Evaluation Results	16
	4.2	Surface	e Water Risk Evaluation	18
		4.2.1	Surface Water Data	18
		4.2.2	Human Health Screening	19
		4.2.3	Ecological Screening	20
		4.2.4	Refined Groundwater and Surface Water Risk Evaluation	
			Summary and Conclusions	20
5	Unc	ertainty 2	Assessment	22
6	Con	clusions.		24
7	Refe	erences		25

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 Residential Refined Evaluation
Table 4 Surface Water Human Health Screening
Table 5 Freshwater Surface Water Ecological Screening

LIST OF FIGURES

Figure 1	Site Location
Figure 2	Site Layout and Monitoring Well Network
Figure 3	Potentiometric Surface Elevation Contours (March 19, 2019)
Figure 4	Conceptual Exposure Model
Figure 5	Off-Site Well Survey Results
Figure 6	Monitoring Wells Included in Risk Screen
Figure 7	Groundwater Risk Screening Approach
Figure 8	Refined Groundwater Risk Evaluation Approach
Figure 9	Surface Water Risk Screening Evaluation Approach
Figure 10	Surface Water Sample Locations

LIST OF APPENDICES

Appendix A	Plant B	ranch Well Survey (Off-Site)
Appendix B	Data U	sed in Risk Evaluation
Appendix C	USEPA	RSL Calculator Generated Residential Screening Levels
Appendix D	Suppor	t for Refined Risk Evaluation
Appendix I	D- 1	Exposure Point Concentration Calculation Results
Appendix I	D-2	Exposure Point Concentration Figures
Appendix I	D-3	ProUCL Input/Output Files

TABLE OF CONTENTS (Continued)

Appendix D-4 Groundwater Trend Graphics

TABLE OF CONTENTS (Continued)

LIST OF ACRONYMS AND ABBREVIATIONS

Amsl	Above Mean Aea Level
AP	Ash Pond
CCR	Coal Combustion Residual
CEM	Conceptual Exposure Model
CFR	Code of Federal Regulations
COI	Constituent of Interest
COPI	Constituent of Potential Interest
EPC	Exposure Point Concentration
EPD	[Georgia] Environmental Protection Division
ft	feet
ft/day	feet per day
GWPS	Groundwater Protection Standard
HAR	Hydrogeologic Assessment Report
HSRA	Hazardous Site Response Act
ISWQC	In-stream Water Quality Criteria
IRIS	Integrated Risk Information System
NAWQC	National Ambient Water Quality Criteria
MCL	Maximum Contaminant Level
mg/L	Milligrams per liter
ProUCL	ProUCL software version 5.1
PWR	Partially Weathered Rock
PZ	Piezometer
RME	Reasonable Maximum Exposure
RRS	Risk Reduction Standards
RSL	Regional Screening Level
SSL	Statistically Significant Level
TWR	Transitionally Weathered Rock
UCL	95 Percent Upper Confidence Limit of the Arithmetic Mean
USEPA	United States Environmental Protection Agency
VRP	Voluntary Remediation Program

EXECUTIVE SUMMARY

Plant Branch (site) is a former four-unit, coal-fired fired electric generating facility owned and operated by Georgia Power that was retired on April 15, 2015. The site is located adjacent to Lake Sinclair, approximately 8 miles north of Milledgeville in Putnam County, Georgia. During the operation of the site from 1960 to 2015, coal combustion residual (CCR) material resulting from power generation was transferred and stored in five ash ponds (AP) AP-A, AP-B, AP-C, AP-D, and AP-E in compliance with applicable regulations. This report addresses AP-B, AP-C, and AP-D, together referred to as a multiunit AP-BCD.

AP-BCD is inactive and Georgia Power is currently in the permitting process to close the ponds by removal and relocation of the stored CCR material to a proposed fully lined landfill located on the plant property in accordance with the Georgia Environmental Protection Division (EPD) Rules for Solid Waste Management, Rule 391-3-4.10 (State CCR Rule). Because the site ceased producing electricity prior to April 2015, these ash ponds are not subject to the Federal CCR Rule¹. Georgia Power submitted a permit application for the closure of AP-BCD to Georgia EPD on November 15, 2018.

This report presents the results of a human health and ecological risk evaluation for cadmium and cobalt, the CCR constituents² exhibiting statistically significant levels (SSLs) in groundwater at AP-BCD from samples collected between March 2018 through March 2020. Cadmium and cobalt were previously identified as SSL-related constituents based on groundwater protection standards (GWPS) established for AP-BCD pursuant to Georgia EPD Rule 391-3-4-.10(6)(a) (Golder Associates, 2020). The risk evaluation relies on groundwater data collected by Georgia Power between March 2018 and March 2020 in compliance with the State CCR rule. The risk evaluation has been completed using a conservative, health-protective approach based on methods consistent with United States Environmental Protection Agency (USEPA) guidance, Georgia EPD regulations and guidance, and standard practice for risk assessment in the State of Georgia.

¹ 40 C.F.R. § 257, Subpart D – *Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments*. Original effective date, October 14, 2015; last amended; August 28, 2020, effective date of latest amendments, September 28, 2020 (USEPA, 2020a).

² The constituents included in the risk evaluation also occur naturally in the site geologic setting.

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-BCD.
- 2. Initial groundwater risk screening: Comparison of groundwater concentrations of SSL-related constituents, cadmium and cobalt, to conservative, health-protective criteria and/or background concentrations to assess whether they pose a risk to human health.
- 3. Refined groundwater risk evaluation: Perform a more refined analysis of Constituents of Potential Interest (COPIs) that were not screened out in the initial risk screening to assess whether they pose a potential risk to human health.
- 4. Surface water risk screening: For constituents identified as groundwater constituents of interest (COIs), comparison of surface water concentrations to conservative, health-protective criteria to assess whether they pose a potential risk to human health 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, constituents evaluated from AP-BCD are not expected to pose a risk to human health or the environment; therefore, no further risk evaluation for groundwater is warranted. Compliance monitoring for AP-BCD will continue pursuant to the requirements of the State CCR rule. Georgia Power will proactively evaluate the data and update this evaluation, if necessary.

1 INTRODUCTION

This report summarizes a risk evaluation of AP-BCD at Georgia Power's Plant Branch (site) located approximately eight miles north of Milledgeville, Georgia (**Figure 1**). AP-BCD is located to the southeast of AP-E and to the north of Lake Sinclair. AP-BCD is inactive and Georgia Power is currently in the permitting process to close the ponds by removal and relocation of the stored CCR material to a proposed fully lined landfill located on the plant property in accordance with the State CCR Rule. Because the site ceased producing electricity prior to April 2015, AP-BCD is not subject to the Federal CCR Rule (40 CFR § 257, Subpart D). Georgia Power submitted a permit application for the closure of AP-BCD to Georgia EPD in November 2018.

This risk evaluation provides additional technical review of the human health and environmental protectiveness associated with the closure of AP-BCD with respect to constituent concentrations in groundwater identified at SSLs above GWPS³. The evaluation relies on a conservative, health-protective approach that is consistent with the risk approaches outlined in Voluntary Remediation Program (VRP) (Georgia Voluntary Remediation Act, OCGA §12-8-100; EPD, 2009) and USEPA Regional Screening Levels (RSLs) User's Guide (USEPA, 2020b). This evaluation also incorporated principles and assumptions consistent with the Federal CCR Rule (USEPA, 2020a) and the State CCR Rule.

The risk evaluation includes the development of a site-specific CEM and a stepwise risk screening process for identified SSL-related constituents for AP-BCD.

The remainder of the report is organized as follows:

Section 2, Basis and Background for the Development of the Conceptual Exposure Model – Presents site-specific information related to the site history, monitoring network, topography and surface hydrology, geology and hydrogeology, potential transport pathways, and receptors that could potentially be exposed to SSL-related constituents.

Section 3, Groundwater Risk Evaluation Screening – Describes the process for the initial risk-based screening of SSL-related constituents to identify COPIs in groundwater.

1

³ Cadmium and cobalt were previously identified as SSL-related constituents based on GWPS established for AP-BCD pursuant to Georgia EPD Rule 391-3-4-.10(6)(a) (Golder Associates, 2020).

Section 4, Refined Risk Evaluation – Describes the risk screening process for the COPIs identified in groundwater, including calculation of exposure point concentrations (EPCs) and analysis of concentration trends over time and for those constituents evaluated for surface water in the nearest adjacent surface water bodies.

Section 5, Uncertainty Assessment – Describes the uncertainties associated with the risk screening process.

Section 6, Conclusions – Presents the conclusions of the risk evaluation.

Section 7, References – Provides reference information for the sources cited in this document.

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

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

A CEM representing the site-specific processes and conditions that are relevant to the potential migration of groundwater and potential exposure to SSL-related constituents has been developed based on a review and compilation of information previously presented in site documents, including the *Hydrogeologic Assessment Repot (HAR) for Ash Ponds B, C, and D* (Geosyntec, 2020), 2019 Annual Groundwater Monitoring & Corrective Action Report – Plant Branch - Ash Pond BCD (Golder Associates, 2019), and 2020 Annual Groundwater Monitoring & Corrective Action Report – Plant Branch - Ash Pond BCD (Golder Associates, 2019). The CEM includes a conservative evaluation of assumed potential transport pathways, exposure pathways and potential human and ecological receptors.

2.1 Site Description

The site is located adjacent to Lake Sinclair, approximately 8 miles north of Milledgeville in Putnam County, Georgia. The property occupies approximately 3,200 acres and is bounded on the south and east by Lake Sinclair, which is an approximate 15,330-acre hydroelectric reservoir that was created in 1953 by the impoundment of the Oconee River. A site location map and a detailed site map is included as **Figure 1**.

The site is a former four-unit, coal-fired fired electric generating facility owned and operated by Georgia Power that was retired on April 15, 2015. During the operation of the site from 1960 to 2015, CCR material resulting from power generation was transferred and stored in five ash ponds, identified as AP-A, AP-B, AP-C, AP-D, and AP-E, in compliance with applicable regulations.

AP-BCD is inactive, and Georgia Power is currently in the permitting process to close the ponds by removal and relocation of the stored CCR material to a proposed fully lined landfill located on the plant property in accordance with the State CCR Rule. Because the site ceased producing electricity prior to April 2015, these ash ponds are not subject to the Federal CCR Rule. Georgia Power submitted one permit application for the closures of AP-BCD (as a combined multi-unit application) to Georgia EPD on November 15, 2018. Potable water at the site was historically provided by one on-site potable well (BRPW-1). This well is located upgradient of AP-BCD to the northwest as shown on **Figure 2**; it will be decommissioned

during the the construction of the proposed CCR landfill. Water from BRPW-1was historically used for the sanitary facilities and for the central water supply at the site.

2.1.1 Topography and Surface Hydrology

The site is located in the Piedmont Physiographic Province (Piedmont) of central Georgia, which is characterized by gently rolling hills and narrow valleys, with locally pronounced linear ridges. Generally, the property slopes gently eastward and southward towards Lake Sinclair. The site is located in the eastern half of the site property, which is generally topographically lower than the western portion of the property. Topographic relief across the site is approximately 100 ft, with a natural topographic high at an elevation of nearly 440 ft above mean sea level (amsl) occurring along the topographic ridge west of Ash Pond D, and with a topographic low at the banks of Lake Sinclair at approximately 340 ft amsl (Geosyntec, 2020).

2.1.2 Geology and Hydrogeology

The following information is provided in the 2020 Annual Groundwater Monitoring & Corrective Action Report – Plant Branch - Ash Pond BCD (Golder Associates, 2020).

The metamorphic and igneous rocks that underlie the area have been subjected to physical and chemical weathering which has created a landscape dissected by creeks and streams forming a dendritic drainage pattern. These rocks are weathered due to the humid climate resulting in bedrock being overlain by a variably thick blanket of residual soils and saprolite (collectively called regolith). The overall depth of weathering in the Piedmont is generally about 20 to 60 feet; however, the depth of weathering along discontinuities and/or in very feldspathic rock units may extend to depths greater than 100 feet.

The near surface conditions were determined based upon available boring and monitoring well installation logs. Micaceous, locally saprolitic soils, consisting primarily of clay, silty clay, silt, and sandy clay occur as a variably thick blanket of residuum overlying bedrock across most of the site. The thickness of the residual soil encountered in the borings is variable, ranging from approximately 11 feet to as much as 74 feet. Saprolitic soils and/or saprolitic rock vary in thickness across the site but are generally encountered at or near ground surface. Saprolitic rock is also considered to be transitionally weathered rock (TWR) or partially weathered rock (PWR), as defined by standard penetration test data, where available. Material overlying the top of rock surface, including residual soils, saprolite, and transitionally weathered rock, is collectively referred to as overburden or regolith.

Groundwater flow rates at the site were calculated based on hydraulic gradients, hydraulic conductivity from previous slug test results, and an estimated effective porosity of the screened horizon. Based on slug test data at the site, hydraulic conductivity ranges from 2.7 to 5.5 feet per day, which is used in the flow calculations. The groundwater flow velocity at the site ranges from approximately 0.18 to 0.86 feet per day (or approximately 66 to 314 feet per year) across AP-BCD. The observed groundwater flow velocities calculated for this monitoring event are also generally consistent with expected velocities in the regolith-upper bedrock aquifers of Georgia Piedmont and confirm the groundwater monitoring system as properly located to monitor the uppermost aquifer for AP-BCD at Plant Branch.

The potentiometric surface contours provided in the 2020 Annual Groundwater Monitoring & Corrective Action Report – Georgia Power Company - Plant Branch, Ash Pond BCD (Golder Associates, 2020) are provided on Figure 3. The potentiometric surface contours show that groundwater flow direction is to the southeast and south of AP-BCD, towards Lake Sinclair. The groundwater flow direction and rates interpreted during the October 2019 and March 2020 monitoring events are generally consistent with historical evaluations.

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

Lake Sinclair, which was created by the impoundment of the Oconee River, abuts the site to the south. Due to the input of water from the river northeast of the site, the prevailing surface water flow in the vicinity of the site is to the south/southeast (**Figure 2**). A conservative assumption for this assessment was made that all of the groundwater from the site flows to Lake Sinclair. In addition, for the purposes of this evaluation, Lake Sinclair was assumed to represent a hydraulic discharge boundary for groundwater flow in the upper aquifer from the nearby region.

2.3 Potential Exposure Pathways and Receptors

The exposure pathways for groundwater assumed to be complete based on site-specific information were used to identify potential receptors and estimate potential risk. The CEM 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: Potable water at the site was historically provided by one on-site potable well (BRPW-1). This well is located upgradient of AP-BCD as shown on **Figure 2**; it will be decommisioned during the the construction of the proposed CCR landfill. Water from BRPW-1 was used for the sanitary facilities and for the central water supply at the site. The groundwater exposure pathway for the on-site industrial worker was considered incomplete due to the well's location upgradient of AP-BCD therefore there is no risk to on-site industrial workers.
- 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 on-site residents was considered incomplete because the site is zoned industrial-manufacturing district and there is no residential use on-site under current site conditions and future residential use of the site is considered unlikely (Putnam County, 2020).
- Off-site industrial/construction worker: The potential for off-site worker exposure through direct contact with groundwater was addressed qualitatively 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. Land use surrounding the site is zoned Agricultural/Rural District with the exception of some Commercial zoning adjacent to the southeast corner of the site (Putnam County, 2020). Zoning to the east of the site is generally commercial, to the north is an agricultural district, and

the west is single family residential (Putnam County, 2020). An off-site well survey of potential groundwater wells within a three-mile radius of the site 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**. Lake Sinclair is the source of the public water supply in the area and the well survey identified a surface water intake belonging to the Sinclair Water Authority approximately 1.75 miles to the northeast, and upstream, of AP-BCD (Newfields, 2020). Because this public water supply intake is upstream of the site, this is considered an incomplete exposure pathway and there is no risk to hypothetical off-site residential receptors. In addition, as other downgradient hypothetical off-site residential receptors identified in the well survey are located on the opposite side of Lake Sinclair, the assumed hydraulic discharge boundary for AP-BCD, this potential groundwater exposure pathway is also incomplete.

Concentrations of the SSL-related constituent cadmium in on-site groundwater monitoring wells and peizometers are below health-protective screening levels within the site property boundary (i.e., on-site at AP-BCD). The concentrations of cobalt at 0.022 milligrams per liter (mg/L), were detected above health-protective screening levels in wells located adjacent to Lake Sinclair. As a conservative measure, assumed potential off-site residential exposure to SSL-related constituents were evaluated using data collected from on-site groundwater wells between March 2018 and March 2020 around the perimeter and downgradient of AP-BCD. 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, and disregarding the presence of Lake Sinclair which represents an assumed hydraulic discharge boundary for groundwater downgradient of AP-BCD.. Accordingly, the risk evaluation screening for the offsite residential receptor assumed potential exposure by ingestion and dermal contact with SSL-related constituents cadmium and cobalt in groundwater through its use as a future potable water source.

• Off-site recreational surface water receptors: The potentially complete surface water exposure pathway for hypothetical recreational receptors was addressed quantitatively through the evaluation of surface water data collected from Lake Sinclair in March 2018. The surface water risk evaluation conservatively assumed that hypothetical off-site recreators' exposure included ingestion of aquatic

organisms (mainly fish) and potential incidental ingestion and dermal contact with surface water by hypothetical adult and child recreational receptors.

• Off-site ecological surface water receptors: The surface water exposure pathway for off-site ecological receptors was addressed quantitatively through the evaluation of surface water data collected from Lake Sinclair in March 2018. Ecological receptors were assumed to be exposed to surface water through direct contact to surface water as well as through the food chain pathway.

3 RISK EVALUATION SCREENING

The CEM developed in Section 2 was used to identify the potentially completed exposure pathways to human receptors that should be considered in the risk evaluation. The initial step in the risk evaluation is the comparison of SSL-related constituent concentrations from groundwater samples collected between March 2018 through March 2020 to relevant, 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 evaluation of risk to support site-specific remedial approaches 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 cadmium and cobalt in groundwater samples from monitoring well BRGWC- 50^4 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 a SSL-related constituent exceeded the screening criterion, the constituent was identified as a COPI for further evaluation in the refined risk evaluation. The methodology and screening criteria used were identified in accordance with regulatory guidance and standard risk assessment practices using an approach designed to conservatively overestimate possible exposures and risks, providing an additional level of confidence in the conclusions. The methodology is summarized on **Figure 6** and discussed in more detail below.

3.1 Data Used in Risk Evaluation Screening

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

⁴ Cadmium and cobalt were identified as federal and state SSL-related constituents. State SSL-related constituents are identified by comparing the confidence intervals developed to either the constituent's MCL, if available, or the calculated background interwell prediction limit. Federal SSL-related constituents are identified by comparing the confidence intervals developed to either the constituent's MCL, if available, or the calculated background interwell prediction limit. Federal SSL-related constituents are identified 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. Cadmium and cobalt were identified as SSL-related constituents in only BRGWC-50 based on data from March 2018 and March 2020.

3.1.1 Groundwater Data

For the initial risk screening evaluation, groundwater data from samples collected between March 2018 through March 2020 from the on-site well that was identified to have SSL-related constituents, cadmium and cobalt, was used in the risk screening evaluation for hypothetical off-site residential exposure. Monitoring well BRGWC-50 is the single well that was previously identified to have SSL-related constituents under the State and Federal CCR rules. Analytical data for cadmium and cobalt from BRGWC-50 were screened against relevant health-protective screening criteria.

The well with SSL-related constituents is depicted on **Figure 2** and the groundwater dataset used in the risk evaluation is presented in **Appendix B-1**. Method detection limits for the groundwater datasets used in the risk evaluation were reviewed and confirmed to be less than the screening levels.

Groundwater data used in the risk screening level evaluation is considered to be representative of groundwater conditions at the site. The downgradient groundwater monitoring wells and piezometers included in the risk evaluation are depicted on **Figure 6**. The well used to assess hypothetical off-site residential exposure includes the well with SSL-related constituents, BRGWC-50.

The groundwater dataset used in the risk evaluation is presented in **Appendix B-1**. Method detection limits for the groundwater datasets 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 are performed at the site pursuant to §257.93-95 following the established statistical method from the Unified Guidance (USEPA, 2009) for AP-BCD; background values are routinely updated under the program. Three monitoring wells in the certified monitoring well network are designated as upgradient (background) locations for AP-BCD, including BRGWA-12S, BRGWA-12I, and BRGWA-23S. In April 2020, the five upgradient background monitoring wells for AP-E were added to the AP-BCD groundwater monitoring well network including BRGWA-2S, BRGWA-2I, BRGWA-5S, BRGWA-5I, and BRGWA-6S. Therefore, there are a total of nine upgradient monitoring wells used to develop background values The statistical analyses performed on the groundwater data were described in the 2019 Annual Groundwater Monitoring & Corrective Action Report

- *Plant Branch Ash Pond BCD* (Golder Associates, 2020) and text from that document is presented below:

The selected statistical method for AP-BCD was developed in accordance with § 257.93(f) and 391-3-4-.10(6) using methodology presented in Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance (USEPA, 2009). The Sanitas Groundwater statistical software was used to perform the statistical analyses. Sanitas is a decision-support software package that incorporates the statistical tests required of Subtitle C and D facilities by USEPA regulations and guidance as recommended in the USEPA (2009) document.

The following guidance is also applicable to the statistical analysis method:

- Statistical analyses are not performed on analytes containing 100% nondetects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain less than or equal to 15% non-detects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for non-detects is the practical quantitation limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, a non-detect adjustment such as the Kaplan-Meier or
- Regression on Order Statistics (ROS) method for adjustment of the mean and standard deviation will be used prior to constructing a parametric prediction limit.
- Nonparametric prediction limits are used on data containing greater than 50% non-detects

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

3.2 Groundwater Screening Evaluation

The process of screening constituents detected in groundwater against human health screening levels for groundwater is discussed below and presented in **Figure 7**. 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 methodologies approved by the Georgia EPD, the screening level hierarchy for the SSL-related constituents is as follows:

- The higher of the Type 1 or Type 2 RRS for hypothetical off-site residential exposure, which are considered protective of human health for those constituents regulated under HSRA (cadmium).
- The Type 2 RRS was used for cadmium, 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 cadmium used for the Type 2 RRS calculations were identified in the Integrated Risk Information System (IRIS) (USEPA, 2020c). The risk-based Type 2 RRS was calculated using USEPA's RSL calculator (USEPA, 2020b) assuming a target cancer risk of 1×10⁻⁵ and a target hazard quotient of 1, consistent with Georgia EPD guidance (EPD, 2018b). The calculation of Type 2 RRS values is presented in 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 rule methodology for development of groundwater protection (USEPA, 2020b). The background concentration for cobalt is greater than the criteria described above. Therefore, the background value was used as a screening level for cobalt in this evaluation.

Groundwater data collected from the wells identified to have SSL-related constituents were compared to residential screening criteria in order to protect potential future hypothetical off-site receptors. Concentrations of cadmium and cobalt in BRGWC-50 were compared to the HSRA Type 2 RRS and background values for groundwater.

Table 1 presents the maximum detected concentration of each SSL-related constituent.The maximum cadmium concentration of 0.087 mg/L and maximum cobalt concentrationof 1.5 mg/L were used to represent potential off-site groundwater quality for comparison

to the risk-based cadmium screening level of 0.0092 mg/L and the background value for cobalt of 0.0135 mg/L for the hypothetical off-site residential receptors. As noted in **Table 1**, cadmium and cobalt were detected at concentrations that exceeded their screening level and were retained for further evaluation in the refined risk evaluation.

4 REFINED RISK EVALUATION

A refined risk evaluation was conducted for the groundwater COPIs (cadmium and cobalt) that were detected in BRGWC-50 at concentrations that exceeded the health-protective screening criteria. The refined risk evaluation identified an EPC for potential exposure to cadmium and cobalt for the purposes of characterizing potential risk to human receptors.

4.1 Refined Groundwater Risk Evaluation

Potential risk associated with exposure to cadmium and 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 8**.

For the refined risk evaluation, groundwater data from samples collected between March 2018 and March 2020 from the on-site well identified to have SSL-related constituents, BRGWC-50, and downgradient piezometers that represent groundwater flow in the same hydrologically downgradient direction (PZ-51I and PZ-51S) were used for hypothetical off-site residential exposure.

Groundwater data used in the risk screening level evaluation were considered to be representative of groundwater conditions at the site. The groundwater dataset used in the refined risk evaluation is presented in **Appendix B-1**.

4.1.1 Groundwater Exposure Point Calculation

The refined risk evaluation for cadmium and cobalt included the development of an EPC. The EPC is a conservative estimate of potential exposure that is selected to address uncertainty and variability in the dataset (USEPA, 2002). Consistent with USEPA guidance for developing groundwater EPCs (USEPA, 2014), 95 percent upper confidence limits of the arithmetic mean (UCLs) were calculated using USEPA ProUCL 5.1 software (ProUCL) (USEPA, 2016) and the ProUCL User's Guide (USEPA, 2015a). For the refined risk evaluation, the UCLs for the COPIs in groundwater were calculated for the following specific datasets:

• UCLs were calculated for the individual well BRGWC-50 to determine if the UCL complies with the screening level;

- UCLs were calculated based on combined data from BRGWC-50 and other wells/piezometers in the general vicinity to include additional downgradient monitoring wells/piezometers (PZ51I and PZ-51S) that represent groundwater flow in the same hydrologically downgradient direction; and
- UCLs were calculated based on the combined data from the farthest downgradient wells that are hydrologically downgradient of the well with SSL-related constituents, PZ-51I and PZ-51S.

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

Table 2 summarizes the groundwater EPCs selected for cadmium and 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 cadmium and cobalt. The Mann-Kendall trend test with an alpha value equal to 0.05 and the Theil-Sen line test were conducted on the data from BRGWC-50 between March 2018 and March 2020 for cadmium and cobalt to evaluate the trends in concentrations over time. The tests were conducted using the USEPA ProUCL 5.1 software (USEPA, 2016).

The Mann-Kendall and Thiel-Sen results are presented on time series graphs and the ProUCL inputs and outputs are provided in **Appendix D-4**.

The Mann-Kendall test for cadmium concentrations in BRGWC-50 indicated that there was statistically significant evidence of a decreasing trend at the specified level of significance. The highest detected concentrations in the well were from samples in 2018 with more recent concentrations in 2020 approximately an order of magnitude lower than the maximum concentration in BRGWC-50.

Two piezometers are downgradient of BRGWC-50, PZ-51I and PZ-51S. Three samples were collected from the downgradient peizometers from August 2018 to October 2019. PZ-51I had three detections of cadmium, all below the screening level. PZ-50S had no detections of cadmium and the reporting limits for the samples were all below the screening level. Based on these data, cadmium is delineated in on-site groundwater.

The Mann-Kendall test for cobalt concentrations in BRGWC-50 indicated that there was insufficent evidence to identify a trend. Samples collected from BRGWC-50 had concentrations approximately an order of magnitude above the screening level.

Two piezometers are downgradient of BRGWC-50, PZ-51I and PZ-51S. Three samples were collected from the downgradient peizometers from August 2018 to October 2019. PZ-51S samples had cobalt concentrations below the screening level, but PZ-51I samples had cobalt concentrations above the screening level. Accordingly, cobalt was not delineated to its health-protective criterion in on-site groundwater and therefore surface water risk screening was performed, as described in Section 3.2.

Mann Kendall trend analysis requires four data points with at least three detections. Trends may be evaluated at the farthest downgradient piezometers from the well with SSL-related constituents, if necessary, after additional sampling events are conducted at the following downgradient locations: PZ-51I and PZ-51S.

4.1.3 Refined Groundwater Risk Evaluation Results

Cadmium and cobalt were identified as groundwater COPIs in the initial risk screening. In the refined risk evaluation, comparison of the calculated EPC to the screening level was used to identify constituents of interest (COIs) that may pose a potential risk to hypothetical off-site residential receptors exposed through the potential use of groundwater as potable water. If the EPC from the farthest downgradient well(s) 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).

4.1.3.1 Cadmium

Cadmium was detected in 11 out of 11 groundwater samples in well BRGWC-50 at concentrations that exceeded the off-site groundwater screening level for residential receptors. For the refined risk evaluation, the following EPCs were calculated for cadmium using the monitoring wells/piezometers shown in **Appendices D-1** and **D-2**:

- Data from BRGWC-50 were combined to determine if the UCL complied with the screening level (EPC Step 1 in **Appendix D-1**).
- Data from BRGWC-50 and the downgradient piezometers PZ-511 and PZ-51S were combined to represent groundwater exposure in the same hydrologically downgradient direction (EPC Step 2 in **Appendix D-1**).
- Data from PZ-51I and PZ-51S were combined to represent groundwater exposure using the wells that are the farthest hydrologically downgradient of wells BRGWC-50 (EPC Step 3 in **Appendix D-1**).

The UCLs for the dataset for BRGWC-50 of 0.0509 mg/L and the combined dataset from BRGWC-50, PZ-51I and PZ-51S of 0.0354 mg/L exceeded the cadmium screening level of 0.0092 mg/L. The UCL for the dataset of the farthest hydraulically downgradient wells (PZ-51I and PZ-51S) of 0.00149 mg/L is below the screening level of 0.0092 mg/L.

Table 3 presents the results of the refined screening comparing the farthest hydrologically downgradient EPC to the screening criterion. Cadmium was not identified as a groundwater COI for hypothetical off-site residential receptors and is not expected to pose a risk to human health through potential potable water use.

4.1.3.2 Cobalt

Cobalt was detected in 11 out of 11 groundwater samples in well BRGWC-50 at concentrations that exceeded the off-site groundwater screening level for residential receptors. For the refined risk evaluation, the following EPCs were calculated for cadmium using the monitoring wells/piezometers shown in **Appendices D-1** and **D-2**:

• Data from BRGWC-50 was used to determine if the UCL complied with the screening level (EPC Step 1 in **Appendix D-1**).

- Data from BRGWC-50 and the downgradient piezometers PZ-51I and PZ-51S were combined to represent groundwater exposure in the same hydrologically downgradient direction (EPC Step 2 in **Appendix D-1**).
- Data from PZ-51I and PZ-51S were combined to represent groundwater exposure using the wells that are the farthest hydrologically downgradient of wells BRGWC-50 (EPC Step 3 in **Appendix D-1**).

The EPC for BRGWC-50 of 1.429 mg/L exceeded the screening level of 0.0135 mg/L. The EPC for the combined dataset from BRGWC-50, PZ-51I and PZ-51S was the maximum detected value of 1.5 mg/L and exceeded the screening level of 0.0135 mg/L for cobalt. The EPC for PZ-51I and PZ-51S combined of 0.0271 mg/L was above the screening level of 0.0135 mg/L for cobalt.

Table 3 presents the results of the refined screening comparing the farthest hydrologically downgradient EPC to the screening criterion. Cobalt was identified as a COI in groundwater and is further evaluated below.

4.2 Surface Water Risk Evaluation

A surface water screening evaluation was conducted for Lake Sinclair for the only groundwater COI (cobalt) identified in the downgradient in the refined groundwater risk evaluation. The surface water screening process is discussed below and presented in **Figure 9**.

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.

4.2.1 Surface Water Data

Surface water data for cobalt come from samples collected during a March 2018 sampling event at five locations in Lake Sinclair. The surface water sample locations are shown on **Figure 10**. The surface water dataset used in the risk evaluation is presented in **Appendix B-2**.

4.2.2 Human Health Screening

The following hierarchy of sources was considered in the process of selecting the surface water human health screening value for cobalt:

- Georgia In-Stream Water Quality Criteria (ISWQC) for human health (EPD, 2015).
- National Ambient Water Quality Criteria (NAWQC) for human health protective through ingestion of water and organisms (USEPA, 2015b). For select constituents for which no numerical values for surface water are provided, USEPA (2015b) states that "EPA has issued an MCL [Maximum Contaminant Level] which may be more stringent" 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 was used for the remaining constituents due to lack of human health surface water screening levels for these constituents, which is a conservative approach.
- Maximum detected upstream concentration if the maximum upstream surface water concentration is greater than the surface water screening value.

For cobalt the higher of the residential groundwater screening levels described in Section 3.2 was used because of the lack of human health surface water screening levels for Georgia ISWQC (EPD, 2015) and national ambient water quality criteria (USEPA, 2015a). The Type 2 RRS was used as a screening value for cobalt; the site-specific use of drinking water screening levels for surface water exposure is a conservative approach likely to overestimate risk as domestic use of Lake Sinclair surface water downgradient of the site for human receptors is an incomplete exposure pathway.

The surface water maximum concentration for cobalt (<0.005 mg/L) was compared to the human health screening level (0.006 mg/L), as shown in **Table 4**. Cobalt was not detected in the surface water samples and the reporting limit was below the surface water human health screening level. Therefore, cobalt was not retained as a human health COPI in surface water 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).
- Maximum detected upstream concentration if the maximum upstream surface water concentration is greater than the surface water screening value.

Because cobalt does not have chronic freshwater Georgia ISWQC for ecological receptors (EPD, 2015), USEPA Region 4 chronic freshwater screening levels for total concentrations (USEPA, 2018) were 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 reporting limit for cobalt (<0.005 mg/L) in surface water, as shown in **Table 5**. Cobalt was not detected in surface water and the analytical reporting limits for all samples were lower than the ecological screening criteria. 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 cadmium and cobalt were reported at concentrations above the corresponding groundwater screening values. The results of the refined groundwater and surface water risk evaluations indicate the following:

- Cadmium was not identified as a groundwater COI for hypothetical off-site residential receptors and is not expected to pose a risk to human health.
- Cobalt was identified as a groundwater COI for hypothetical off-site residential receptors and was evaluated further in adjacent surface water in Lake Sinclair for potential exposure of human and ecological receptors.
- Cobalt was not detected in surface water samples from Lake Sinclair and the analytical reporting limits 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:

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

- In accordance with standard methodologies approved by the Georgia EPD, an equivalent Type 2 risk-based value was selected as the screening criterion for cadmium. Selection of the screening criteria is considered appropriate for risk quantification for AP-BCD. The Hazardous Site Response Act, Rule 391-3-19.07(1) notes that "[a]ll risk reduction standards will, when implemented, provide adequate protection of human health and the environment." Thus, this approach is likely to overestimate hypothetical risks for off-site receptors.
- Screening criteria based on RRS, including cadmium, represent the reasonable maximum exposure (RME), which are the highest exposures that are reasonably expected to occur at a site. 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), which overestimates potential exposure.

Exposure Uncertainties:

• The maximum detected concentrations of cadmium and cobalt were compared to conservative risk-based screening criteria to identify the COPIs. Use of the maximum detected concentration is consistent with standard practice; however, use of the maximum detected concentration for exposure likely overestimates potential risk.
- The constituents included in the risk evaluation, cadmium and cobalt, 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, cadmium and cobalt exposures were likely overestimated.
- Hypothetical off-site residential exposure was evaluated using on-site groundwater data from wells around the perimeter and downgradient of AP-BCD. 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. This assumption may overestimate 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 site was conducted by NewFields in 2019 and consisted of reviewing publicly available federal, state, and county records as well as a windshield survey of the area (**Appendix A**). Geosyntec 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 impact the conclusions of the risk evaluation because concentrations of COPIs are either delineated in on-site groundwater or adjacent surface water.

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 CCR constituents in groundwater exhibiting SSLs was conducted using methods consistent with Georgia EPD and USEPA guidance and included multiple conservative assumptions. As noted above, this risk evaluation addressed only cadmium and cobalt because they were the only CCR constituents identified as SSL-related constituents during compliance groundwater monitoring. Based on this evaluation, cadmium and cobalt are not expected to pose a risk to human health or the environment.

Accordingly, no further assessment of groundwater or surface water is recommended. Compliance monitoring for AP-BCD under the State CCR rule will continue. Georgia Power will proactively evaluate the data and update this evaluation, if necessary.

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TABLES

Table 1SSL-Related Constituent Groundwater ScreeningPlant Branch AP-BCD Risk Evaluation ReportPlant Branch, Milledgeville, GA

CCR Rule Designation	Constituent	CAS No.	Detection Frequency	Exceedance Frequency ^[2]	Maximum Concentration (mg/L)	Screening Level (mg/L)	Source ^[3]	Site-Specific Background (mg/L)	COPI? (Y/N)	Rationale ^[4]
Appondix IV	Cadmium ^[5]	7440-43-9	29 / 114	9 / 114	0.087	0.0092	Type 2 RRS	0.003	Y	ASL ^[6]
Appendix IV	Cobalt	7440-48-4	85 / 114	19 / 114	1.5	0.0135	Background	0.0135	Y	ASL ^[6]

Notes:

[1] Evaluation includes March 2018 through March 2020 groundwater analytical data from downgradient well BRGWC-50.

[2] Selected exceedance frequency is for the specific constituent that exceeds the screening value.

[3] The screening values are the maximum value from the following sources:

- Type 1 RRSs listed in HSRA Appendix III, Table 1 (HSRA-regulated substances only).

- Type 2 RRSs are calculated by the EPA RSL calculator with exposure factors inputs from HSRA Appendix III.

- Site-Specific values calculated using the USEPA RSL calculator with default residential exposure factor listed in the RSL Users Guide.

- Site-specific background levels for Antimony and Cobalt were calculated as described in Georgia EPD rule 391-3-4-.10(6)(a).

[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

[5] The Type 2 RRS for cadmium is based on the "cadmium (water)" parameter in the EPA RSL calculator.

[6] Cadmium exceedances located at BRGWC-50 (2018-2020), Cobalt exceedances located at BRGWC-50 (2018-2020).

Definitions:

Grey shading = Constituent concentration(s) exceeded its respective screening level in the dataset.

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

COPI = Constituent of Potential Interest

EPA = United States Environmental Protection Agency

GA EPD= Georgia Environmental Protection Division

HSRA = [GA EPD] Hazardous Site Response Act

mg/L = milligram(s) per liter

RRS = [GA EPD] Risk Reduction Standard

RSL = [EPA] Regional Screening Level

Table 2Groundwater Exposure Point Concentration SummaryPlant Branch AP-BCD Risk Evaluation ReportPlant Branch, Milledgeville, GA

CCR Rule Designation	Constituent	CAS No.	Exposure Unit	Detection Frequency	Maximum Concentration (mg/L)	95% UCL (mg/L)	Recommended UCL Method	Selected EPC ^[1] (mg/L)
Appondix IV	Cadmium	7440-43-9	Pond B	3 / 6	0.0016	0.00149	95% KM (t) UCL	0.00149
Appendix IV	Cobalt	7440-48-4	Pond B	6/6	0.041	0.0271	95% Student's-t UCL	0.0271

Notes:

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

Table 3 Downgradient Groundwater Residential Refined Evaluation Plant Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgeville, GA

CCR Rule Designation	Constituent	CAS No.	Exposure Unit	Detection Frequency	Exceedance Frequency ^[1]	Selected EPC (mg/L)	Screening Level (mg/L)	Source ^[2]	Site-Specific Background (mg/L)	COI? (Y/N)	Rationale ^[3]
Appendix IV	Cadmium ^[4]	7440-43-9	Pond B	3/6	0/6	0.00149	0.0092	Type 2 RRS	0.001	Ν	BSL
Appendix IV	Cobalt	7440-48-4	Pond B	6/6	3 / 6	0.0271	0.014	Background	0.014	Y	ASL

Notes:

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

[2] The screening values are the maximum value from the following sources:

- Type 1 RRSs listed in HSRA Appendix III, Table 1 (HSRA-regulated substances only).

- Type 2 RRSs calculated using the USEPA RSL calculator with default residential exposure factor listed in the RSL Users Guide (HSRA-regulated substances only).

- Site-Specific values calculated using the USEPA RSL calculator with default residential exposure factor listed in the RSL Users Guide.

- Site-specific background levels for each constituent were calculated as described in Georgia EPD rule 391-3-4-.10(6)(a)

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

- ASL = Above respective screening level

- BSL = Below respective screening level

[4] The Type 2 RRS for cadmium is based on the "cadmium (water)" parameter in the EPA RSL calculator.

Definitions:

Grey shading = Constituent concentration(s) exceeded its respective screening level in the dataset.

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

COPI = Constituent of Potential Interest

EPA = United States Environmental Protection Agency

GA EPD= Georgia Environmental Protection Division

HSRA = [GA EPD] Hazardous Site Response Act

mg/L = milligram(s) per liter

RRS = [GA EPD] Risk Reduction Standard

RSL = [EPA] Regional Screening Level

Table 4 Surface Water Human Health Screening Plant Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgeville, GA

CCR Rule Designation	Constituents	CAS No.	Detection Frequency ^[1]	Exceedance Frequency ^[2]	Maximum Concentration ^[3]	Screening Level	Source ^[4]	Site-Specific Background	COPI? (Y/N)	Rationale ^[5]
					(mg/L)	(mg/L)		(mg/L)		
Appendix IV	Cobalt	7440-48-4	0 / 5	0 / 5	<0.005	0.006	Type 2 RRS	<0.005	N	ND/BSL

Notes:

[1] Evaluation includes 2018 surface water analytical data from LR-1, LR+7A, LR+7B, LR+7.5, and LR+8B.

[2] Selected exceedance frequency is for the specific constituent that exceeds the screening value.

- The hierarchy of screening values is GA ISWQC > NRWQC > The maximum between the Type 1 and Type 2 RRS.

- If site-specific surface water background concentrations are greater than other applicable screening values, the site-specific background value will be used for screening.

[3] Values have been adjusted as stated in the GA ISWQC to compare dissolved concentrations to dissolved screening values and total concentrations to total screening values when appropriate. Conversion factors used to calculate dissolved criteria are found in the EPA document – National Recommended Water Quality Criteria – EPA 2006.

[4] Screening levels were selected from the sources listed below, in the order of preference in which they are listed. If site-specific surface water background concentrations are greater than other applicable screening values, the site-specific background value is used for screening.

1. GA ISWQC = Georgia Instream Water Quality Criteria

2. NRWQC/MCL = National Recommended Water Quality Criteria/EPA Maximum Contaminant Levels (MCLs)

3. The maximum drinking water screening values from the following sources:

- Type 1 RRS for drinking water listed in HSRA Appendix III, Table 1 (HSRA-regulated substances only).

- Type 2 RRS for drinking water that are calculated by the EPA RSL calculator with exposure factors inputs from HSRA Appendix III.

- Site-Specific values calculated using the EPA Regional Screening Level (RSL) calculator with default residential exposure factor listed in the RSL Users Guide.

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

ASL = Above respective screening level;

BSL = Below respective screening level.

ND = Not detected where the maximum detection limit is below the respective screening level.

Definitions:

-- = Not applicable, no data available

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

COPI = Constituent of Potential Interest

EPA = United States Environmental Protection Agency

GA DNR EPD = Georgia Department of Natural Resoruces Environmental Protection Division

GA ISWQC = Georgia Instream Water Quality Criteria

NRWQC = National Recommended Water Quality Criteria

RRS = Risk Reduction Standard

Table 5 Freshwater Surface Water Ecological Screening Plant Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgeville, GA

CCR Rule Designation	Constituents	CAS No.	Detection Frequency	Exceedance Frequency ^[1]	Maximum Concentration (mg/L)	Screening Va Total	lue (mg/L) ^[2,3] Dissolved	Hardness Dependent? (Y/N) ^[4]	Source ^[5]	Site-Specific Background (mg/L)	COPI (Y/N)	Rationale ^[6]
Appendix IV	Cobalt	7440-48-4	0 / 5	0 / 5	<0.005	0.019		N	EPA Reg. 4	<0.005	Ν	ND/BSL

Notes:

[1] Selected 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.

- If site-specific surface water background concentrations are greater than other applicable screening values, the site-specific background value will be used for screening.

[2] The dissolved fraction screening value and the total concentration screening value are presented with the selected screening value used for comparison to the maximum total concentration in bold.
[3] If the screening value listed in the GA ISWQC or EPA Region 4 sources specified that it is applicable to the dissolved metal concentration, a screening level appropriate for comparison to the total metal concentration was calculated using the conversion factors presented in the National Recommended Water Quality Criteria, Appendix A (<u>https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table#a</u>).

[4] The conversion from dissolved form screening level to total form screening level required use of hardness (CaCO₃) information. A hardness of 50 mg/L was assumed for conversion from dissolved fraction to total concentration.

[5] The screening values are the maximum value from the following sources:

- GA ISWQC screening values are from GA Administrative Code 391-3-6-.0 (5)(e)(iii).

- EPA Region 4 screening values are from Table 1a of the Region 4 Ecological Risk Assessment Supplemental Guidance (EPA, 2018).

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

ASL = Above respective screening level

BSL = Below respective screening level

ND = Not detected where the maximum detection limit is below the respective screening level

Definitions:

-- = Not applicable, no data available

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

COPI = Constituent of Potential Interest

EPA = United States Environmental Protection Agency

GA DNR EPD = Georgia Department of Natural Resources Environmental Protection Division

GA ISWQC = Georgia Instream Water Quality Criteria

ORNL = Oak Ridge National Laboratory

RRS = Risk Reduction Standard

SWSV = Surface Water Screening Value

FIGURES











LEGEND

- ♦ Pond BCD Monitoring Well
- A Piezometer
- Estimated Groundwater Surface Contour (feet AMSL)
- -> Estimated Groundwater Flow Directions
- C Ash Pond Boundary
- Approximate Site Boundary

Notes:

1. Groundwater Surface Contour interval = 10 feet

2. Groundwater contours based on linear interpolation between and extrapolation from known data, and topographic contours. Therefore, contours may not reflect actual conditions. 3. PZ-12D* data not used for contouring.

- 4. AMSL=above mean sea level.

5. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community 6. Coordinate System: NAD 1983 State Plane Georgia West (U.S.

Feet).

7. Monitoring Well/Piezometer locations, potentiometric surface elevation contours and property line provided by Southern Company Services.

0 400	800 1,60	oo =eet
POTENTI ELEVA ASH PON	OMETRIC SURFA FION CONTOURS D BCD (JUNE 3, 2	CE - 020)
GE PL PUTNAM	ORGIA POWER ANT BRANCH I COUNTY, GEORGI/	Ą
Prepared For: 📥 G	eorgia Power	
Prepared By:	FIGURE	
KENNESAW, GA	DECEMBER 2020	



Legend

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

Indicates potentially complete pathway to receptors, which are evaluated quantitatively.

0 Indicates potentially complete pathway to receptors, which are evaluated qualitatively.

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.

Figure 4 Conceptual Exposure Model					
Geosvn	PROJ NO. :GZ7112				
consul	ltants	TASK / PHASE:			
Kennesaw, GA	December 2020	5/ 02			





LEGEND

Off Site Wells

- 🛧 Private Drinking Well
- 🛧 Public Drinking Well
- ★ Inactive Public Drinking Well
- 🛧 Surface Water Intake
- 🛧 Monitoring Well
- C Approximate Ash Pond Boundary
- 💋 Parcels likely having a Well

Notes: 1. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community 2. Coordinate System: NAD 1983 State Plane Georgia West (U.S.

Feet). 3. Monitoring Well/Piezometer locations and property line provided by Southern Company Services.



OFF-SITE WELL SURVEY RESULTS

GEORGIA POWER PLANT BRANCH PUTNAM COUNTY, GEORGIA













No further evaluation necessary (cobalt)

* Surface water data collected from Lake Sinclair.	Plant Branch AP-BCD Surface Water Risk Screening Approach
SSL = Statistically Significant Level AWQC = Ambient Water Quality Criteria	Figure 9
COI = Constituent of Interest COPI = Constituent of Potential Interest	Project Number: GZ7112BR December 2020





LEGEND

- C Ash Pond Boundary
- 📘 🚍 Approximate Site Boundary
- ▲ Surface Water Sample Location

Notes: 1. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community 2. Coordinate System: NAD 1983 State Plane Georgia West (U.S. Feet). 3. Monitoring Well/Piezometer locations and property line provided by Southern Company Services.

0 750	1,500 3,0	⁰⁰ Feet				
SU SAN	RFACE WATER IPLE LOCATION					
GE0 PL PUTNAM	GEORGIA POWER PLANT BRANCH PUTNAM COUNTY, GEORGIA					
Prepared For: 📥 🤆	ieorgia Power					
Prepared By:		FIGURE				
KENNESAW, GA	DECEMBER 2020					

APPENDIX A

Plant Branch Well Survey (Off-Site)



Well Survey

Plant Branch Ash Ponds B, C, D and E Putnam County, 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 Branch is located on the northern shore of Lake Sinclair near Milledgeville and Eatonton in Putnam County.

Newfields conducted a well survey of potential drinking water wells within a three-mile radius of the Coal Combustion Residual (CCR) facilities at Plant Branch: Ash Ponds B, C, D and E. 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 USGS-affiliated programs for ground-water levels or water quality parameters at any time in the past.¹ Well information and coordinates were downloaded for the state of Georgia and compiled into the GIS database. Wells in this database are labeled 'human drinking water' or 'monitoring wells'; however, many of the monitoring wells appear to be co-located with drinking water wells. Some of these USGS monitoring wells 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.

In addition, the USGS data contains information about major surface water intakes, including both industrial and municipal drinking water intakes. Specific information about the operator and use of the water is not included, but can be determined using information from other sources. Three surface water intakes are present on Lake Sinclair. One intake is located on Georgia Power property and was assumed to be associated with former plant operations. The others appear to belong to the Sinclair Water Authority.

- 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 area is supplied primarily by the Sinclair Water Authority.
- 2. State Sources

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

a. Georgia Environmental Protection Division

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 23rd, 2019 requesting information about wells in the Investigated Area. He confirmed there is one active well at the Georgia Power Skills Development Center at Plant Branch, and two active wells for the Scenic Shores Subdivision. The Skills Development Center well is located on Georgia Power property approximately 0.25 miles northwest of Ash Ponds B, C and D. This well is a transient well serving approximately 60 people annually (i.e., the population changes and the system is not regularly serving the same people). The locations of the two Scenic Shores wells were established using a combination of information from the EPD Drinking Water Branch website, parcel data, and aerial photography. These two wells are 2.3 and 2.6 miles northeast from Ash Ponds B, C and D, across Lake Sinclair. The Scenic Shores system serves a residential population of 1,095.

NewFields also used the Drinking Water Branch website to identify the subdivisions in the Investigated Area that have inactive community water systems. As discussed below, even though these subdivisions are older than the primary public water infrastructure in the area, they were designed to use community systems, not maintain private wells. These systems have since been connected to the Sinclair Water Authority system

- ii. EPD Pesticide Project. From 2000 to 2004, EPD undertook a project to sample private drinking water wells for pesticides. EPD solicited volunteers state-wide to participate in the well sampling program. The final report includes the list of private water wells sampled, their coordinates, and depths when available.² Information about wells within the Investigated Area were compiled into the GIS database.
- iii. Hazardous Site Inventory (HSI) files. EPD maintains the HSI files for sites which are undergoing state-led corrective action. These files usually contain groundwater data and well surveys. There are no HSI sites or related data or well surveys within the Investigated Area.
- iv. 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 in Carroll and Coweta County. No wells were identified within the Investigated Area.
- b. **Agricultural and Environmental Services Laboratory (AESL) records.** The University of Georgia's AESL Laboratory tests drinking water samples submitted by private individuals to

² https://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/PR-55.pdf

their local county extension service. Maps of these sampling results can be viewed online.³ Precise coordinates are not available, but NewFields was able to use online images to find approximate locations.

- 3. County Sources
 - a. **Health Department Records.** County health departments (DOH) maintain records of the permits for "on-site sewage management systems" (septic tanks). These permits indicate whether the permittee has private or public water supply, and often identify the exact location of the well on a map. Putnam and Branch counties do not maintain these records in a manner where they are easily searchable using geographic criteria and, as a result no wells could be identified from septic records.
 - b. Water Authority Records. The Sinclair Water Authority stated that water lines in the area were installed approximately 12 years ago. The Authority also confirmed that when the water lines were installed, many smaller community water systems operated by subdivisions stopped using their wells and connected to the Sinclair Water Authority System. Sinclair Water Authority is a surface water system that is drawing their water supply from Lake Sinclair.
 - c. **Tax Assessor Records.** NewFields utilized a tax parcel shapefile acquired from a third-party vendor dated January 2019. NewFields joined that information to parcel improvement data provided by the Putnam County Tax Assessor on November 13, 2019. NewFields also acquired a tax parcel shapefile for Baldwin County on October 23, 2019. However, parcel improvement data was not available from Baldwin County. A download of all the parcel data for Hancock County was not available, but parcel was able to use the tax assessors Web site to establish the location of the Scenic Shores Subdivision wells.
- 4. Windshield Surveys
 - a. A windshield survey of the Investigated Area was conducted on November 7, 2019. During the survey wells were visually identified and compiled into the GIS database. The majority of wells identified during the survey were near residences.

Summary

Public water is available throughout the Investigated Area. The water lines are approximately 12 years old; therefore, the majority of the nearby residences were built before municipal water was available. The source of the public water supply in the area is Lake Sinclair. The nearest surface water intake for that system is located approximately 1.75 miles to the northeast of Ash Ponds B, C and D.

There are three active public wells and eleven inactive public wells in the Investigated Area. The active Skills Development Center well is located on Georgia Power property approximately 0.25 miles northeast from Ash Ponds B, C, and D. This well is a transient well serving approximately 60 people

NewFields

³ http://aesl.ces.uga.edu/water/map/

annually. The locations of the two active Scenic Shores wells were established using a combination of information from the EPD Drinking Water Branch website, parcel data, and aerial photography. These two wells are 2.3 and 2.6 miles northeast from Ash Ponds B, C, and D, across Lake Sinclair. The Scenic Shores system serves a residential population of 1,095. Active public wells and the surface water intake are highlighted on Table 1.

Private wells are also present in the Investigated Area. In addition to identifying specific private wells from the above listed sources, NewFields used a combination of parcel data and information about the presence and age of public water infrastructure in Putnam County to identify parcels that may be (or have been) using private well water as their drinking water source. Several subdivisions, including Flat Rock, Forest Village, and Tanglewood, were built with community water systems that are now inactive due the expansion of the Sinclair Water Authority System. These residences were all assumed to now be connected to municipal water and omitted from this analysis regardless of age.

Parcels outside of these subdivisions and built before 2006 were assumed to be associated with a well. Many of these parcels may be (or have been) sharing wells, so a well may not exist for each identified parcel. While these wells are labeled 'drinking water wells' in Table 1, many of those may be inactive.

Parcel improvement data could not be obtained in the Baldwin or Hancock county portions of the Investigated Area, so no parcels were identified in these areas.

Combining well data from all sources with parcel data, NewFields identified 1,143 total parcels with a potentially active or inactive private well within the Investigated Area. Parcel data identified 999 parcels with a potential well. The windshield survey identified 239 wells. Seventeen wells were identified using USGS sources, five from the UGA Laboratory program, and two from the EPD Pesticide Sampling Project. Many wells were identified by multiple sources.⁴

Figure 1 shows points for identified wells in the Investigated Area. The shaded parcels on Figure 1 are the parcels that were identified from parcel data as likely to contain wells. When viewed as a PDF file, the figure is interactive, and wells identified using different sources can be turned on and off.

⁴ USGS monitoring wells located on Georgia Power property were also considered not to be drinking water wells and omitted.



APPENDIX B Data Used in Risk Evaluation

Appendix B Appendix B-1 Groundwater Data Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgeville, GA

		Constituent	Cadmium	Cobalt
Well ID ^[1]	Sample Date	Units	mg/L	mg/L
		Ash Pond		
BRGWC-50	3/15/2018	AP-B,C,D	0.038	1.3
BRGWC-50	5/1/2018	AP-B,C,D	0.011	1.4
BRGWC-50	6/28/2018	AP-B,C,D	0.087	1.3
BRGWC-50	8/1/2018	AP-B,C,D	0.042	1.4
BRGWC-50	10/29/2018	AP-B,C,D	0.083	1.4
BRGWC-50	11/28/2018	AP-B,C,D	0.031	1.4
BRGWC-50	12/19/2018	AP-B,C,D	0.042	1.5
BRGWC-50	1/16/2019	AP-B,C,D	0.028	1.4
BRGWC-50	8/29/2019	AP-B,C,D	0.0071	1.3
BRGWC-50	10/16/2019	AP-B,C,D	0.014	1.4
BRGWC-50	3/4/2020	AP-B,C,D	0.013	1.5
PZ-511	8/3/2018	AP-B,C,D	0.0015	0.041
PZ-51I	1/19/2019	AP-B,C,D	0.0016	0.018
PZ-51I	10/18/2019	AP-B,C,D	0.00083 J	0.017
PZ-51S	8/2/2018	AP-B,C,D	<0.001 ND	0.0079 J
PZ-51S	1/18/2019	AP-B,C,D	<0.001 ND	0.0082 J
PZ-51S	10/18/2019	AP-B,C,D	<0.00011 ND	0.0063

Notes:

Bold = the constituent was detected in the sample.

mg/L milligrams(s) per liter

< = Non-detect result; the reporting limit is presented

J = Estimated value; the presented value is below the reporting limit but above the method detection limit.

(ND) = Non-detect result; the reporting limit is presented

Appendix B Appendix B-2 Surface Water Data Plant Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgville, GA

		Constituent	Cobalt
		Units	mg/L
Sample ID	Sample Date	Surface Water Body	
LR+7.5	3/26/2018	Lake Sinclair	<0.005 ND
LR+7A	3/26/2018	Lake Sinclair	<0.005 ND
LR+7B	3/26/2018	Lake Sinclair	<0.005 ND
LR+8B	3/26/2018	Lake Sinclair	<0.005 ND
LR-1	3/26/2018	Lake Sinclair	<0.005 ND

Notes:

mg/L milligrams(s) per liter

< = Non-detect result; the reporting limit is presented

(ND) = Non-detect result; the reporting limit is presented

APPENDIX C

USEPA RSL Calculator Generated Residential Screening Levels

Appendix C USEPA RSL Calculator Generated Residential Screening Levels Plant Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgeville, 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/m3	0.5
lsc (apparent thickness of stratum corneum) cm	0.001
EDres (exposure duration - resident) years	26
EDres-c (exposure duration - child) years	6
EDres-a (exposure duration - adult) years	20
ED0-2 (mutagenic exposure duration first phase) years	2
ED2-6 (mutagenic exposure duration second phase) years	4
ED6-16 (mutagenic exposure duration third phase) years	10
ED16-26 (mutagenic exposure duration fourth phase) years	10
EFres (exposure frequency) days/year	350
EFres-c (exposure frequency - child) days/year	350
EFres-a (exposure frequency - adult) days/year	350
EF0-2 (mutagenic exposure frequency first phase) days/year	350
EF2-6 (mutagenic exposure frequency second phase) days/year	350
EF6-16 (mutagenic exposure frequency third phase) days/year	350
EF16-26 (mutagenic exposure frequency fourth phase) days/year	350
ETevent-res-adj (age-adjusted exposure time) hours/event	0.67077
ETevent-res-madj (mutagenic age-adjusted exposure time) hours/event	0.67077
ETres (exposure time) hours/day	24
ETres-c (dermal exposure time - child) hours/event	0.54
ETres-a (dermal exposure time - adult) hours/event	0.71
ETres-c (inhalation exposure time - child) hours/day	24
ETres-a (inhalation exposure time - adult) hours/day	24
ET0-2 (mutagenic inhalation exposure time first phase) hours/day	24
ET2-6 (mutagenic inhalation exposure time second phase) hours/day	24
ET6-16 (mutagenic inhalation exposure time third phase) hours/day	24
ET16-26 (mutagenic inhalation exposure time fourth phase) hours/day	24
ETO-2 (mutagenic dermal exposure time first phase) hours/event	0.54
ET2-6 (mutagenic dermal exposure time second phase) hours/event	0.54
ET6-16 (mutagenic dermal exposure time third phase) hours/event	0.71
ET16-26 (mutagenic dermal exposure time fourth phase) hours/event	0.71
BWres-a (body weight - adult) kg	80
BWres-c (body weight - child) kg	15
BW0-2 (mutagenic body weight) kg	15
BW2-6 (mutagenic body weight) kg	15
BW6-16 (mutagenic body weight) kg	80
BW16-26 (mutagenic body weight) kg	80
IFWres-adj (adjusted intake factor) L/kg	327.95
IFWres-adj (adjusted intake factor) L/kg	327.95
IFWMres-adj (mutagenic adjusted intake factor) L/kg	1019.9
IFWMres-adj (mutagenic adjusted intake factor) L/kg	1019.9
IRWres-c (water intake rate - child) L/day	0.78
IRWres-a (water intake rate - adult) L/day	2.5
IRW0-2 (mutagenic water intake rate) L/day	0.78
IRW2-6 (mutagenic water intake rate) L/day	0.78
IRW6-16 (mutagenic water intake rate) L/day	2.5
IRW16-26 (mutagenic water intake rate) L/day	2.5
EVres-a (events - adult) per day	1
EVres-c (events - child) per day	1
EVO-2 (mutagenic events) per day	1
EV2-6 (mutagenic events) per day	1
EV6-16 (mutagenic events) per day	1
EV16-26 (mutagenic events) per day	1
DFWres-adj (age-adjusted dermal factor) cm2-event/kg	2610650
DFWMres-adj (mutagenic age-adjusted dermal factor) cm2-event/kg	8191633
SAres-c (skin surface area - child) cm2	6365
SAres-a (skin surface area - adult) cm2	19652
SAU-2 (mutagenic skin surface area) cm2	6365
SA2-6 (mutagenic skin surface area) cm2	6365
SAb-16 (mutagenic skin surface area) cm2	19652
SA16-26 (mutagenic skin surface area) cm2	19652

Output generated 06NOV2019:16:09:05

Appendix C USEPA RSL Calculator Generated Residential Screening Levels Plant Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgeville, GA

Chemical	Cadmium (Water)	Cobalt
CAS Number	7440-43-9	7440-48-4
Mutagen?	No	No
Volatile?	No	No
Chemical Type	Inorganics	Inorganics
Sfo (mg/kg-day)-1	-	-
Sfo Ref		
IUR (ug/m3)-1	0.0018	0.009
IUR Ref	_	Р
RfD (mg/kg-day)	0.0005	0.0003
RfD Ref	I	Р
RfC (mg/m3)	0.00001	0.000006
RfC Ref	А	Р
GIABS	0.05	1
Kp (cm/hr)	0.001	0.0004
MW	112	58.9
B (unitless)	0.00408	0.00118
t* (hr)	1.08	0.54
τevent (hr/event)	0.448	0.225
FA (unitless)	1	1
In EPD?	Yes	Yes
DAevent (ca)	-	-
DAevent (nc child)	0.0000614	0.000737
DAevent (nc adult)	0.000106	0.00127
MCL (ug/L)	5	-
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)	10	6.02
Dermal SL Child THQ=1 (ug/L)	114	3410
Inhalation SL Child THQ=1 (ug/L)	-	-
Noncarcinogenic SL Child THI=1 (ug/L)	9.22	6.01
Ingestion SL Adult THQ=1 (ug/L)	16.7	10
Dermal SL Adult THQ=1 (ug/L)	149	4480
Inhalation SL Adult THQ=1 (ug/L)	-	-
Noncarcinogenic SL Adult THI=1 (ug/L)	15	9.99
Screening Level (ug/L)	9.22E+00 nc	6.01E+00 nc

Notes

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.

APPENDIX D

Support for Refined Risk Evaluation

Appendix D-1

Exposure Point Concentration Calculation Results
Appendix D

Appendix D-1

Exposure Point Concentration Calculation Details^[1] Plant Branch AP-BCD Risk Evaluation Report

Plant Branch, Milledgeville, GA

						EPC Step 1	EPC Step 2	EPC Step 3
CCR Rule Designation	Constituent	Well IDs Maximum Included Concentration		Detection Frequency	Exceedance Frequency	Individual Target Well(s)	Target Well(s)& Adjacent Well(s) & Downgradient Well(s)	Farthest Downgradient Well(s)
						March 2018-	March 2018- March	March 2018-
						March 2020	2020	March 2020
			(mg/L)			(mg/L)	(mg/L)	(mg/L)
		BRGWC-50	0.087	11 / 11	10 / 11	0.0509		
	Codmium	BRGWC-50						
		PZ-51S	0.087	13 / 17	7 9/17		0.0354	
	Caumum	PZ-51I						
		PZ-51S	0.0016	3/6	0/6			0.00140
Appondix IV		PZ-51I	0.0016	5/0	070			0.00149
Appendix IV		BRGWC-50	1.5	11 / 11	11 / 11	1.429		
		BRGWC-50						
	Cobalt	PZ-51S	1.5	17 / 17	14 / 17		1.5	
	Cobait	PZ-51I						
		PZ-51S	0.041	6 / 6	2/6			0.0271
		PZ-511	0.041	0/0	3/0			0.0271

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

Appendix D-2 Exposure Point Concentration Figures



Appendix D-3 ProUCL Input/Output Files Appendix D Appendix D-3 ProUCL Output Plant Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgeville, GA

	AP-BCD										
Step 1 EPC Calculation Input				Step 2 EPC Calculation Input				Step 3 EPC Calculation Input			
Step1_Cadmium	D_Step1_Cadmium	Step1_Cobalt	D_Step1_Cobalt	Step2_Cadmium	D_Step2_Cadmium	Step2_Cobalt	D_Step2_Cobalt	Step3_Cadmium	D_Step3_Cadmium	Step3_Cobalt	D_Step3_Cobalt
0.038	1	1.3	1	0.038	1	1.3	1	0.0015	1	0.041	1
0.011	1	1.4	1	0.011	1	1.4	1	0.0016	1	0.018	1
0.087	1	1.3	1	0.087	1	1.3	1	0.00083	1	0.017	1
0.042	1	1.4	1	0.042	1	1.4	1	0.001	0	0.0079	1
0.083	1	1.4	1	0.083	1	1.4	1	0.001	0	0.0082	1
0.031	1	1.4	1	0.031	1	1.4	1	0.00011	0	0.0063	1
0.042	1	1.5	1	0.042	1	1.5	1				
0.028	1	1.4	1	0.028	1	1.4	1				
0.0071	1	1.3	1	0.0071	1	1.3	1				
0.014	1	1.4	1	0.014	1	1.4	1				
0.013	1	1.5	1	0.0015	1	0.041	1				
				0.0016	1	0.018	1				
				0.00083	1	0.017	1				
				0.001	0	0.0079	1				
				0.001	0	0.0082	1				
				0.00011	0	0.0063	1				
				0.013	1	1.5	1				

Notes:

EPC= Exposure point Concentration

Appendix D Appendix D-3 ProUCL Output Plant Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgeville, GA

UCL Statistics for Data Sets with Non-Detects

User Selected Options	5
Date/Time of Computation	ProUCL 5.19/15/2020 12:26:44 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Step1_Cadmium

	Genera	al Statistics	
Total Number of Observations	11	Number of Distinct Observations	10
		Number of Missing Observations	0
Minimum	0.0071	Mean	0.036
Maximum	0.087	Median	0.031
SD	0.0273	Std. Error of Mean	0.00823
Coefficient of Variation	0.758	Skewness	1.043
	Norma	I GOF Test	
Shapiro Wilk Test Statistic	0.856	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.85	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.231	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.251	Data appear Normal at 5% Significance Level	
Data appe	ar Normal	at 5% Significance Level	
As	suming No	ormal Distribution	
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.0509	95% Adjusted-CLT UCL (Chen-1995)	0.0523
		95% Modified-t UCL (Johnson-1978)	0.0514
	Gamma	a GOF Test	
A-D Test Statistic	0.338	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.739	Detected data appear Gamma Distributed at 5% Significance Le	evel
K-S Test Statistic	0.173	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.259	Detected data appear Gamma Distributed at 5% Significance Le	evel
Detected data appear	r Gamma I	Distributed at 5% Significance Level	
	Gamm	a Statistics	
k hat (MLE)	1.927	k star (bias corrected MLE)	1.462
Theta hat (MLE)	0.0187	Theta star (bias corrected MLE)	0.0246
nu hat (MLE)	42.39	nu star (bias corrected)	32.16
MLE Mean (bias corrected)	0.036	MLE Sd (bias corrected)	0.0298
		Approximate Chi Square Value (0.05)	20.2
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	18.67
As	suming Ga	mma Distribution	

95% Approximate Gamma UCL (use when n>=50)) 0.0573

95% Adjusted Gamma UCL (use when n<50) 0.062

	Lognormal GOF Test	
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.155	Lilliefors Lognormal GOF Test
5% Lilliefors Critical Value	0.251	Data appear Lognormal at 5% Significance Level
Data appear	Lognormal at 5% Significa	nce Level
	Lognormal Statistics	
Minimum of Logged Data	-4.948	Mean of logged Data
Maximum of Logged Data	-2.442	SD of logged Data

Assuming Lognormal Distribution

95% H-UCL	0.0758	90% Chebyshev (MVUE) UCL	0.065
95% Chebyshev (MVUE) UCL	0.0779	97.5% Chebyshev (MVUE) UCL	0.0957
99% Chebyshev (MVUE) UCL	0.131		

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0495	95% Jackknife UCL	0.0509
95% Standard Bootstrap UCL	0.0489	95% Bootstrap-t UCL	0.0583
95% Hall's Bootstrap UCL	0.0689	95% Percentile Bootstrap UCL	0.0494
95% BCA Bootstrap UCL	0.0508		
90% Chebyshev(Mean, Sd) UCL	0.0607	95% Chebyshev(Mean, Sd) UCL	0.0719
97.5% Chebyshev(Mean, Sd) UCL	0.0874	99% Chebyshev(Mean, Sd) UCL	0.118

Suggested UCL to Use

95% Student's-t UCL 0.0509

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.

Step1_Cobalt

	General Statistics		
Total Number of Observations	11	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	1.3	Mean	1.391
Maximum	1.5	Median	1.4
SD	0.0701	Std. Error of Mean	0.0211
Coefficient of Variation	0.0504	Skewness	0.123
	Normal GOF Test		
Shapiro Wilk Test Statistic	0.822	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.85	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.279	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.251	Data Not Normal at 5% Significance Level	
Data Not	Normal at 5% Significa	nce Level	
As	suming Normal Distribut	ion	
95% Normal UCL		95% UCLs (Adjusted for Skewness)	

95% Student's-t UCL 1.429

95% UCLs (Adjusted for Skewness) 95% Adjusted-CLT UCL (Chen-1995) 1.426

95% Adjusted-CLT UCL (Chen-1995)	1.426
95% Modified-t UCL (Johnson-1978)	1.429

-3.605 0.819

Gamma GOF Test

	Gamma GOF Test	
A-D Test Statistic	1.017	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.726	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.288	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.254	Data Not Gamma Distributed at 5% Significance Level
Data Not Gamm	na Distributed at 5% Sig	nificance Level

Gamma Statistics

k hat (MLE)	434	k star (bias corrected MLE)	315.7
Theta hat (MLE)	0.0032	Theta star (bias corrected MLE)	0.00441
nu hat (MLE)	9549	nu star (bias corrected)	6946
MLE Mean (bias corrected)	1.391	MLE Sd (bias corrected)	0.0783
		Approximate Chi Square Value (0.05)	6753
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	6722

As	suming Gamma	Distribution	
% Approximate Gamma UCL (use when n>=50))	1.431	95% Adjusted Gamma UCL (use when n<50)	1.437
	Lognormal GC	DF Test	
Shapiro Wilk Test Statistic	0.822	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.85	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.288	Lillefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.251	Data Not Lognormal at 5% Significance Level	
Data Not	Lognormal at 5%	5 Significance Level	
	Lognormal St	atistics	
Minimum of Logged Data	0.262	Mean of logged Data	0.329
Maximum of Logged Data	0.405	SD of logged Data	0.0503
Ass	uming Lognorma	al Distribution	
95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	1.454
95% Chebyshev (MVUE) UCL	1.483	97.5% Chebyshev (MVUE) UCL	1.523
99% Chebyshev (MVUE) UCL	1.601		
Nonparam	etric Distribution	Free UCL Statistics	
Data do not	follow a Discern	ible Distribution (0.05)	
Nonpa	rametric Distrib	ution Free UCLs	
95% CLT UCL	1.426	95% Jackknife UCL	1.429
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	1.454	95% Chebyshev(Mean, Sd) UCL	1.483
97.5% Chebyshev(Mean, Sd) UCL	1.523	99% Chebyshev(Mean, Sd) UCL	1.601
, , , , , , , , , , , , , , , , , , , ,			

Suggested UCL to Use

95% Student's-t UCL 1.429

Shapiro Wilk Test Statistic 0.85

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.

Step2_Cadmium

95

	General Statistics		
Total Number of Observations	17	Number of Distinct Observations	15
Number of Detects	14	Number of Non-Detects	3
Number of Distinct Detects	13	Number of Distinct Non-Detects	2
Minimum Detect	8.3000E-4	Minimum Non-Detect	1.1000E-4
Maximum Detect	0.087	Maximum Non-Detect	0.001
Variance Detects	7.9128E-4	Percent Non-Detects	17.65%
Mean Detects	0.0286	SD Detects	0.0281
Median Detects	0.021	CV Detects	0.984
Skewness Detects	1.142	Kurtosis Detects	0.571
Mean of Logged Detects	-4.264	SD of Logged Detects	1.499

or 95% Modified-t UCL 1.429

Normal GOF Test on Detects Only

Shapiro Wilk GOF Test

 5% Shapiro Wilk Critical Value
 0.874
 Detected Data Not Normal at 5% Significance Level

 Lilliefors Test Statistic
 0.198
 Lilliefors GOF Test

5% Lilliefors Critical Value 0.226 Detected Data appear Normal at 5% Significance Level

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0236	KM Standard Error of Mean	0.00676
KM SD	0.0268	95% KM (BCA) UCL	0.0339
95% KM (t) UCL	0.0354	95% KM (Percentile Bootstrap) UCL	0.0347
95% KM (z) UCL	0.0347	95% KM Bootstrap t UCL	0.0407
90% KM Chebyshev UCL	0.0439	95% KM Chebyshev UCL	0.053
97.5% KM Chebyshev UCL	0.0658	99% KM Chebyshev UCL	0.0908

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.318	Anderson-Darling GOF Test
5% A-D Critical Value	0.767	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.138	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.237	Detected data appear Gamma Distributed at 5% Significance Level
Detected data annear	Gemme Diet	rributed at 5% Significance Level

Gamma	Statistics on	Detected Data Only	
k hat (MLE)	0.833	k star (bias corrected MLE)	0.702
Theta hat (MLE)	0.0343	Theta star (bias corrected MLE)	0.0407
nu hat (MLE)	23.33	nu star (bias corrected)	19.66
Mean (detects)	0.0286		
Gamma ROS	S Statistics u	sing Imputed Non-Detects	
GROS may not be used when data	set has > 50%	NDs with many tied observations at multiple DLs	
GROS may not be used when kstar of detects is	small such as	s <1.0, especially when the sample size is small (e.g., <15-20)	
For such situations, GROS	method may	yield incorrect values of UCLs and BTVs	
This is espec	cially true whe	n the sample size is small.	
For gamma distributed detected data, BTVs	and UCLs ma	y be computed using gamma distribution on KM estimates	
Minimum	8.3000E-4	Mean	0.0253
Maximum	0.087	Median	0.013
SD	0.0264	CV	1.043
k hat (MLE)	0.903	k star (bias corrected MLE)	0.783
Theta hat (MLE)	0.028	Theta star (bias corrected MLE)	0.0323
nu hat (MLE)	30.71	nu star (bias corrected)	26.62
Adjusted Level of Significance (β)	0.0346		
Approximate Chi Square Value (26.62, α)	15.86	Adjusted Chi Square Value (26.62, β)	14.99
95% Gamma Approximate UCL (use when n>=50)	0.0425	95% Gamma Adjusted UCL (use when n<50)	0.0449
Estimates of (Jamma Para	natere using KM Estimates	
Mean (KM)	0.0236	SD (KM)	0.0268
Variance (KM)	7.2088E-4	SE of Mean (KM)	0.00676
k hat (KM)	0.772	k star (KM)	0.675
nu hat (KM)	26.25	nu star (KM)	22.95
theta hat (KM)	0.0306	theta star (KM)	0.0349
80% gamma percentile (KM)	0.0388	90% gamma percentile (KM)	0.0597
95% gamma percentile (KM)	0.0814	99% gamma percentile (KM)	0.133
Gamr	na Kaplan-Me	eler (KM) Statistics	12.28
95% Gamma Approximate KM-UCL (use when n>=50)	0.0415	95% Gamma Adjusted KM-UCL (use when n<50)	0.0441
	0.0410		0.0441
Lognormal G	OF Test on D	etected Observations Only	
Shapiro Wilk Test Statistic	0.901	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.874	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.177	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.226	Detected Data appear Lognormal at 5% Significance Level	
Detected Data a	ppear Lognoi	mai at 5% Significance Level	
Lognormal RC	S Statistics I	Jsing Imputed Non-Detects	
Mean in Original Scale	0.0236	Mean in Log Scale	-4.822
SD in Original Scale	0.0276	SD in Log Scale	1.847
95% t UCL (assumes normality of ROS data)	0.0353	95% Percentile Bootstrap UCL	0.0351
95% BCA Bootstrap UCL	0.0364	95% Bootstrap t UCL	0.0407
95% H-UCL (Log ROS)	0.295		
Statistics using KM estimates	a on Logged [Data and Assuming Lognormal Distribution	
KM Mean (logged)	-5.001	KM Geo Mean	0.00673
KM SD (logged)	2.101	95% Critical H Value (KM-Log)	4.575
KM Standard Error of Mean (logged)	0.543	95% H-UCL (KM -Log)	0.677
KM SD (logged)	2.101	95% Critical H Value (KM-Log)	4.575
KM Standard Error of Mean (logged)	0.543		
	DL/2 St	tatistics	
DL/2 Normal	5220	DL/2 Log-Transformed	
Mean in Original Scale	0.0236	Mean in Log Scale	-4.983
SD in Original Scale	0.0277	SD in Log Scale	2.143
95% t UCL (Assumes normality)	0.0353	95% H-Stat UCL	0.823
DL/2 is not a recommended n	nethod, provid	led for comparisons and historical reasons	
Nonorom	etric Dietribut	tion Free LICI Statistics	
Detected Data appear App	roximate Nor	mal Distributed at 5% Significance Level	
		· · · · · · · · · · · · · · · · · · ·	

Suggested UCL to Use

95% KM (t) UCL 0.0354

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

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.

Step2_Cobalt

	General Stati	stics	
Total Number of Observations	17	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	0.0063	Mean	0.906
Maximum	1.5	Median	1.3
SD	0.679	Std. Error of Mean	0.165
Coefficient of Variation	0.75	Skewness	-0.654
	Normal GOF	Test	
Shapiro Wilk Test Statistic	0.674	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.892	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.366	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.207	Data Not Normal at 5% Significance Level	
Data No	t Normal at 5% S	ignificance Level	
As	suming Normal C	Distribution	
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.193	95% Adjusted-CLT UCL (Chen-1995)	1.149
		95% Modified-t UCL (Johnson-1978)	1.189
	Commo COE	Test	
A D Test Statistic	2 079	Andorron Darling Commo COE Toot	
A-D Test Statistic	2.978	Dete Net Comme Distributed at 5% Significance Lovel	
5% A-D Critical Value	0.796	Lata Not Gamma Distributed at 5% Significance Level	
F ² K S Critical Value	0.415	Data Net Comma Distributed at 5% Significance Lovel	
5% K-S Childal Value	0.221	5% Significance Level	
Data Not Gain		5% Significance Lever	
	Gamma Stati	stics	
k hat (MLE)	0.519	k star (bias corrected MLE)	0.466
Theta hat (MLE)	1.746	Theta star (bias corrected MLE)	1.942
nu hat (MLE)	17.64	nu star (bias corrected)	15.86
MLE Mean (bias corrected)	0.906	MLE Sd (bias corrected)	1.326
		Approximate Chi Square Value (0.05)	7.862
Adjusted Level of Significance	0.0346	Adjusted Chi Square Value	7.277
As	suming Gamma I	Distribution	
95% Approximate Gamma UCL (use when n>=50))	1.827	95% Adjusted Gamma UCL (use when n<50)	1.974
Objective Mills Telet Objective	Lognormal GO	- Lest	
Snapiro Wilk Test Statistic	0.679	Snapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Chucal Value	0.692		
Eliliefors Test Statistic	0.398	Lillerors Lognormal GOF Test	
5% Lineors Crucal value	0.207	Significance Level	
	-ognormal at 076		
	Lognormal Sta	tistics	
Minimum of Logged Data	-5.067	Mean of logged Data	-1.317
Maximum of Logged Data	0.405	SD of logged Data	2.33
Ass	uming Lognormal	Distribution	
95% H-UCL	74.74	90% Chebyshev (MVUE) UCL	7.845
95% Chebyshev (MVUE) UCL	10.21	97.5% Chebyshev (MVUE) UCL	13.5
99% Chebyshev (MVUE) UCL	19.95		
Nonparame	etric Distribution I	Free UCL Statistics	
Data do not 1	iollow a Discernit	ie Distribution (0.05)	

Nonparametric Distribution Free UCLs

1.193	95% Jackknife UCL	1.177	95% CLT UCL
1.156	95% Bootstrap-t UCL	1.169	95% Standard Bootstrap UCL
1.153	95% Percentile Bootstrap UCL	1.124	95% Hall's Bootstrap UCL
		1.15	95% BCA Bootstrap UCL
1.624	95% Chebyshev(Mean, Sd) UCL	1.4	90% Chebyshev(Mean, Sd) UCL
2.545	99% Chebyshev(Mean, Sd) UCL	1.935	97.5% Chebyshev(Mean, Sd) UCL

Suggested UCL to Use

99% Chebyshev (Mean, Sd) UCL 2.545

Recommended UCL exceeds the maximum observation

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.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Step3_Cadmium

General Statistics

	General Statistics		
Total Number of Observations	6	Number of Distinct Observations	5
Number of Detects	3	Number of Non-Detects	3
Number of Distinct Detects	3	Number of Distinct Non-Detects	2
Minimum Detect	8.3000E-4	Minimum Non-Detect	1.1000E-4
Maximum Detect	0.0016	Maximum Non-Detect	0.001
Variance Detects	1.7530E-7	Percent Non-Detects	50%
Mean Detects	0.00131	SD Detects	4.1869E-4
Median Detects	0.0015	CV Detects	0.32
Skewness Detects	-1.622	Kurtosis Detects	N/A
Mean of Logged Detects	-6.678	SD of Logged Detects	0.362

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

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 on Detects Only

Shapiro Wilk Test Statistic	0.846	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.342	Lilliefors GOF Test
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level
Detected Data a	ppear Normal at 5% Sig	nificance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	8.3000E-4	KM Standard Error of Mean	3.2895E-4
KM SD	5.8859E-4	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.00149	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.00137	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	0.00182	95% KM Chebyshev UCL	0.00226
97.5% KM Chebyshev UCL	0.00288	99% KM Chebyshev UCL	0.0041

Gamma GOF Tests on Detected Observations Only Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	12.57	k star (bias corrected MLE)	N/A
Theta hat (MLE)	1.0424E-4	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	75.4	nu star (bias corrected)	N/A
Mean (detects)	0.00131		

Gamma ROS Statistics using Imputed Non-Detects

	0% NDs with many tied observations at multiple DLs	set has > 50	GROS may not be used when data			
	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)					
	For such situations, GROS method may yield incorrect values of UCLs and BTVs					
	hen the sample size is small.	cially true w	This is espec			
	nay be computed using gamma distribution on KM estimates	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates				
0.00566	Mean	8.3000E-4	Minimum			
0.0058	Median	0.01	Maximum			
0.843	CV	0.00477	SD			
0.717	k star (bias corrected MLE)	1.212	k hat (MLE)			
0.00789	Theta star (bias corrected MLE)	0.00467	Theta hat (MLE)			
8.603	nu star (bias corrected)	14.54	nu hat (MLE)			
		0.0122	Adjusted Level of Significance (β)			
2.025	Adjusted Chi Square Value (8.60, β)	3.089	Approximate Chi Square Value (8.60, α)			
N/A	95% Gamma Adjusted UCL (use when n<50)	0.0157	95% Gamma Approximate UCL (use when n>=50)			

Estimates of Gamma Parameters using KM Estimates

5.8859E-4	SD (KM)	8.3000E-4	Mean (KM)
3.2895E-4	SE of Mean (KM)	3.4643E-7	Variance (KM)
1.105	k star (KM)	1.989	k hat (KM)
13.26	nu star (KM)	23.86	nu hat (KM)
7.5087E-4	theta star (KM)	4.1739E-4	theta hat (KM)
0.00186	90% gamma percentile (KM)	0.00132	80% gamma percentile (KM)
0.00364	99% gamma percentile (KM)	0.0024	95% gamma percentile (KM)

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (13.26, α)	6.071	Adjusted Chi Square Value (13.26, β)	4.434
95% Gamma Approximate KM-UCL (use when n>=50)	0.00181	95% Gamma Adjusted KM-UCL (use when n<50)	0.00248

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.823	Shapiro Wilk GOF Test						
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level						
Lilliefors Test Statistic	0.353	Lilliefors GOF Test						
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level						
Detected Data appear Lognormal at 5% Significance Level								

Lognormal ROS Statistics Using Imputed Non-Detects

-7.039	Mean in Log Scale	Mean in Original Scale 9.6662E-4				
0.482	SD in Log Scale	SD in Original Scale 4.7070E-4				
0.00127	95% Percentile Bootstrap UCL	0.00135	95% t UCL (assumes normality of ROS data)			
0.00183	95% Bootstrap t UCL	0.00129	95% BCA Bootstrap UCL			
		0.00172	95% H-UCL (Log ROS)			

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-7.56	KM Geo Mean 5.2	103E-4
KM SD (logged)	1.129	95% Critical H Value (KM-Log)	4.578

KM Standard Error of Mean (logged)	0.699	95% H-UCL (KM -Log)	0.00995
KM SD (logged)	1.129	95% Critical H Value (KM-Log)	4.578
KM Standard Error of Mean (logged)	0.699		

DL/2 Statistics

DL/2 Normal

DL/2 Log-Transformed

Mean in Log Scale -7.507

SD in Log Scale 95% H-Stat UCL 0.0181

1.236

Mean in Original Scale	8.3083E-4
SD in Original Scale	6.0995E-4
95% t UCL (Assumes normality)	0.00133

nded method, provided for comparisons and historical reasons DL/2 is not a recor

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL 0.00149

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.

Step3_Cobalt

	General Statistics		
Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	0.0063	Mean	0.0164
Maximum	0.041	Median	0.0126
SD	0.013	Std. Error of Mean	0.00532
Coefficient of Variation	0.795	Skewness	1.72

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	0.791	Shapiro Wilk GOF Test					
5% Shapiro Wilk Critical Value	0.788	Data appear Normal at 5% Significance Level					
Lilliefors Test Statistic	0.284	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% Student's-t UCL 0.0271

95% Normal UCL

95% UCLs (Adjusted for Skewness) 95% Adjusted-CLT UCL (Chen-1995) 0 0291 95% Modified-t UCL (Johnson-1978) 0.0277

Gamma GOF Test

A-D Test Statistic	0.448	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.703	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.269	Kolmogorov-Smirnov Gamma GOF Test

5% K-S Critical Value	0.335	Detected data appear Gamma Distributed at 5% Significance Le	evel
Detected data appea	r Gamma Disi	tributed at 5% Significance Level	
	0	4-41-41	
k hat (MLE)	Gamma S	Tatistics	1 211
K Hat (MLE)	2.401	Thete star (bias corrected MLE)	0.0125
Theta hat (MLE)	0.00065	Theta star (bias corrected MLE)	0.0125
nu nat (MLE)	28.81	nu star (bias corrected)	15.74
MLE Mean (bias corrected)	0.0164	MLE Sd (bias corrected)	0.0143
		Approximate Chi Square Value (0.05)	1.///
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	5.873
As	suming Gam	na Distribution	
95% Approximate Gamma UCL (use when n>=50))	0.0332	95% Adjusted Gamma UCL (use when n<50)	0.0439
	Lognormal	GOF Test	
Shapiro Wilk Test Statistic	0.906	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.248	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level	
Data appea	r Lognormal a	t 5% Significance Level	
	Lognormal	Statistics	
Minimum of Logged Data	-5.067	Mean of logged Data	-4.333
Maximum of Logged Data	-3.194	SD of logged Data	0.705
۵۹۹	umina Loanor	mal Distribution	
95% H-UCL	0.0459	90% Chebyshev (MVUE) UCL	0.0298
95% Chebyshey (MVUE) UC	0.0361	97.5% Chebyshev (MVUE) UCI	0.0200
99% Chebyshev (MVUE) UCL	0.0618		0.0447
Nonparam Data appear to follow a	Discernible D	on Free UCL Statistics	
	Discombio D		
Nonpa	rametric Distr	ibution Free UCLs	
95% CLT UCL	0.0252	95% Jackknife UCL	0.0271
95% Standard Bootstrap UCL	0.0244	95% Bootstrap-t UCL	0.0404
95% Hall's Bootstrap UCL	0.0562	95% Percentile Bootstrap UCL	0.025
95% BCA Bootstrap UCL	0.0275		
90% Chebyshev(Mean, Sd) UCL	0.0324	95% Chebyshev(Mean, Sd) UCL	0.0396
97.5% Chebyshev(Mean, Sd) UCL	0.0496	99% Chebyshev(Mean, Sd) UCL	0.0693

Suggested UCL to Use

95% Student's-t UCL 0.0271

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. Recommendations are based upon data size, data distribution, and skewness.

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

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

Appendix D-4 Groundwater Trend Graphs

Appendix D Appendix D-4 Groundwater Trend Graphics Branch AP-BCD Risk Evaluation Report Plant Branch, Milledgeville, GA





APPENDIX B

Piezometer Installation Report



November 20, 2020

Project No. 166625418

Mr. Joju Abraham, PG Southern Company Services, Inc. 241 Ralph McGill Blvd NE Atlanta GA 30308

JAbraham@southerco.com

PIEZOMETER INSTALLATION REPORT FOR SURFACE IMPOUNDMENT ASH POND BCD (AP-BCD) GEORGIA POWER PLANT BRANCH, MILLEDGEVILLE, GEORGIA

Dear Mr. Abraham:

Golder Associates Inc. (Golder) is submitting this *Piezometer Installation Report* to Southern Company Services, Inc. (SCS) and Georgia Power Company (GPC), which documents the construction of piezometers at surface impoundment Ash Pond BCD (AP-BCD) at Plant Branch in Milledgeville, Georgia (Site). Piezometer construction activities were performed in general accordance with the standards described in the *RCRA Technical Enforcement Guidance Document* (1986) and the *Georgia Water Wells Standards Act of 1985*. The installation of the piezometers was conducted under the oversight and direction of Brian Steele, a Georgia-registered Professional Geologist (PG).

The field activities for this investigation were performed in October and November 2020. The field work consisted of the installation and development of two (2) piezometers in October 2020. Metro Engineering & Surveying Co., Inc. (Metro) conducted a survey of the installed piezometers in November 2020. A summary of the activities is presented below. Figure 1, Site Plan and Piezometer Location Map, presents the location of each of the newly installed piezometers.

Piezometer Drilling and Construction Activities

Piezometers PZ-50D and PZ-51D were drilled and installed by Cascade Drilling, LP, who was contracted through SCS, at the facility in October 2020. Cascade had a current and valid bond with the Water Wells Standards Advisory Council for the state of Georgia at the time of drilling (Appendix A). The driller's name is provided on the boring/construction diagrams presented in Appendix B.

An experienced Golder geologist was present on site to oversee and record the drilling and piezometer construction under the supervision of a professional geologist registered to practice in Georgia (Brian Steele). Drilling methods employed for borehole advancement were rotosonic drilling techniques with continuous core collected. The drilling equipment consisted of a full-sized TSI 150T Truck-Mounted Sonic drilling rig, equipped

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with 4-inch sonic rods with an outer-casing sleeve. During the drilling, continuous core samples were logged in the field for lithologic and geotechnical properties.

Prior to use, and between boreholes, downhole equipment was steam cleaned. The boring (lithologic) logs and piezometer construction records for the newly installed piezometers are included in Appendix B. The construction data are summarized in Table 1, and the locations of the piezometers are provided on Figure 1.

Piezometers were constructed within the borehole using factory-cleaned and sealed Schedule 40 polyvinyl chloride (PVC) products with flush-threaded fittings. Specifically, piezometers were constructed with a 10-foot section of 4-inch outer diameter (OD) and 2-inch inner diameter (ID), flush-threaded, 0.010-inch factory-slotted PVC U-Pack screen. The drillers filled the annulus of each U-Pack screen section with No. 1 filter sand. Prior to setting the wells, packer testing was performed in each borehole where water producing zones were identified in the bedrock core during drilling, beginning at 96 feet below ground surface (bgs). This depth was chosen based on the screened interval of each adjacent, shallow well. Two zones were packer tested in each borehole: 96 to 106 feet bgs and 112 to 122 feet bgs in PZ-50D, and 96 to 106 feet bgs and 106 to 114 feet bgs in PZ-51D). The purpose of the packer testing was to identify the greatest potentially water-producing zones within each 10-foot bedrock interval. The most promising water-producing zones were identified at approximately 96-106 feet bgs in each borehole. The boreholes were backfilled to 106 feet bgs, and the screen was placed at the bottom of the backfilled borehole, with the remainder of the piezometer constructed from 10-foot sections of 2-inch ID, flush-threaded, PVC casing riser. A flush-threaded PVC end cap was placed on the bottom of each piezometer to provide a 0.4-foot sump/sediment trap, and the top of the piezometers to extend to approximately 2.6 feet above grade. Construction details for the piezometers are shown on the boring/construction logs in Appendix B. The PVC products used were American Society for Testing and Materials (ASTM) and National Sanitation Foundation (NSF) rated.

Following placement of the screen and casing, the annular space in each borehole adjacent to the screen was filled with U.S. Standard Sieve size No. 1 filter pack sand as appropriate for the formation. The filter pack sand was placed into the borehole and extends approximately 2 feet above the depth of the top of the screen. Immediately following placement of the filter pack, each piezometer was pumped using a portable submersible pump until visibly clear water was discharged. If settling occurred during pumping, additional sand was placed so that the filter sand thickness was approximately 2 feet above the screen. A filter pack seal, composed of approximately 4 feet of hydrated 3/8" coated bentonite pellets, was then placed on top of the filter pack by slowly pouring the material down the borehole and tamping it into place. The bentonite was hydrated using potable water and allowed to cure for two hours prior to grouting the piezometer.

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

Piezometer Development Activities

The newly installed piezometers were developed in October 2020 in accordance with the Monitoring Well Development Procedures prepared by SCS (March 2016). The piezometers were surged using a Reclaimer pump system. During development, water quality measurements of pH, temperature, specific conductance, oxidation reduction potential (ORP), dissolved oxygen (DO), and turbidity were periodically collected using field-calibrated water quality equipment after the piezometer responded to improving conditions. Due to poor recovery, PZ-50D was surged by adding 25 gallons of deionized (DI) water during development. The volume of DI water added was removed in addition to recharged groundwater in the piezometer, as recorded on the development logs. Development activities were conducted utilizing a SmarTroll® multimeter and a Lamotte 2020 turbidimeter, and for monitoring water quality measurements. Equipment calibration forms and development forms are included in Appendix B with development details summarized in Table 2.

As presented on Table 2, between approximately 61 gallons (PZ-50D) and approximately 75 gallons (PZ-51D) of water were removed from each piezometer during development. During development, a turbidity value below 10 nephelometric turbidity units (NTUs) was achieved. Water level measurements were collected using a decontaminated electronic water level indicator, referenced to a notch (or permanent marking) at the top of the casing and recorded to within 0.01 foot.

Piezometer Survey

The newly installed piezometers were surveyed on November 3, 2020 by Metro Survey and Engineering. The survey was completed using Leica DNA10 digital level with a network of closed level loops with a positional tolerance of 0.5/0.01' H:V. The surveyed point on the top of the casing was used as reference, and the measurements were recorded to within 0.01 foot. Surveyed locations and elevations are presented on the boring/construction diagrams and a site map showing the locations of the newly installed piezometers is presented in Figure 1. The certified surveyor's report is attached as Appendix C.

Closing

We appreciate the opportunity to assist SCS and GPC with this project. Should you have any questions or require additional information, please contact the undersigned at (770) 496-1893.

Sincerely,

Golder Associates Inc.



Brian Steele, PG Senior Project Geologist

Rachel & Hickory

Rachel P. Kirkman, PG Principal and Senior Consultant



Attachments: Figure 1 Piezometer Location Map Table 1 Piezometer Installation Summary Table 2 Summary of Piezometer Development Data

> Appendix A Cascade Drilling Bond Appendix B Boring Logs/Construction Diagrams, Development Forms, and Calibration Logs Appendix C Surveyor's Report

https://golderassociates.sharepoint.com/sites/11952g/shared documents/200 reports/well installation/pz-50d though pz-51d installation report/bcd piezometer 50d-51d installation report_draft.docx



FIGURE 1

SITE PLAN AND PIEZOMETER LOCATION MAP





1 IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MO

TABLE 1

SUMMARY OF PIEZOMETER CONSTRUCTION DETAILS



November 2020

Table 1 Summary of Piezometer Construction Details Georgia Power Company - Plant Branch Milledgeville, Georgia

Borehole ID	Latitude	Longitude	NAD 83 Northing	NAD 83 Easting	Elevation On Top Of PVC (feet NAVD88)	Elevation Ground Surface (feet NAVD88)	Rock Type	Total Depth (feet bgs)	Depth to Bedrock (feet bgs)	Screened Interval (feet bgs)	Core Available	Water Level (feet bTOC)	Date Installed
PZ-50D	33.190410	83.297817	1161588.9	2562381.2	380.86	378.3	Gneiss	136	66.0	96-106	Sonic Core	21.72	10/8/2020
PZ-51D	33.190548	83.297643	1161639.8	2562434.0	380.75	378.1	Gneiss	126	74.1	96-106	Sonic Core	38.36	10/9/2020

Notes:

NAD - North American Datum

NAVD88 - North American Vertical Datum 1988

bgs - Below ground surface

bTOC - Below Top of Casing

Survey Data from Metro Engineering & Surveying Co., Inc.





TABLE 2

SUMMARY OF PIEZOMETER DEVELOPMENT DATA



Table 2Summary of Piezometer DevelopmentGeorgia Power Company - Plant BranchMilledgeville, Georgia

Piezometer ID	Date Started	Time Started (hr:min)	Development Method	Measured Total Depth of Well (ft bTOC)	Initial Water level (ft bTOC)	Final Water Level (ft bTOC)	Volume of Casing (gal)	Total Volume Removed (gal)	pH (SU)	Specific Conductance (mS/cm)	Temp (°C)	Turbidity (NTU)	ORP (mV)	DO (mg/L)
PZ-50D	10/13/2020	13:38	Reclaimer Pump	109.00	37.20	103.30	11.7	61 ^[1]	6.69	1.198	22.84	6.96	81.4	5.81
PZ-51D	10/14/2020	11:30	Reclaimer Pump	110.15	40.86	79.25	11.3	74.5	6.77	1.036	20.86	5.74	69.2	3.17

Notes:

hr:min - hours:minutes ft bTOC - feet below Top of Casing gal - gallons SU - Standard Units mS/cm - millisiemens per centimeter °C - degrees Celcius NTU - nephelometric turbidity units mV - millivolts mg/L - milligrams per liter ORP - oxygen reduction potential DO - dissolved oxygen

[1]: 55 gallons of water were removed from PZ-50D, which includes approxiantely 25 gallons of deionized water that was added to facilitate development





APPENDIX A

CADCADE DRILLING BOND





CONTINUATION CERTIFICATE

Atlantic Specialty Insurance Company , Surety upon										
a certain Bond No.	800031223									
dated effective	June 30, 2017 (MONTH-DAY-YEAR)									
on behalf of	Michael C. Rice and Cascade Drilling, L.P., any and all employees, officers and par (PRINCIPAL)	tners								
and in favor of	State of Georgia (OBLIGEE)									
does hereby continue said bond in force for the further period										
beginning on	June 30, 2019 (MONTH-DAY-YEAR)									
and ending on	June 30, 2021 (MONTH-DAY-YEAR)									
Amount of bond	Thirty Thousand and Zero/100 (\$30,000.00)									
Description of bond	Water Well Contractor Performance Bond									
Premium:	\$1,200.00									
PROVIDED: That this continuation certificate does not create a new obligation and is executed upon the express condition and provision that the Surety's liability under said bond and this and all Continuation Certificates issued in connection therewith shall not be cumulative and that the said Surety's aggregate liability under said bond and this and all such Continuation Certificates on account of all defaults committed during the period (regardless of the number of years) said bond had been and shall be in force, shall not in any event exceed the amount of said bond as hereinbefore set forth.										
Signed and dated on	May 9, 2019									
	(MONTH-DAY-YEAR) Atlantic Specialty Insurance Company									
	· · · · · · · · · · · · · · · · · · ·	т.								
	By Attorney-in-Fact Elizabeth R. Hahn	5								
	Parker, Smith & Feek, Inc. Agent									
	2233 112th Ave NE Bellevue, WA 98004 Address of Agent	2								
	(425) 709-3600 Telephone Number of Agent									

S-0157/GE 8/08



Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Deanna M. French, Susan B. Larson, Elizabeth R. Hahn, Jana M. Roy, Scott McGilvray, Mindee L. Rankin, Ronald J. Lange, John R. Claeys, Roger Kaltenbach, Guy Armfield, Scott Fisher, Andrew P. Larsen, Nicholas Fredrickson**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: sixty million **dollars (\$60,000,000)** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the

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

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

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

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

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-sixth day of October, 2017.



STATE OF MINNESOTA HENNEPIN COUNTY

On this twenty-sixth day of October, 2017, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.



Paul J. Brehm, Senior Vice President

Bv

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

day of May Signed and sealed. Dated 2019 APORA This Power of Attorney expires 1986 October 1, 2019

VIY

Christopher V. Jerry, Secretary

Notary Public

APPENDIX B

BORING LOGS/CONSTRUCTION DIAGRAMS, DEVELOPMENT FORMS AND CALIBRATION LOGS



PROJECT: Plant Branch PROJECT NUMBER: 1666254-01 DRILLED DEPTH: 136.00 ft LOCATION: Adjacent to BRGWC-50

RECORD OF BOREHOLE PZ-50D DRILL RIG: TSI 150T Truck Mounted DATE STARTED: 10/5/20 DATE COMPLETED: 10/8/20 DATE COMPLETED: 10/8/20

SHEET 1 of 4 DEPTH W.L.:21.72 ELEVATION W.L.: 356.58 DATE W.L.:10/8/2020 TIME W.L.:12:45

			SOIL PROFILE				s	SAMPLES			
DEPTH	DEPTH (ft)	ELEVATION (ff)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	ТҮРЕ	REC	DIAGRAM and NOTES PZ-50D	WELL CONSTRUCTION DETAILS
	0	_	0.00 - 6:00 HYDROVAC HOLE BACKFILL, SM; SILTY SAND, red, micaceous, highly weathered, non-cohesive, loose, wet							Aquaguard _	WELL CASING Interval: 0'-106' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded
	- 5 -	- 375 -		SM			1	ROTO SONIC	<u>2.00</u> 6.00		WELL SCREEN Interval: 96'-106' Material: 0.010" Slotted Schedule 40 PVC U-pack Screen Diameter: 2"
	-		6.00 - 10.50 SC; CLAYEY SAND WITH SILT, red, micaceous, highly weathered, RESIDUUM, non-cohesive, loose to compact, wet	sc		<u>372.3</u> 6.00					Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 93.9'-108.1' Type: #1 Sand
1	- 0 -	-	10.50 - 14.00			367.8 10.50	2	ROTO	8.00	Riser –	Quantity: 4 - 50lb bags - FILTER PACK SEAL Interval: 89.7-93.9' Type: 3/8" Pel-Plud Quantity: 1 5 gallon bucket
	_	- - 365	Siti, Siti Y SANU WITH SUME CLAY, gray with rediorange clay, micaceous, highly weathered RESIDUUM, non-cohesive, loose, moist to wet	SM		364.3		SONIC	10.00		ANNULUS SEAL Interval: 0'-89.7' Type: Aquaguard bentonite grout Quantity: ~6 bags Aquaguard + ~100 gallogs H20
1	5-	_	14.00 - 23.00			14.00					WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS
	-	- 360 		CL							- Soil Drill: Sonic Rock Drill: Sonic
2	0	_					3	ROTO SONIC	<u>5.00</u> 10.00		-
UT.GDT 11/18/2	- - 5 -	355 	23.00 - 26.00	 SM		355.3					-
GPJ PIEDMON	-	- - 350	26.00 - 56.00 SC-CL; SANDY CLAY/CLAYEY SAND, grey with red/orange, micaceous, moderately weathered RESIDUUM, cohesive, very soft to stiff, w~PL			352.3 26.00					-
	- 0 -	-					4	ROTO	<u>9.40</u> 10.00		-
00603_CT_SUF	-	- 345 -		CL							-
BRANCH 202	5	_									-
CORD PLANT		- 340 -	Log continued on payt page				5	ROTO SONIC	<u>10.00</u> 10.00		
LOG SCALE: 1 in = 5 ft GA INSPECTOR: Chris Tidwell DRILLING COMPANY: Cascade Environmental CHECKED BY: Brian Steele, PG DRILLER: Logan Hall DATE: 11/12/20											



PIEDMONT.GDT GPJ SURVEY UPDATED. 5 20200603 BRANCH PLANT RECORD BOREHOLE




PROJECT: Plant Branch PROJECT NUMBER: 1666254-01 DRILLED DEPTH: 126.00 ft LOCATION: Adjacent to PZ-511

RECORD OF BOREHOLE PZ-51D DRILL RIG: TSI 150T Truck Mounted DATE STARTED: 10/8/20 DATE COMPLETED: 10/9/20 DATE COMPLETED: 10/9/20 DATE COMPLETED: 10/9/20

SHEET 1 of 4 DEPTH W.L.:38.36' ELEVATION W.L.: 339.74 DATE W.L.:10/14/2020 TIME W.L.:11:00

		-	SOIL PROFILE				s	AMPLE	S	MONITORII	NG WELL		
	t)	ATION t)			Q	ELEV.	ġ			DIAGRAM a		s	WELL
i	(f	(f	DESCRIPTION	lscs	RAPH	DEDTU	APLE 1	TYPE	REC		PZ-51	ו	DETAILS
	0	ш			5	(ft)	SAN						
	_		0.00 - 6.00 HYDROVAC HOLE BACKFILL, SM; SILTY SAND, red, micaceous,										WELL CASING Interval: 0'-106'
	_	_	nigniy weathered, non-conesive, loose, wet							Aquaguard _		-	Material: Schedule 40 PVC Diameter: 2"
	_	- 375		SM			1	ROTO	2.70	Bentonite		-	WELL SCREEN
	_	-						SUNIC	0.00			_	Interval: 96'-106' Material: 0.010" Slotted
	5 —	-											Schedule 40 PVC U-pack Screen
	_	-				<u>372.1</u> 6.00						-	Slot Size: 0.010" End Cap: 3"
	_	-	CL; SANDY CLAY, red/orange; highly weathered RESIDUUM, cohesive, firm, w~PL									-	FILTER PACK
	_	- 370										-	Type: #1 Sand Quantity: 5 - 50lb bags
	_	-		CL								-	FILTER PACK SEAL
	10 —	-						ROTO	5.00	Riser –			Type: 3/8" Pel-Plug Quantity: 1 x 5 gallon bucket
		-				366.1	2	SONIC	10.00				ANNULUS SEAL
		265	12.00 - 36.00 SM; SILTY SAND, trace clay and gravel, gray with red/orange clay,			12.00							Type: Aquaguard bentonite
	_	- 303	to moist									-	Quantity: ~6 bags Aquaguard + ~100 gallons H2O
	15 —	-				- - -							WELL COMPLETION
	_	-										-	Protective Casing: Aluminum
	_	-										-	DRILLING METHODS Soil Drill: Sonic
	_	- 360										-	Nock Dhil. Solic
	_	-										-	
	20 —	-						ROTO	4 10				
	_	-					3	SONIC	10.00			-	
3/20		-											
11/18	_	- 355		SM								_	
GDT	25 —	_											
MONT	-	_										-	
PIEDI	_	-										-	
GPJ	_	- 350										-	
ATED	_	-										-	
, UPD	30 —	-						DOTO				-	
RVEY	_	_					4	SONIC	<u>6.20</u> 10.00			-	
T_SU	_	-										-	
303_C	_	- 345										-	
0200	35 -	-										00000000	
ICH 2				L		342.1						-	
BRAN	_	_	36.00 - 46.00 No Recovery			36.00						-	
-ANT	_	- 340		SM			5	ROTO	<u>0.00</u> 10.00			-	
RD PL	_	-										-	
RECO	40 —		Log continued on next page										
OLEF	LOC	SCA	LE: $1 \text{ in } = 5 \text{ ft}$	(GA IN	SPECT	OR:	Chris	Tidw	vell			
DREH	DRI DRI	LLING LLER [.]	COMPANY: Cascade Environmental	(KED B) 11/12/	r: Br /20	ian S	teele,	PG			GOLDER
ы			.				-						

PR PR DR LO	OJECT: OJECT ILLED [CATION	Plant Branch NUMBER: 1666254-01 DEPTH: 126.00 ft V: Adjacent to PZ-511	F BC Mounted	RE	HOLE NOF EAS GS E TOC		PZ-5 IG: 1,1 : 2,56 ATION VATIC	51D 161,63 2,434.1 1:378 N:38	SHE 9.8 DEF 0 ELE .1 DAT 50.75 ft TIM	EET 2 of 4 PTH W.L.:38.36' VATION W.L.: 339.74 E W.L.:10/14/2020 E W.L.:11:00
		SOIL PROFILE				s	SAMPLE	ES		
DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	nscs	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	ТҮРЕ	REC	MONITORING WELL DIAGRAM and NOTES PZ-51D	WELL CONSTRUCTION DETAILS
40 -	-	36.00 - 46.00		100						WELL CASING
- - - 45	 335 	46.00 - 57.70	SM		<u>332.1</u> 46.00	5		0.00 10.00		Interval: 0-106' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 96'-106' Material: 0.010" Slotted Schedule 40 PVC U-pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"
	- 	weathered RESIDUUM, cohesive, stiff to very stiff, w <pl td="" to="" w~pl<=""><td>СН</td><td></td><td></td><td>6</td><td>ROTC</td><td><u>10.00</u> 10.00</td><td></td><td>FILTER PACK Interval: 93.6'-108.2 Type: #1 Sand Quantity: 5 - 50lb bags FILTER PACK SEAL Interval: 89.5'-93.6' Type: 3/8" PeI-Plug Quantity: 1 x 5 gallon bucket ANNULUS SEAL Interval: 0'-89.5' Type: Aquaguard bentonite grout Quantity: ~6 bags Aquaguard + ~100 gallons H2O WELL COMPLETION</td></pl>	СН			6	ROTC	<u>10.00</u> 10.00		FILTER PACK Interval: 93.6'-108.2 Type: #1 Sand Quantity: 5 - 50lb bags FILTER PACK SEAL Interval: 89.5'-93.6' Type: 3/8" PeI-Plug Quantity: 1 x 5 gallon bucket ANNULUS SEAL Interval: 0'-89.5' Type: Aquaguard bentonite grout Quantity: ~6 bags Aquaguard + ~100 gallons H2O WELL COMPLETION
55 -	1									Pad: 4'x4' Protective Casing: Aluminum
-	1									DRILLING METHODS
- - - 60 -	- 	57.70 - 65.00 SM; SILTY SAND WITH GRAVEL, trace clay, brown and light tan, micaceous, slightly weathered SAPROLITE, non-cohesive, loose to compact, dry			320.4 57.70	-	POTO	10.00		Soil Drill: Sonic Rock Drill: Sonic
	- 		SM		313.1	7	SONIC	10.00		
	- - - 	65.00 - 74.10 GM; SILTY-SANDY GRAVEL, gravels of gneiss with black/white banding; highly weathered TWR, non-cohesive, dense, wet (possibly from drilling water), no recovery from 66-74.1.			65.00					
70 -			TWR			8	ROTC	<u>1.90</u> 10.00		
75 -		74.10 - 96.00 BIOTITE GNEISS, BEDROCK, black/white banded, finely and coarsely crystalline, containing quartz, mica, feldspar, amphibole, trace homeblende, moderately weathered; strength index: R3-R4			304 74.10					-
	 300 		Gneiss			9	ROTC	<u>9.50</u> 10.00		
		Log continued on next page	1				<u> </u>			
		LE: 1 In = 5 π COMPANY: Cascade Environmental	(∪К: ∕∙ в,	Chris ian 9	teele		GOLDED
DR	LLER:	Logan Hall	I	DATE:	11/12/	/20	iun 0			JOLDER

BOREHOLE RECORD PLANT_BRANCH_20200603_CT_SURVEY UPDATED.GPJ PIEDMONT.GDT 11/18/20

PROJECT: Plant Branch PROJECT NUMBER: 1666254-01 DRILLED DEPTH: 126.00 ft LOCATION: Adjacent to PZ-511

RECORD OF BOREHOLE PZ-51D DRILL RIG: TSI 150T Truck Mounted DATE STARTED: 10/8/20 DATE COMPLETED: 10/9/20 DATE COMPLETED: 10/9/20 DATE COMPLETED: 10/9/20

SHEET 3 of 4 DEPTH W.L.:38.36' ELEVATION W.L.: 339.74 DATE W.L.:10/14/2020 TIME W.L.:11:00

		7	SOIL PROFILE				s	AMPLE	S		
	DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	BRAPHIC LOG	ELEV.	MPLE NO.	ТҮРЕ	REC	MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
	80	- - - 295 - -	74,10 - 96.00 BIOTITE GNEISS, BEDROCK, black/white banded, finely and coarsely crystalline, containing quartz, mica, feldspar, amphibole, trace horneblende, moderately weathered; strength index: R3-R4 (<i>Continued</i>)			(ft)	9	ROTO SONIC	<u>9.50</u> 10.00		WELL CASING Interval: 0'-106' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 96'-106' Material: 0.010" Slotted Schedule 40 PVC U-pack Screen Diameter: 2" Slott Size: 0.010"
	90	- 290 - - - - 285 - -		Gneiss			10	ROTO	<u>10.00</u> 10.00	3/8"	Fill Cap. 3 Fill TER PACK Interval: 93.6'-108.2 Type: #1 Sand Quantity: 5 - 50lb bags Fill TER PACK SEAL Interval: 89.5'-93.6' Type: 3/8' Pel-Plug Quantity: 1 x 5 gallon bucket ANNULUS SEAL Interval: 0'-89.5' Type: Aquaguard bentonite grout Quantity: ~6 bags Aquaguard + ~100 gallons H2O WELL COMPLETION Pad: 4'x4'
NT.GDT 11/18/20		- 280 - 280 	96.00 - 106.00 BIOTITE GNEISS, BEDROCK, black/white banded, finely and coarsely crystalline, containing quartz, mica, feldspar, amphibole, trace homeblende, highly weathered; strength index: R2-R3	Gneiss		282.1 96.00	11	ROTO	<u>9.50</u> 10.00	0.010" Slotted Schedule 40 PVC U-pack Screen	Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
JRD PLANT_BRANCH_20200603_CT_SURVEY UPDATED.GPJ PIEDMC	- - - - - - - - - - - - - - - - - - -	- 270 - 270 - 265 - 265 	106.00 - 126.00 BIOTITE GNEISS, BEDROCK, black/white banded, finely and coarsely crystalline, containing quartz, mica, feldspar, amphibole, trace homeblende, moderately weathered to fresh, strength index: R3-R4	Gneiss		106.00	12	ROTO SONIC	<u>10.00</u> 10.00 <u>9.50</u> 10.00	Filter Sand	
BOREHOLE REC(LOG DRII DRII	SCA LLING LLER:	Log continued on next page LE: 1 in = 5 ft COMPANY: Cascade Environmental Logan Hall) ([GA INS CHECI DATE:	SPECT KED BY 11/12	OR: /: Br /20	Chris ian S	Tidw teele,	rell PG	GOLDER





WELL DEVELOPMENT FIELD RECORD

											Page 1 of 1
PROJECT NAME / NU	MBER Plant E	Branch / 1666	25418			WELL ID:			PZ-50D		
	2 D. Thomas						STALL		10/9/2020		
STARTED DEVEL.	10/13/2020	1338				COMPLETE	D DEVEL.		10/15/2020	1130	
-	DATE	TIME							DATE	TIME	
W.L. BEFORE DEVEL.	. <u>37.20</u> WL	10.13.202 DATE	0 1306 TIME			WL AFTER [DEVEL.		103.30 WL	10/15/2020 DATE	1145 TIME
WELL DEPTH: BEFOF	RE DEVEL.	108.95				WELL DEPT	H: AFTER DE	EVEL.	109.00		
STANDING WATER C	OLUMN (FT.)	71.75				STANDING	WELL VOLUN	ИE	11.7		gal.
SCREEN LENGTH		10'				DRILLING W	ATER LOSS		0		gal.
	VOLUME	PUMPING				FIEL	D PARAMET	TERS			
DATE/TIME	REMOVED (gal)	RATE (gpm)	DTW (ft)	pH (s.u.)	Sp. Cond. (uS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
10.13.2020 / 1340	0	0.5	41.60	9.30	468.5	26.29	>1000	gray	3.18	134.8	surging
10.13.2020 / 1345	2.5		59.50	9.21	320.4	22.98	>1000	gray	3.03	98.4	
10.13.2020 / 1355	5		93.56	9.33	303.000	23.44	>1000	gray	3.71	85.7	
			Well went d	ry at 1400 an	d recovered 1	foot in 15 min	utes. Added 5	gallons of D	I water		I
10.13.2020 / 1415	-5							1	1	•	DI water added
10.13.2020 / 1420	2.5	0.5	80.50	9.40	54.4	24.24	>1000	gray-brown	8.61	50.70	surging
10.13.2020 / 1435	7.5	0.5	102.20	8.61	275.0	23.27	>1000	gray-brown	9.26	83.60	
10.13.2020 / 1440						- Started deve	elopment agai	in		•	
10.13.2020 / 1450	5	0.5	102.80	8.66	288.9	26.92	>1000	gray-brown	8.37	66.2	
I		r		- Well went o	dry at 1450, add	ded 10 gallons	s of DI water a	at 1455			1
10.13.2020 / 1455	-10										DI water added
10.13.2020 / 1500		<u>г т</u>			2	1		r	1	r	
10.13.2020 / 1515	7.5	0.5	102.50	9.24	27.8	28.17	>1000	gray	7.92	102.4	surging
10.13.2020 / 1530	7.5	0.5	102.70	8.45	170.0	25.41	>1000	gray	8.24	701.5	
		1		W	ell went dry, ad	ded 5 gallons	of DI water	-			[
10.13.2020 / 1550	-5										DI water added
10.13.2020 / 1555		 			Starte	d developmen	it again	1	1	1	
10.13.2020 / 1600	1.25	0.25	97.50	8.41	43.4	25.85	>1000	brown	8.55	106.2	Well went dry at 1618 & recharge
10.13.2020 / 1610	2.50	0.25	103.10	8.14	192.4	25.24	>1000	gray	8.40	103.8	0.4' in 30 minutes
10.13.2020 / 1700					Will retu	urn tomorrow t	o continue de	evelopment	-	1	[
10.14.2020 / 0842			84.9								Began development at 0852
10.14.2020 / 0900	1.75	0.25	BTOP	7.70	859.4	19.25	46.8	clear	9.80	146.8	
T			Air compress	sor stopped v	vorking and pa	used developr	ment. Began o	development	at 0910	1	
10.14.2020 / 0918	2.00	0.25	BTOP	7.63	103.4	18.43	38.8	clear	9.80	146.8	
T				W	ell went dry, ad	ded 5 gallons	of DI water	-			
10.14.2020 / 0923	-5										DI water added
10.14.2020 / 0927	0	<u> </u>			Starte	d developmen	it again	<u> </u>		1	
10.14.2020 / 0943	5	0.31	BTOP	8.01	291.9 nt dry. Waiting 1	18.79 or recharge a	39.1 nd deliverv of	clear more DI wat	9.80 er. Will return	105.9 tomorrow to	
10.14.2020 / 0948			102.00		,	contir	nue developin	ig			
10.15.2020 / 1050			85.30								
10.15.2020 / 1055	2.25	0.25	93.70	6.93	1332.4	23.61	26.3	clear	8.91	96.8	
10.15.2020 / 1100	1.25	0.25	95.30	6.85	1261.6	22.63	8.98	clear	6.03	89	
10.15.2020 / 1105	1.25	0.25	97.00	6.67	1242.6	22.41	7.17	clear	5.72	83	
10 15 2020 / 1115	2.5	0.25	BTOP	6.65	1212.7	22.71	5.07	clear	5.71	82	
10.13.202071113					1	1		1	1	1	1
10.15.2020 / 1120	1.25	0.25	BTOP	6.65	1211.0	22.63	5.26	clear	5.57	81.3	

DEVELOPMENT METHOD: Reclaimer and surging

NOTES:

61 gallons of water were removed, including ~25 gallons of deionized water that was added to facilitate development BTOP = Below top of pump



WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / N	JUMBEE Plant F	Branch / 1666	25418			WELL ID:			PZ-51D		Fage_1
WELL DIA (in)	2	Jianen/ 1000	10410			WELL ID.			12-010		
DEVELOPED BY	D. Thomas					DATE OF IN	STALL.		10.9.2020		
STARTED DEVEL.	10.14.2020	1130				COMPLETE	D DEVEL.		10.15.2020	0920)
	DATE	TIME							DATE	TIME	
W.L. BEFORE DEVE	EL. <u>40.86</u> WL	10.14.2020 DATE	1100 TIME			WL AFTER I	DEVEL.		79.25 WL	10.15.2020 DATE	0934 TIME
WELL DEPTH: BEF	ORE DEVEL.	110				WELL DEPT	H: AFTER DE	VEL.	110.15	5	
STANDING WATER	COLUMN (FT.)	69.14				STANDING		1E	11.3		gal.
SCREEN LENGTH		10'				DRILLING W	ATER LOSS				gal.
DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft)	рН (s.u.)	Sp. Cond. (uS/cm)	FIEI TEMP. (°C)	D PARAMET Turbidity (NTU)	ERS Color	RDO (mg/L)	ORP (mV)	REMARKS
		,	. ,	. ,		1	. ,		1	· ,	
10.14.2020 / 1130	0	0.5	51.80	8.00	232.5	22.31	>1000	brown	4.08	47.2	6 feet from bottom
0.14.2020 / 1150	10	0.5	84.60	8.40	219.6	23.29	>1000	brown	4.94	86.0	
10.14.2020 / 1200	5	0.5	100.62	8.25	282.3	22.09	75.4	cloudy	9.30	89.2	
10.14.2020 / 1215	7.5	0.5	BTOP	8.13	265.4	22.60	73.0	cloudy	8.65	87.2	
10 14 2020 / 1303			V	/ell went dry,	waiting for rec	harge	-				
10 14 2020 / 1303		0.5	86.4	7 84	325.8	25 79	>1000	 brown	8 59	93.0	surged
10 14 2020 / 1325	75	0.5	95.2	7.04	650.2	23.13	105	cloudy	2.00	91.7	Juigeu
10.14.2020 / 1325	1.5	0.5	95.2	1.43	l wont dry wa	iting for rocha	105	cioudy	2.23	51.7	
10.14.2020 / 1335			91.05	vve	ni went ury, wa		ige				
10.14.2020 / 1435			01.95	7.41					9.70		
10.14.2020 / 1445	5	0.5	102.7	7.41	620.7	26.61	120	cloudy	9.65	108.6	
10.14.2020 / 1435	15	0.5	102.7	7.76	811.2	25.65	54	cloudy	8.66	107.2	
10.14.20207 1323	15	0.5	102.7	1.10	- Allowing well	to recharge -		cioudy	0.00	107.2	
10.14.2020 / 1625		0.5	94.10		Allowing well						
10.14.2020 / 1630	2.5	0.5	98.60	7.56	914.0	28.17	30.8	clear	8.82	91.6	
10 14 2020 / 1645	7.5	0.5	100 73	7 64	952.0	27 89	13.8	clear	8.33	90.0	
10 14 2020 / 1700	1.5	0.1	101 50	7 76	925.0	27.86	12.8	clear	8 65	95.0	
10 14 2020 / 1715	15	0.1	101.50	7.60	918.7	27 70	15.7	clear	8 32	99.7	
10 14 2020 / 1730	1.5	0.1	BTOP	7.63	932.0	27.76	18.8	clear	8.67	102.9	
10.14.20207 1700	1.0	W	ill continue c	eveloping to	morrow, NTU c	lid not go belo	w 10	oloui	0.07	102.0	
10.15.2020 / 0900	0	0.25	53.20	7.37	1210.9	21.78	17.30	clear	2.94	142.2	
10.15.2020 / 0910	2.5	0.25	68.10	6,90	1024.6	21.11	6.20	clear	3.25	98.5	
10.15.2020 / 0920	2.5	0.25	76,70	6.77	1036.4	20.86	5.74	clear	3.17	69.2	
				Develop	ment Complete						
	T					I			1		
	74.5	5 = то	TAL VOLUM	E REMOVEI	D (gal.)	•		-			•
DEVELOPMENT ME	THOD: <u>Reclair</u>	ner and surgir	g								

Daily Calibration Log

October 2020

Project Plant Branch Field Staff D.Thomas

Instrument Calibration

Date: 10-13-	20	Time:				
Parameter	Units	Standard	SmarTROLL SN <u>643819</u> iPad # <u>79</u>	SmarTROLL SN iPad #	SmarTROLL SN iPad #	SmarTROLL SN iPad #
DO	% saturation	100	92.7			
Conductivity	us/cm	4490	4485			
рН	S.U.	4.00	1-4-00 4.12			
pН	S.U.	7.00	7.02			
pН	S.U.	10.00	9.89			
ORP	mV	228.00	228.00			
	ta an					

	Units	Standard	LaMotte SN 2953-0413	LaMotte SN	LaMotte SN	LaMotte SN
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0	· · · ·		
	NTU	10.0	10.0			

Time: 08 0 Date: 101420

Parameter	Units	Standard	SmarTROLL SN <u>(7438)9</u> iPad # <u>79</u>	SmarTROLL SN iPad #	SmarTROLL SN iPad #	SmarTROLL SN iPad #
DO	% saturation	100	91.3	54		
Conductivity	us/cm	4490	4255	4.		
рН	S.U.	4.00	4.20		1	
рН	S.U.	7.00	7.04			
pН	S.U.	10.00	9,86			
ORP	mV	228.00	2322			

Turbidity	Units	Standard	LaMotte SN 2953-0413	LaMotte SN	LaMotte SN	LaMotte SN
Turblatty	NTU	0.0	0.0			
	NTU	1.0	10			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER



October 2020

Daily Calibration Log

166625418

Project Plant Branch Field Staff D.Thomas

Instrument Calibration

Date: 08	Date: 0830-1015-20Time: 10-15-20 0830											
Parameter	Units	Standard	SmarTROLL SN <u>043819</u> iPad # <u>79</u>	SmarTROLL SN iPad #	SmarTROLL SN iPad #	SmarTROLL SN iPad #						
DO	% saturation	100	92.30									
Conductivity	us/cm	4490	4288									
рН	S.U.	4.00	4.16									
рН	S.U.	7.00	7.02									
рН	S.U.	10.00	9.90									
ORP	mV	228.00	224.4									

	Units	Standard	LaMotte SN	LaMotte SN	LaMotte SN	LaMotte SN
Turbidity	NTU	0.0	0,0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date:

Time:

Parameter	Units	Standard	SmarTROLL SN iPad #	SmarTROLL SN iPad #	SmarTROLL SN iPad #	SmarTROLL SN iPad #
DO	% saturation	100				
Conductivity	us/cm	4490				
рН	S.U.	4.00				
рН	S.U.	7.00				
рН	S.U.	10.00				
ORP	mV	228.00				

Turbidity	Units	Standard	LaMotte SN	LaMotte SN	LaMotte SN	LaMotte SN
Turbially	NTU	0.0				
	NTU	1.0				
	NTU	10.0				

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated





CERTIFIED WELL SURVEY





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

SURVEYOR'S REPORT

SCOPE OF WORK:

Field survey of existing monitoring wells at Georgia Power Company, Plant Branch in Milledgeville, GA.

Horizontal and vertical datum were derived from RTK GPS observations with corrections from the eGPS network and conventional surveying equipment. Horizontal datum is Georgia State Plane, West Zone, NAD83(2011) and vertical datum is NAVD88.

EQUIPMENT USED TO ESTABLISH THE MONITORING WELL LOCATIONS:

Trimble R8 Dual Frequency GPS Receiver Leica TS16 Total Station Leica DNA10 Digital Level

CERTIFICATION:

I hereby certify that the center of well casing (PVC) has a horizontal accuracy of 0.5+/- feet or better using a Trimble R8 Dual Frequency RTK (survey-grade) global positioning system receiver referencing the Georgia State Plane, west zone, NAD83(2011) coordinate system in US survey feet. The top of well casing (PVC) elevation data was determined in feet above mean sea level based on the NAVD88 vertical datum. Vertical data was confirmed to be accurate within 0.01 foot through establishment of a closed level check loop with a Leica DNA10 digital level having a published accuracy of 0.9mm per dual-traverse kilometer.

dames R. Green R.L.S. No. 2543

Date: 11/4/20



Plant Branch Monitoring Well Locations November 3, 2020										
	2		NAIL	NAIL	NAIL	PVC	۶	PVC	ELEV AT BASE	
Well ID	LATITUDE	LONGITUDE	NORTHING	EASTING	ELEVATION	NORTHING	PVC EASTING	ELEVATION	CONC/GRD	
IW-E-1	N33.198117	W83.327753	1164319.1	2553199.5	436.39	1164318.5	2553200.4	439.49	436.4	
IW-D-2	N33.192791	W83.311136	1162422.3	2558298.6	407.12	1162422.3	2558297.6	409.93	407.1	
IW-D-1	N33.191078	W83.310119	1161801.4	2558614.9	403.61	1161801.5	2558614.0	406.44	403.6	
IW-C-2	N33.190286	W83.305869	1161524.2	2559917.4	395.11	1161523.0	2559917.3	397.64	395.1	
IW-C-1	N33.190367	W83.308256	1161547.4	2559187.0	395.35	1161546.3	2559186.8	398.00	395.4	
IW-B-2	N33.193317	W83.304804	1162629.5	2560234.0	378.60	1162630.0	2560233.2	381.32	378.6	
PZ-50D	N33.190410	W83.297817	1161589.4	2562380.3	378.32	1161588.9	2562381.2	380.86	378.3	
PZ-51D	N33.190548	W83.297643	1161640.3	2562433.0	378.12	1161639.8	2562434.0	380.75	378.1	
IW-B-1	N33.189085	W83.300799	1161099.7	2561472.0	376.29	1161100.8	2561471.6	379.01	376.3	

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APPENDIX C

Laboratory Analytical Results



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

September 11, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH BCD/E BACKGROUND WELLS Pace Project No.: 92491389

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Charlotte
- Pace Analytical Services Peachtree Corners, GA
- · Pace Analytical Services Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Sharry

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L

South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



SAMPLE SUMMARY

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491

).:	92491389		

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92491389001	BRGWA-5I	Water	08/18/20 09:40	08/19/20 10:10
92491389002	BRGWA-5S	Water	08/18/20 10:15	08/19/20 10:10
92491389003	BRGWA-2I	Water	08/18/20 10:45	08/19/20 10:10
92491389004	BRGWA-2S	Water	08/18/20 11:38	08/19/20 10:10
92491389005	BRGWA-6S	Water	08/18/20 12:48	08/19/20 10:10



SAMPLE ANALYTE COUNT

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92491389001	BRGWA-5I	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491389002	BRGWA-5S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491389003	BRGWA-2I	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491389004	BRGWA-2S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491389005	BRGWA-6S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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

PASI-PA = Pace Analytical Services - Greensburg



SUMMARY OF DETECTION

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491389001	BRGWA-5I			_		
	рН	6.29	Std. Units		09/09/20 17:00	
EPA 6020B	Barium	0.022	mg/L	0.010	08/21/20 17:42	
EPA 6020B	Chromium	0.0069J	mg/L	0.010	08/21/20 17:42	
EPA 6020B	Cobalt	0.00048J	mg/L	0.0050	08/21/20 17:42	
EPA 6020B	Lithium	0.00095J	mg/L	0.030	08/21/20 17:42	
EPA 6020B	Molybdenum	0.0015J	mg/L	0.010	08/21/20 17:42	
EPA 9315	Radium-226	0.0774 ± 0.196 (0.479)	pCi/L		09/02/20 07:40	
		C:76% T:NÁ				
EPA 9320	Radium-228	0.453 ± 0.459 (0.950) C:53% T:92%	pCi/L		09/09/20 12:05	
Total Radium Calculation	Total Radium	0.530 ± 0.655 (1.43)	pCi/L		09/10/20 13:23	
92491389002	BRGWA-5S					
	рН	6.41	Std. Units		09/09/20 17:00	
EPA 6020B	Antimony	0.0016J	mg/L	0.0030	08/21/20 18:05	
EPA 6020B	Barium	0.040	mg/L	0.010	08/21/20 18:05	
EPA 6020B	Chromium	0.0050J	mg/L	0.010	08/21/20 18:05	
EPA 6020B	Lead	0.00010J	mg/L	0.0050	08/21/20 18:05	
EPA 9315	Radium-226	0.241 ± 0.241 (0.446) C:86% T:NA	pCi/L		09/02/20 07:41	
EPA 9320	Radium-228	0.340 ± 0.449 (0.959) C:59% T:93%	pCi/L		09/09/20 12:05	
Total Radium Calculation	Total Radium	0.581 ± 0.690 (1.41)	pCi/L		09/10/20 13:23	
92491389003	BRGWA-2I					
	рН	6.59	Std. Units		09/09/20 17:00	
EPA 6020B	Antimony	0.00054J	mg/L	0.0030	08/21/20 18:11	
EPA 6020B	Barium	0.010J	mg/L	0.010	08/21/20 18:11	
EPA 6020B	Chromium	0.00096J	mg/L	0.010	08/21/20 18:11	
EPA 6020B	Lithium	0.054	mg/L	0.030	08/21/20 18:11	
EPA 6020B	Molybdenum	0.0011J	mg/L	0.010	08/21/20 18:11	
EPA 9315	Radium-226	0.0861 ± 0.243 (0.593) C:77% T:NA	pĊi/L		09/02/20 07:41	



SUMMARY OF DETECTION

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491389003	BRGWA-2I					
EPA 9320	Radium-228	-0.176 ± 0.358 (0.872) C:61% T:91%	pCi/L		09/09/20 12:05	
Total Radium Calculation	Total Radium	0.0861 ± 0.601 (1.47)	pCi/L		09/10/20 13:23	
92491389004	BRGWA-2S					
	рН	6.06	Std. Units		09/09/20 17:00	
EPA 6020B	Antimony	0.00042J	mg/L	0.0030	08/21/20 18:17	
EPA 6020B	Barium	0.010	mg/L	0.010	08/21/20 18:17	
EPA 6020B	Chromium	0.0085J	mg/L	0.010	08/21/20 18:17	
EPA 6020B	Cobalt	0.0014J	ma/L	0.0050	08/21/20 18:17	
EPA 9315	Radium-226	0.189 ±	pCi/L		09/02/20 07:41	
		(0.570) C:70% T:NA				
EPA 9320	Radium-228	1.03 ± 0.516 (0.891) C:61% T:81%	pCi/L		09/09/20 12:05	
Total Radium Calculation	Total Radium	1.22 ± 0.783 (1.46)	pCi/L		09/10/20 13:23	
92491389005	BRGWA-6S					
	рН	6.33	Std. Units		09/09/20 17:00	
EPA 6020B	Barium	0.014	mg/L	0.010	08/21/20 18:22	
EPA 6020B	Chromium	0.015	mg/L	0.010	08/21/20 18:22	
EPA 6020B	Cobalt	0.00061J	mg/L	0.0050	08/21/20 18:22	
EPA 6020B	Lithium	0.0026J	ma/L	0.030	08/21/20 18:22	
EPA 9315	Radium-226	-0.0918 ± 0.174	pCi/L		09/02/20 08:46	
EPA 9320	Radium-228	(0.573) C:79% T:NA 0.453 ± 0.384 (0.763) C:66%	pCi/L		09/09/20 12:05	
Total Radium Calculation	Total Radium	T:81% 0.453 ± 0.558 (1.34)	pCi/L		09/10/20 13:23	



Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.:

92491389

Sample: BRGWA-5I	Lab ID:	92491389001	Collecte	Collected: 08/18/20 09:40		Received: 08/19/20 10:10 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	9					
рН	6.29	Std. Units			1		09/09/20 17:00		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	A				
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 17:42	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 17:42	7440-38-2	
Barium	0.022	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 17:42	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 17:42	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 17:42	7440-43-9	
Chromium	0.0069J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 17:42	7440-47-3	
Cobalt	0.00048J	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 17:42	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 17:42	7439-92-1	
Lithium	0.00095J	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 17:42	7439-93-2	
Molybdenum	0.0015J	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 17:42	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 17:42	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 17:42	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 12:37	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 17:51	16984-48-8	



Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.:

o.: 92491389

Sample: BRGWA-5S	Lab ID:	92491389002	Collecte	ed: 08/18/20	0 10:15	Received: 08/19/20 10:10 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte)					
рН	6.41	Std. Units			1		09/09/20 17:00		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	S A				
Antimony	0.0016J	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 18:05	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 18:05	7440-38-2	
Barium	0.040	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 18:05	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 18:05	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 18:05	7440-43-9	
Chromium	0.0050J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 18:05	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 18:05	7440-48-4	
Lead	0.00010J	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 18:05	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 18:05	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 18:05	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 18:05	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 18:05	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	S A				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 12:47	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 19:52	16984-48-8	



Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.:

o.: 92491389

Sample: BRGWA-2I	Lab ID:	92491389003	Collecte	Collected: 08/18/20 10:45			Received: 08/19/20 10:10 Matrix: Water		
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	;					
pН	6.59	Std. Units			1		09/09/20 17:00		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, G	βA				
Antimony	0.00054J	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 18:11	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 18:11	7440-38-2	
Barium	0.010J	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 18:11	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 18:11	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 18:11	7440-43-9	
Chromium	0.00096J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 18:11	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 18:11	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 18:11	7439-92-1	
Lithium	0.054	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 18:11	7439-93-2	
Molybdenum	0.0011J	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 18:11	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 18:11	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 18:11	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, G	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 12:49	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 20:06	16984-48-8	



Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

Sample: BRGWA-2S	Lab ID:	92491389004	Collecte	ed: 08/18/20) 11:38	Received: 08/	19/20 10:10 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte)					
рН	6.06	Std. Units			1		09/09/20 17:00		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	A				
Antimony	0.00042J	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 18:17	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 18:17	7440-38-2	
Barium	0.010	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 18:17	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 18:17	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 18:17	7440-43-9	
Chromium	0.0085J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 18:17	7440-47-3	
Cobalt	0.0014J	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 18:17	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 18:17	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 18:17	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 18:17	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 18:17	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 18:17	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	A				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 12:51	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville	!					
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 20:19	16984-48-8	



Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.:

: 92491389

Sample: BRGWA-6S	Lab ID:	92491389005	Collecte	ed: 08/18/20) 12:48	Received: 08/	'19/20 10:10 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	9					
рН	6.33	Std. Units			1		09/09/20 17:00		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	A				
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 18:22	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 18:22	7440-38-2	
Barium	0.014	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 18:22	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 18:22	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 18:22	7440-43-9	
Chromium	0.015	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 18:22	7440-47-3	
Cobalt	0.00061J	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 18:22	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 18:22	7439-92-1	
Lithium	0.0026J	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 18:22	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 18:22	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 18:22	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 18:22	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 12:58	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville	•					
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 20:33	16984-48-8	



Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.:	92491389
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QC Batch:	561324	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92491389001, 92491389002, 92491389003, 92491389004, 92491389005

METHOD BLANK: 2977587

Associated Lab Samples: 92491389001, 92491389002, 92491389003, 92491389004, 92491389005

		Blank	Reporting			
Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/21/20 17:31	
Arsenic	mg/L	ND	0.0050	0.00078	08/21/20 17:31	
Barium	mg/L	ND	0.010	0.00071	08/21/20 17:31	
Beryllium	mg/L	ND	0.0030	0.000046	08/21/20 17:31	
Cadmium	mg/L	ND	0.0025	0.00012	08/21/20 17:31	
Chromium	mg/L	ND	0.010	0.00055	08/21/20 17:31	
Cobalt	mg/L	ND	0.0050	0.00038	08/21/20 17:31	
Lead	mg/L	ND	0.0050	0.000036	08/21/20 17:31	
Lithium	mg/L	ND	0.030	0.00081	08/21/20 17:31	
Molybdenum	mg/L	ND	0.010	0.00069	08/21/20 17:31	
Selenium	mg/L	ND	0.010	0.0016	08/21/20 17:31	
Thallium	mg/L	ND	0.0010	0.00014	08/21/20 17:31	

Matrix: Water

LABORATORY CONTROL SAMPLE: 2977588

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.10	103	80-120	
Arsenic	mg/L	0.1	0.094	94	80-120	
Barium	mg/L	0.1	0.096	96	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.097	97	80-120	
Lithium	mg/L	0.1	0.10	100	80-120	
Molybdenum	mg/L	0.1	0.096	96	80-120	
Selenium	mg/L	0.1	0.095	95	80-120	
Thallium	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPI	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977589 2977590												
		02401290001	MS Spike	MSD Spike	Me	MSD	MS	MED	% P oo		Mox		
Parameter	l Inits	92491369001 Result	Conc	Conc	Result	Result	% Rec	% Rec	1 imits	RPD	RPD	Qual	
	01110						/01100	/01100				Quui	
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	106	105	75-125	1	20		
Arsenic	mg/L	ND	0.1	0.1	0.094	0.095	94	95	75-125	2	20		
Barium	mg/L	0.022	0.1	0.1	0.13	0.12	108	96	75-125	9	20		
Beryllium	mg/L	ND	0.1	0.1	0.095	0.097	95	97	75-125	2	20		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

MATRIX SPIKE & MATRIX SP	PIKE DUPLI	CATE: 2977		2977590								
			MS	MSD								
	ę	92491389001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Cadmium	mg/L	ND	0.1	0.1	0.097	0.10	97	100	75-125	3	20	
Chromium	mg/L	0.0069J	0.1	0.1	0.11	0.11	102	101	75-125	1	20	
Cobalt	mg/L	0.00048J	0.1	0.1	0.10	0.099	99	99	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	1	20	
Lithium	mg/L	0.00095J	0.1	0.1	0.098	0.098	97	97	75-125	0	20	
Molybdenum	mg/L	0.0015J	0.1	0.1	0.10	0.10	99	101	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.095	0.091	94	90	75-125	4	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD/E E	BACKGROUND V	VELLS									
Pace Project No.:	92491389											
QC Batch:	561377		Analy	sis Metho	od:	EPA 7470A						
QC Batch Method:	EPA 7470A		Analy	sis Descr	iption:	7470 Merce	ury					
			Labo	ratory:		Pace Analy	tical Ser	vices - Peach	tree Corne	ers, GA		
Associated Lab Sar	nples: 924913890	001, 9249138900	02, 9249138	9003, 924	91389004,	, 924913890	005					
METHOD BLANK:	2977870			Matrix: W	/ater							
Associated Lab Sar	nples: 924913890	001, 9249138900	02, 9249138	9003, 924	91389004,	, 924913890	005					
			Blan	nk	Reporting							
Parar	neter	Units	Resu	ult	Limit	MD		Analyzed	Q.	ualifiers		
Mercury		mg/L		ND	0.000	50 0.0	000078	08/21/20 12	:32			
LABORATORY CO	NTROL SAMPLE:	2977871										
			Spike	LC	CS	LCS	%	Rec				
Parar	neter	Units	Conc.	Re	sult	% Rec	L	imits	Qualifiers			
Mercury		mg/L	0.002	5	0.0027	10	8	80-120				
MATRIX SPIKE & N	ATRIX SPIKE DUP	LICATE: 2977	872		297787	3						
			MS	MSD								
Dava		92491389001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	0
Paramete	r Units	Result	Conc.	Conc.	Result	Result	% Rec	C % Rec	LIMITS	RPD	RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0026	0.0026	1	04 106	5 75-125	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QC Batch:	5612	36		Anal	vsis Metho	d:	EPA 300.0	Rev 2.1 19	93				
QC Batch Method:	FPA :	300.0 Rev 2.	1 1993	Anal	vsis Descri	ntion:	300.0 IC Ar	ions					
				Labo	pratory:	p	Pace Analy	tical Servio	ces - Ashevi	le			
Associated Lab Sa	mples:	924913890	001, 9249138900	2, 9249138	39003, 924	91389004	, 924913890	05					
METHOD BLANK:	29770	10			Matrix: W	ater							
Associated Lab Sa	mples:	924913890	001, 9249138900	2, 9249138	39003, 924	91389004	, 924913890	05					
				Bla	nk	Reporting							
Para	meter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	ualifiers		
Fluoride			mg/L		ND	0.	10	0.050 0	8/20/20 16:	29			
LABORATORY CO	NTROL	SAMPLE:	2977011										
5				Spike	LC	S	LCS	% F	Rec	- <i></i>			
Para	meter		Units	Conc.	Res	sult	% Rec	Lim	uts (Jualifiers	_		
Fluoride			mg/L	2	.5	2.4	9	5	90-110				
MATRIX SPIKE & M	MATRIX	SPIKE DUP	LICATE: 2977	012 MS	MSD	297701	3						
			92490037006	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	er	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Fluoride		mg/L	0.055J	2.5	2.5	2.7	2.4	107	94	90-110	12	10	R1
MATRIX SPIKE & M	MATRIX	SPIKE DUPI	LICATE: 2977	014		297701	5						
				MS	MSD								
Paramete	er	Units	92491455002 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride		mg/L	ND	2.5	2.5	2.4	2.3	95	92	90-110	4	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

Sample: BRGWA-5I PWS:	Lab ID: 924913890 Site ID:	001 Collected: 08/18/20 09:40 Sample Type:	Received:	08/19/20 10:10	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Servi	ces - Greensburg				
Radium-226	EPA 9315	0.0774 ± 0.196 (0.479) C:76% T:NA	pCi/L	09/02/20 07:40	13982-63-3	
	Pace Analytical Servi	ces - Greensburg				
Radium-228	EPA 9320	0.453 ± 0.459 (0.950) C:53% T:92%	pCi/L	09/09/20 12:05	5 15262-20-1	
	Pace Analytical Servi	ces - Greensburg				
Total Radium	Total Radium (Calculation	0.530 ± 0.655 (1.43)	pCi/L	09/10/20 13:23	3 7440-14-4	



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

Sample: BRGWA-5S PWS:	Lab ID: 92491 Site ID:	389002 Collected: 08/18/20 10:15 Sample Type:	Received:	08/19/20 10:10	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 9315	0.241 ± 0.241 (0.446) C:86% T:NA	pCi/L	09/02/20 07:41	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 9320	0.340 ± 0.449 (0.959) C:59% T:93%	pCi/L	09/09/20 12:05	5 15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.581 ± 0.690 (1.41)	pCi/L	09/10/20 13:23	3 7440-14-4	



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

	-					
Sample: BRGWA-2I PWS:	Lab ID: 9249 Site ID:	1389003 Collected: 08/18/20 10:4 Sample Type:	5 Received:	08/19/20 10:10 N	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.0861 ± 0.243 (0.593) C:77% T:NA	pCi/L	09/02/20 07:41	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	-0.176 ± 0.358 (0.872) C:61% T:91%	pCi/L	09/09/20 12:05	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.0861 ± 0.601 (1.47)	pCi/L	09/10/20 13:23	7440-14-4	



Qual

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

Total Radium

•					
Sample: BRGWA-2S PWS:	Lab ID: 9249138 Site ID:	39004 Collected: 08/18/20 11:38 Sample Type:	Received:	08/19/20 10:10	Matrix: Water
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.
	Pace Analytical Se	rvices - Greensburg			
Radium-226	EPA 9315	0.189 ± 0.267 (0.570) C:70% T:NA	pCi/L	09/02/20 07:4	1 13982-63-3
	Pace Analytical Se	rvices - Greensburg			
Radium-228	EPA 9320	1.03 ± 0.516 (0.891) C:61% T:81%	pCi/L	09/09/20 12:0	5 15262-20-1

1.22 ± 0.783 (1.46)

pCi/L

09/10/20 13:23 7440-14-4

Pace Analytical Services - Greensburg

Total Radium

Calculation



Qual

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

•					
Sample: BRGWA-6S PWS:	Lab ID: 92491 Site ID:	1389005 Collected: 08/18/20 12:48 Sample Type: 0	Received:	08/19/20 10:10 Ma	atrix: Water
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.
	Pace Analytical	Services - Greensburg			
Radium-226	EPA 9315	-0.0918 ± 0.174 (0.573) C:79% T:NA	pCi/L	09/02/20 08:46	13982-63-3
	Pace Analytical	Services - Greensburg			
Radium-228	EPA 9320	0.453 ± 0.384 (0.763) C:66% T:81%	pCi/L	09/09/20 12:05	15262-20-1
	Pace Analytical	Services - Greensburg			
Total Radium	Total Radium Calculation	0.453 ± 0.558 (1.34)	pCi/L	09/10/20 13:23	7440-14-4



QUALITY CONTROL - RADIOCHEMISTRY

Project:	BRANCH BCD/E BACKGROUND WELLS					
Pace Project No.:	92491389					
QC Batch:	411435	Analysis Method:	EPA 9320			
QC Batch Method: EPA 9320		Analysis Description:	n: 9320 Radium 228			
		Laboratory:	Pace Analytical S	ervices - Greensburg	g	
Associated Lab Sam	ples: 92491389001	, 92491389002, 92491389003, 92491389004	4, 92491389005			
METHOD BLANK:	1990342	Matrix: Water				
Associated Lab Sam	ples: 92491389001	, 92491389002, 92491389003, 92491389004	4, 92491389005			
Param	neter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-228	0.6	64 ± 0.374 (0.672) C:70% T:89%	pCi/L	09/09/20 12:03		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL - RADIOCHEMISTRY

Project:	BRANCH BCD/E BACKGROUND WELLS						
Pace Project No.:	92491389						
QC Batch:	411373		Analysis Method:	EPA 9315			
QC Batch Method:	EPA 9315 Analysis Description:		9315 Total Radium				
			Laboratory:	Pace Analytical S	Services - Greensbur	g	
Associated Lab Sam	ples: 924913890	001, 924913890	02, 92491389003, 9249138900	04, 92491389005			
METHOD BLANK:	1989993		Matrix: Water				
Associated Lab Sam	nples: 924913890	001, 924913890	02, 92491389003, 9249138900	04, 92491389005			
Param	neter	Act ±	Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-226		0.0671 ± 0.195	(0.481) C:88% T:NA	pCi/L	09/02/20 07:31		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

R1 RPD value was outside control limits.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH BCD/E BACKGROUND WELLS

Pace Project No.: 92491389

Analytical Lab ID QC Batch Method QC Batch Batch Sample ID **Analytical Method** 92491389001 **BRGWA-5I** 92491389002 **BRGWA-5S** 92491389003 BRGWA-2I 92491389004 **BRGWA-2S** 92491389005 **BRGWA-6S** 92491389001 BRGWA-5I EPA 3005A 561324 EPA 6020B 561396 92491389002 **BRGWA-5S** EPA 3005A 561324 EPA 6020B 561396 92491389003 BRGWA-2I EPA 3005A 561324 EPA 6020B 561396 92491389004 **BRGWA-2S** EPA 3005A 561324 EPA 6020B 561396 92491389005 **BRGWA-6S** 561324 EPA 6020B EPA 3005A 561396 92491389001 BRGWA-5I EPA 7470A 561377 EPA 7470A 561555 92491389002 **BRGWA-5S** EPA 7470A 561377 EPA 7470A 561555 92491389003 BRGWA-2I EPA 7470A 561377 EPA 7470A 561555 92491389004 **BRGWA-2S** EPA 7470A 561377 EPA 7470A 561555 561377 92491389005 **BRGWA-6S** EPA 7470A EPA 7470A 561555 92491389001 **BRGWA-5I** EPA 9315 411373 92491389002 **BRGWA-5S** EPA 9315 411373 92491389003 BRGWA-2I EPA 9315 411373 92491389004 **BRGWA-2S** EPA 9315 411373 92491389005 **BRGWA-6S** EPA 9315 411373 92491389001 BRGWA-5I EPA 9320 411435 92491389002 **BRGWA-5S** EPA 9320 411435 92491389003 BRGWA-2I EPA 9320 411435 **BRGWA-2S** 92491389004 EPA 9320 411435 **BRGWA-6S** 92491389005 EPA 9320 411435 92491389001 **BRGWA-5I Total Radium Calculation** 413341 92491389002 **BRGWA-5S Total Radium Calculation** 413341 92491389003 BRGWA-2I **Total Radium Calculation** 413341 92491389004 **BRGWA-2S Total Radium Calculation** 413341 92491389005 **BRGWA-6S Total Radium Calculation** 413341 92491389001 BRGWA-5I EPA 300.0 Rev 2.1 1993 561236 92491389002 **BRGWA-5S** EPA 300.0 Rev 2.1 1993 561236 92491389003 BRGWA-2I EPA 300.0 Rev 2.1 1993 561236 92491389004 **BRGWA-2S** 561236 EPA 300.0 Rev 2.1 1993 92491389005 **BRGWA-6S** EPA 300.0 Rev 2.1 1993 561236
Tracking #:	ent 🗠 Commercial	Pace Othe 924	91389
Custody Seal on Cooler/Box Present:	no Seals	s intact: Yes	no
Packing Material: DBubble Wrap DBubbl	e Bags Rone	Other	
Thermometer Used 233	Type of Ice: (We	Blue None] Samples on ice, cooling process has begun
Cooler Temperature 218	Biological Tissue	is Frozen: Yes No	Date and Initials of person examining
Temp should be above freezing to 6°C		Comments:	contents:
Chain of Custody Present:	Pres DNO DN/A	1.	
Chain of Custody Filled Out:	Dies DNO DNIA	2.	
Chain of Custody Relinquished:	Pres DNO DNIA	3.	
Sampler Name & Signature on COC:	Tes DNO DN/A	4.	
Samples Arrived within Hold Time:		5.	
Short Hold Time Analysis (<72hr):		6.	
Rush Turn Around Time Requested:		7.	
Sufficient Volume:	TYes DNO DN/A	8.	
Correct Containers Used:	TYes DNO DNIA	9.	
-Pace Containers Used:	BYes DNO DNIA	\	1
Containers Intact:	Eres DNO DNIA	10.	
Filtered volume received for Dissolved tests	DYes DNO DNIA	11.	
Sample Labels match COC:	-DYes UNO DNIA	12.	
-Includes date/time/ID/Analysis Matrix:	/		
An containers needing preservation have been checked.	ETTES ONO ON/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	Pres DNO DN/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	DYes No	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:		14.	
Headspace in VOA Vials (>6mm):	- EVes END OW	15.	
Trip Blank Present:	OYes OND DNG	16.	
Trip Blank Custody Seals Present	Dyes DNo UNIA		
Pace Trip Blank Lot # (if purchased):			
Client Notification/ Resolution:			Field Data Required? Y / N
Person Contacted:	Date	/Time:	
Comments/ Resolution:			

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pac	e Analytical	Document Name: Bottle Identification Form (BIF) Document No.: F-CAR-CS-043-Rev.00	Document Issued: March 14, 2019 Page 1 of 1 Issuing Authority: Pace Carolinas Quality Office
Check mark top h verticed and within ghiples. Exceptions: VOA, Colife ************************************	nalf of box if pH and n the acceptance ra prm, TOC, Oil and Grease, box is to list neimbe	/or dechlorination is Project # nge for preservation DRO/8015 (water) DOC, LLHg or of bottle	MOH: 92491303 PM: KLH1 Due Date: 09/02/2 CLIENT: GA-GA Power
Imatrix Imatrix Imatrix Imatrix	EPZU-SOO mL Plastic Unpreserved (N/A) EP2U-SOO mL Plastic Unpreserved (N/A) EP1U-1 liter Plastic Unpreserved (N/A) EP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-1) BP3M-250 mL plastic HNO3 (pH < 2) (Cl-1) Ap4S-125 mL Plastic HNO3 (pH < 2) (Cl-1) EP3M-250 mL plastic HNO3 (pH < 2) (Cl-1)	Base-125 mL Plastic NaOH (gh > 12) (CH) Base-125 mL Plastic NaOH (gh > 12) (CH) Base-125 mL Plastic NaOH (gh > 12) (CH) MGEUL-Wide-mouthed Glass Jar Unprescreed (N/A) (CH) AG3U-250 mL amber Unpreserved (N/A) (CH)	All activity of the North Carolina DEHNE Certification of the Sector of

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Therm ID#: 227							acking #	Lab Tr								erial Usec	king Mat						
LAB Sample Temperature Info:	'A	/N N	Y	hours) :	17 (<72)	PRESEN	HOLDS	SHORT			one	N Y	P P	Slu	Wet	Ised:	e of Ice (I.	∕la, Se, TI	Hg, Pb, U, I	Cd, Cr, Co,	Sb, As, Ba, Be,	p IV Metals):
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Lab sample Receipt Checklist: Custody Seals Present/Intact Y N NA									1	1		X JET	ו ומו	7	PT	nd Wol c	Backern	ROVE	P. Branc	Project Nar	13	@southernco.ci -7239	ne: (404) 506
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awn hydroxide, (s) zine acetate, c acid, (B) ammonium sulfate,	ne acid, (4) so ne, (A) ascorbi	(9) hexar her	d, (0) 01	um thio	2, (8) sodi	bisulfat) sodium Wdroxid	sthanol, (i monium)	ue (5) .				anch	PlantBr	daress	on Info/A	e Collecti	5					y To: Golder
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Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

September 15, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH BCD NETWORK Pace Project No.: 92491393

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between August 19, 2020 and August 21, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Charlotte
- Pace Analytical Services Peachtree Corners, GA
- Pace Analytical Services Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Shing

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta



Brian Steele, Golder

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L

South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

SAMPLE SUMMARY

RRANCH BCD NETWORK Project:

Pace Project No.: 92491393

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
92491393001	BRGWA-12I	Water	08/18/20 13:05	08/19/20 10:10
92491393002	BRGWA-12S	Water	08/18/20 16:25	08/19/20 10:10
92491393003	BRGWA-23S	Water	08/18/20 15:28	08/19/20 10:10
92491393004	BRGWC-25I	Water	08/19/20 09:50	08/20/20 10:03
92491393005	BRGWC-29I	Water	08/19/20 10:50	08/20/20 10:03
92491393006	BRGWC-27I	Water	08/19/20 12:05	08/20/20 10:03
92491393007	BRGWC-32S	Water	08/19/20 13:20	08/20/20 10:03
92491393008	BRGWC-30I	Water	08/19/20 15:05	08/20/20 10:03
92491393009	BRGWC-45	Water	08/20/20 12:12	08/21/20 11:08
92491393010	BRGWC-47	Water	08/20/20 14:00	08/21/20 11:08
92491393011	BRGWC-50	Water	08/20/20 09:32	08/21/20 11:08
92491393012	BRGWC-52I	Water	08/20/20 09:45	08/21/20 11:08
92491393013	DUP-2	Water	08/20/20 00:00	08/21/20 11:08
92491393014	FB-2	Water	08/20/20 09:20	08/21/20 11:08
92491393015	EB-1	Water	08/20/20 12:45	08/21/20 11:08



SAMPLE ANALYTE COUNT

Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92491393001	BRGWA-12I	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393002	BRGWA-12S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393003	BRGWA-23S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393004	BRGWC-25I	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393005	BRGWC-29I	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393006	BRGWC-27I	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393007	BRGWC-32S	EPA 6020B	CW1	12	PASI-GA



SAMPLE ANALYTE COUNT

Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393008	BRGWC-30I	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393009	BRGWC-45	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393010	BRGWC-47	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393011	BRGWC-50	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393012	BRGWC-52I	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393013	DUP-2	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA



SAMPLE ANALYTE COUNT

Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393014	FB-2	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491393015	EB-1	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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

PASI-PA = Pace Analytical Services - Greensburg



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491393001	BRGWA-12I					
	рН	6.25	Std. Units		09/09/20 17:01	
EPA 6020B	Antimony	0.0067	mg/L	0.0030	08/21/20 18:40	
EPA 6020B	Barium	0.053	mg/L	0.010	08/21/20 18:40	
EPA 6020B	Chromium	0.0023J	mg/L	0.010	08/21/20 18:40	
EPA 6020B	Lithium	0.0039J	ma/L	0.030	08/21/20 18:40	
EPA 9315	Radium-226	0.240 ± 0.122 (0.185)	pCi/L		09/08/20 17:44	
EPA 9320	Radium-228	0.748 ± 0.489 (0.931) C:70%	pCi/L		09/09/20 14:47	
Total Radium Calculation	Total Radium	0.988 ± 0.611 (1.12)	pCi/L		09/10/20 15:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.052Ĵ	mg/L	0.10	08/20/20 20:46	
92491393002	BRGWA-12S		-			
	рН	5 75	Std Units		09/09/20 17:01	
EPA 6020B	Barium	0.058	ma/l	0.010	08/21/20 18:45	
EPA 6020B	Chromium	0.0029.1	mg/L	0.010	08/21/20 18:45	
EPA 9315	Radium-226	0.157 ± 0.111 (0.189)	pCi/L	0.010	09/08/20 17:44	
		C:90% T:NA				
EPA 9320	Radium-228	0.812 ± 0.497 (0.953) C:70% T:90%	pCi/L		09/09/20 11:25	
Total Radium Calculation	Total Radium	0.969 ± 0.608 (1.14)	pCi/L		09/10/20 15:16	
92491393003	BRGWA-23S					
	рН	5.56	Std. Units		09/09/20 17:01	
EPA 6020B	Barium	0.067	mg/L	0.010	08/21/20 18:51	
EPA 6020B	Chromium	0.0017J	mg/L	0.010	08/21/20 18:51	
EPA 6020B	Cobalt	0.00067J	mg/L	0.0050	08/21/20 18:51	
EPA 6020B	Lithium	0.0099J	mg/L	0.030	08/21/20 18:51	
EPA 6020B	Selenium	0.0033J	mg/L	0.010	08/21/20 18:51	
EPA 9315	Radium-226	0.197 ± 0.113 (0.177) C:84% T:NA	pCi/L		09/08/20 17:44	
EPA 9320	Radium-228	0.587 ± 0.442 (0.866) C:72% T:79%	pCi/L		09/09/20 11:25	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab Sample ID Client Sample ID Qualifiers Method Parameters Result Units Report Limit Analyzed 92491393003 **BRGWA-23S** 0.784 ± **Total Radium Calculation** Total Radium pCi/L 09/10/20 15:16 0.555 (1.04)92491393004 **BRGWC-25I** 6.32 Std. Units 09/09/20 17:01 pН EPA 6020B Barium 0.027 0.010 08/25/20 17:36 mg/L EPA 6020B Cobalt 0.0039J 0.0050 mg/L 08/25/20 17:36 EPA 6020B Molybdenum 0.00081J mg/L 0.010 08/25/20 17:36 0.000083J EPA 7470A Mercury mg/L 0.00020 08/25/20 10:10 0.288 ± EPA 9315 Radium-226 pCi/L 09/08/20 17:44 0.130 (0.188) C:86% T:NA EPA 9320 Radium-228 0.179 ± pCi/L 09/09/20 11:25 0.343 (0.752)C:72% T:90% Total Radium Calculation **Total Radium** 0.467 ± pCi/L 09/10/20 15:16 0.473 (0.940)EPA 300.0 Rev 2.1 1993 0.10 08/21/20 17:55 Fluoride 0.17 mg/L M1 92491393005 BRGWC-29I pН 4.67 Std. Units 09/09/20 17:01 EPA 6020B Barium 0.019 mg/L 0.010 08/25/20 17:42 0.00074J 08/25/20 17:42 EPA 6020B Beryllium 0.0030 mg/L EPA 6020B 08/25/20 17:42 Cobalt 0.0065 mg/L 0.0050 EPA 6020B Lead 0.00025J mg/L 0.0050 08/26/20 17:54 EPA 6020B Lithium 0.0029J mg/L 0.030 08/25/20 17:42 EPA 6020B Thallium 0.00016J mg/L 0.0010 08/26/20 17:54 EPA 7470A Mercury 0.000098J 0.00020 08/25/20 10:13 mg/L EPA 9315 Radium-226 0.299 ± pCi/L 09/08/20 17:44 0.162 (0.267)C:91% T:NÁ EPA 9320 Radium-228 0.577 ± pCi/L 09/09/20 11:25 0.428 (0.848)C:77% T:82% 0.876 ± Total Radium Calculation **Total Radium** pCi/L 09/10/20 15:16 0.590 (1.12)EPA 300.0 Rev 2.1 1993 Fluoride 0.12 mg/L 0.10 08/21/20 18:35 92491393006 BRGWC-27I Std. Units pН 5.81 09/09/20 17:01 EPA 6020B Barium 0.016 mg/L 0.010 08/25/20 17:48 EPA 6020B Beryllium 0.000099J 0.0030 08/25/20 17:48 mg/L EPA 6020B Cobalt 0.0078 mg/L 0.0050 08/25/20 17:48 EPA 6020B Lithium 0.0014J 08/25/20 17:48 mg/L 0.030

REPORT OF LABORATORY ANALYSIS

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Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491393006	BRGWC-27I			-		
EPA 9315	Radium-226	0.260 ± 0.132	pCi/L		09/08/20 17:44	
		(0.203) C:91% T:NA				
EPA 9320	Radium-228	0.424 ± 0.358 (0.718) C:74%	pCi/L		09/09/20 11:26	
Total Radium Calculation	Total Radium	1:87% 0.684 ± 0.490 (0.921)	pCi/L		09/10/20 15:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.19	mg/L	0.10	08/21/20 18:48	
92491393007	BRGWC-32S					
	рН	5.97	Std. Units		09/09/20 17:01	
EPA 6020B	Barium	0.025	mg/L	0.010	08/25/20 17:53	
EPA 6020B	Chromium	0.0021J	mg/L	0.010	08/25/20 17:53	
EPA 6020B	Lithium	0.0020J	mg/L	0.030	08/25/20 17:53	
EPA 6020B	Selenium	0.099	mg/L	0.010	08/25/20 17:53	
EPA 7470A	Mercury	0.000082J	mg/L	0.00020	08/25/20 10:18	
EPA 9315	Radium-226	0.0531 ± 0.0881 (0.172) C:92% T:NA	pCi/L		09/08/20 17:44	
EPA 9320	Radium-228	0.429 ± 0.407 (0.839) C:75% T:82%	pCi/L		09/09/20 11:26	
Total Radium Calculation	Total Radium	0.482 ± 0.495 (1.01)	pCi/L		09/10/20 15:16	
92491393008	BRGWC-30I					
	рН	6.36	Std. Units		09/09/20 17:01	
EPA 6020B	Barium	0.026	mg/L	0.010	08/25/20 17:59	
EPA 6020B	Cobalt	0.00080J	mg/L	0.0050	08/25/20 17:59	
EPA 6020B	Lithium	0.018J	mg/L	0.030	08/25/20 17:59	
EPA 6020B	Molybdenum	0.00078J	mg/L	0.010	08/25/20 17:59	
EPA 7470A	Mercury	0.000082J	mg/L	0.00020	08/25/20 10:25	
EPA 9315	Radium-226	0.299 ± 0.125 (0.167) C:88% T:NA	pCi/L		09/08/20 17:44	
EPA 9320	Radium-228	0.703 ± 0.450 (0.863) C:72% T:86%	pCi/L		09/09/20 11:26	
Total Radium Calculation	Total Radium	1.00 ± 0.575 (1.03)	pCi/L		09/11/20 08:26	
EPA 300.0 Rev 2.1 1993	Fluoride	0.14	mg/L	0.10	08/21/20 19:15	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491393009	BRGWC-45					
	pН	5.86	Std. Units		09/09/20 17:01	
EPA 6020B	Antimony	0.0031	mg/L	0.0030	08/27/20 16:48	
EPA 6020B	Barium	0.083	mg/L	0.010	08/27/20 16:48	
EPA 6020B	Beryllium	0.000046J	mg/L	0.0030	08/27/20 16:48	
EPA 6020B	Cadmium	0.00014J	mg/L	0.0025	08/27/20 16:48	
EPA 6020B	Chromium	0.0010J	mg/L	0.010	08/27/20 16:48	
EPA 6020B	Cobalt	0.022	mg/L	0.0050	08/27/20 16:48	
EPA 6020B	Lead	0.00021J	mg/L	0.0050	08/27/20 16:48	
EPA 6020B	Lithium	0.0034J	mg/L	0.030	08/27/20 16:48	
EPA 6020B	Molybdenum	0.00076J	mg/L	0.010	08/27/20 16:48	
EPA 9315	Radium-226	0.194 ± 0.154 (0.275) C:88% T:NA	pCi/L		09/03/20 18:45	
EPA 9320	Radium-228	0.307 ± 0.468 (1.01) C:62% T:74%	pCi/L		09/09/20 15:08	
Total Radium Calculation	Total Radium	0.501 ± 0.622 (1.29)	pCi/L		09/10/20 15:16	
92491393010	BRGWC-47					
	рН	5.75	Std. Units		09/09/20 17:01	
EPA 6020B	Arsenic	0.00089J	mg/L	0.0050	08/27/20 16:53	
EPA 6020B	Barium	0.035	mg/L	0.010	08/27/20 16:53	
EPA 6020B	Beryllium	0.000047J	mg/L	0.0030	08/27/20 16:53	
EPA 6020B	Chromium	0.00064J	mg/L	0.010	08/27/20 16:53	
EPA 6020B	Cobalt	0.00043J	mg/L	0.0050	08/27/20 16:53	
EPA 6020B	Lead	0.000048J	mg/L	0.0050	08/27/20 16:53	
EPA 6020B	Lithium	0.044	mg/L	0.030	08/27/20 16:53	
EPA 6020B	Selenium	0.0016J	mg/L	0.010	08/27/20 16:53	
EPA 9315	Radium-226	0.500 ± 0.164 (0.181) C:86% T:NA	pCi/L		09/03/20 18:45	
EPA 9320	Radium-228	1.14 ± 0.652 (1.17) C:53% T:73%	pCi/L		09/09/20 15:08	
Total Radium Calculation	Total Radium	1.64 ± 0.816 (1.35)	pCi/L		09/10/20 15:16	
92491393011	BRGWC-50					
	рН	5.26	Std. Units		09/09/20 17:01	
EPA 6020B	Barium	0.019	mg/L	0.010	08/27/20 16:59	
EPA 6020B	Beryllium	0.0044	mg/L	0.0030	08/27/20 16:59	
EPA 6020B	Cadmium	0.0079	mg/L	0.0025	08/27/20 16:59	
EPA 6020B	Chromium	0.00065J	mg/L	0.010	08/27/20 16:59	

REPORT OF LABORATORY ANALYSIS

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Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491393011	BRGWC-50					
EPA 6020B	Cobalt	1.4	mg/L	0.025	08/28/20 15:08	
EPA 6020B	Lead	0.000067J	mg/L	0.0050	08/27/20 16:59	
EPA 6020B	Lithium	0.040	mg/L	0.030	08/27/20 16:59	
EPA 6020B	Selenium	0.0037J	mg/L	0.010	08/27/20 16:59	
EPA 9315	Radium-226	0.735 ± 0.193 (0.151) C:89% T:NA	pCi/L		09/03/20 18:18	
EPA 9320	Radium-228	2.04 ± 0.699 (0.948) C:71% T:67%	pCi/L		09/09/20 15:08	
Total Radium Calculation	Total Radium	2.78 ± 0.892 (1.10)	pCi/L		09/10/20 15:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.39	mg/L	0.10	08/25/20 18:20	
92491393012	BRGWC-52I					
	рН	6.85	Std. Units		09/09/20 17:01	
EPA 6020B	Arsenic	0.0031J	mg/L	0.0050	08/27/20 17:05	
EPA 6020B	Barium	0.017	mg/L	0.010	08/27/20 17:05	
EPA 6020B	Lithium	0.0022J	mg/L	0.030	08/27/20 17:05	
EPA 6020B	Molybdenum	0.0012J	mg/L	0.010	08/27/20 17:05	
EPA 9315	Radium-226	0.684 ± 0.388 (0.589) C:84% T:NA	pCi/L		09/04/20 07:17	
EPA 9320	Radium-228	2.29 ± 0.728 (0.901) C:70% T:69%	pCi/L		09/09/20 14:43	
Total Radium Calculation	Total Radium	2.97 ± 1.12 (1.49)	pCi/L		09/10/20 15:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.23	mg/L	0.10	08/25/20 19:05	
92491393013	DUP-2					
EPA 6020B	Barium	0.019	mg/L	0.010	08/27/20 17:10	
EPA 6020B	Beryllium	0.0046	mg/L	0.0030	08/27/20 17:10	
EPA 6020B	Cadmium	0.0077	mg/L	0.0025	08/27/20 17:10	
EPA 6020B	Chromium	0.00065J	mg/L	0.010	08/27/20 17:10	
EPA 6020B	Cobalt	1.4	mg/L	0.025	08/28/20 15:13	
EPA 6020B	Lead	0.000050J	mg/L	0.0050	08/27/20 17:10	
EPA 6020B	Lithium	0.041	mg/L	0.030	08/27/20 17:10	
EPA 6020B EPA 9315	Selenium Radium-226	0.0038J 0.602 ± 0.324 (0.420) C:87% TNA	mg/L pCi/L	0.010	08/27/20 17:10 09/04/20 07:18	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491393013	DUP-2					
EPA 9320	Radium-228	2.11 ± 0.682 (0.878) C:71% T:75%	pCi/L		09/09/20 14:43	
Total Radium Calculation	Total Radium	2.71 ± 1.01 (1.30)	pCi/L		09/10/20 15:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.38	mg/L	0.10	08/25/20 19:20	
92491393014	FB-2					
EPA 9315	Radium-226	0.0152 ± 0.200 (0.536) C:84% T:NA	pCi/L		09/04/20 07:18	
EPA 9320	Radium-228	0.713 ± 0.432 (0.796) C:69% T:83%	pCi/L		09/09/20 14:43	
Total Radium Calculation	Total Radium	0.728 ± 0.632 (1.33)	pCi/L		09/10/20 15:16	
92491393015	EB-1					
EPA 7470A EPA 9315	Mercury Radium-226	0.000082J 0.115 ± 0.167 (0.346) C:89% T:NA	mg/L pCi/L	0.00020	08/25/20 09:25 09/04/20 07:51	
EPA 9320	Radium-228	0.206 ± 0.334 (0.724) C:69% T:84%	pCi/L		09/09/20 14:43	
Total Radium Calculation	Total Radium	0.321 ± 0.501 (1.07)	pCi/L		09/10/20 15:16	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWA-12I	Lab ID:	Lab ID: 92491393001			0 13:05	Received: 08/19/20 10:10 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	;					
рН	6.25	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	ЗA				
Antimony	0.0067	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 18:40	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 18:40	7440-38-2	
Barium	0.053	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 18:40	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 18:40	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 18:40	7440-43-9	
Chromium	0.0023J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 18:40	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 18:40	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 18:40	7439-92-1	
Lithium	0.0039J	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 18:40	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 18:40	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 18:40	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 18:40	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЭA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:01	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.052J	mg/L	0.10	0.050	1		08/20/20 20:46	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWA-12S	Lab ID: 92491393002 Collected: 08/18/20 16:25 Received: 08/19/20 10:10 Matrix: Water								
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Service	s - Charlotte	;					
рН	5.75	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	hod: E	PA 3005A			
	Pace Ana	lytical Service	s - Peachtre	e Corners, C	βA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 18:45	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 18:45	7440-38-2	
Barium	0.058	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 18:45	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 18:45	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 18:45	7440-43-9	
Chromium	0.0029J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 18:45	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 18:45	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 18:45	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 18:45	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 18:45	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 18:45	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 18:45	7440-28-0	
7470 Mercury	Analytical	Method: EPA	7470A Prej	paration Met	hod: El	PA 7470A			
	Pace Ana	lytical Service	s - Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:03	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Service	s - Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 20:59	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWA-23S	Lab ID:	92491393003	Collecte	ed: 08/18/20) 15:28	Received: 08/	19/20 10:10 Ma	atrix: Water	
Devenuelant	Deculto	Linita	Report	MDI		Dronorod	Arrahmad		Qual
Parameters		Units	Limit	MDL	DF	Prepared	Analyzed	CAS NO.	Quai
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	9					
рН	5.56	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	S A				
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 18:51	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 18:51	7440-38-2	
Barium	0.067	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 18:51	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 18:51	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 18:51	7440-43-9	
Chromium	0.0017J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 18:51	7440-47-3	
Cobalt	0.00067J	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 18:51	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 18:51	7439-92-1	
Lithium	0.0099J	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 18:51	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 18:51	7439-98-7	
Selenium	0.0033J	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 18:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 18:51	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ΒA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:06	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville	•					
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 21:13	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-25I	Lab ID:	4 Collected: 08/19/20 09:50			Received: 08/20/20 10:03 Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	lytical Services	- Charlotte	•					
рН	6.32	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	A 3005A			
	Pace Anal	lytical Services	- Peachtre	e Corners, C	S A				
Antimony	ND	ma/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 17:36	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 17:36	7440-38-2	
Barium	0.027	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 17:36	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 17:36	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 17:36	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 17:36	7440-47-3	
Cobalt	0.0039J	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 17:36	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 17:49	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 17:36	7439-93-2	
Molybdenum	0.00081J	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 17:36	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 17:36	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 17:49	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EP	A 7470A			
	Pace Anal	lytical Services	- Peachtre	e Corners, C	ΒA				
Mercury	0.000083J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:10	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Anal	lytical Services	- Asheville						
Fluoride	0.17	mg/L	0.10	0.050	1		08/21/20 17:55	16984-48-8	M1



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-29I	Lab ID: 92491393005 Collected: 08/19/20 10:50 Received: 08/20/20 10:03 Matrix: Water								
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte)					
рН	4.67	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	GΑ				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 17:42	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 17:42	7440-38-2	
Barium	0.019	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 17:42	7440-39-3	
Beryllium	0.00074J	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 17:42	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 17:42	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 17:42	7440-47-3	
Cobalt	0.0065	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 17:42	7440-48-4	
Lead	0.00025J	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 17:54	7439-92-1	
Lithium	0.0029J	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 17:42	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 17:42	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 17:42	7782-49-2	
Thallium	0.00016J	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 17:54	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EP	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	GΑ				
Mercury	0.000098J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:13	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.12	mg/L	0.10	0.050	1		08/21/20 18:35	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-27I	Lab ID:	6 Collected: 08/19/20 12:05			Received: 08/20/20 10:03 Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte	;					
рН	5.81	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prej	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ΒA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 17:48	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 17:48	7440-38-2	
Barium	0.016	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 17:48	7440-39-3	
Beryllium	0.000099J	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 17:48	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 17:48	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 17:48	7440-47-3	
Cobalt	0.0078	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 17:48	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 18:00	7439-92-1	
Lithium	0.0014J	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 17:48	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 17:48	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 17:48	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 18:00	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prep	paration Met	hod: EP	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ΒA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:15	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville						
Fluoride	0.19	mg/L	0.10	0.050	1		08/21/20 18:48	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-32S	Lab ID:	92491393007	Collecte	ed: 08/19/20	0 13:20	Received: 08/20/20 10:03 Matrix: Water			
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte)					
рН	5.97	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	thod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	GA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 17:53	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 17:53	7440-38-2	
Barium	0.025	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 17:53	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 17:53	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 17:53	7440-43-9	
Chromium	0.0021J	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 17:53	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 17:53	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 18:06	7439-92-1	
Lithium	0.0020J	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 17:53	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 17:53	7439-98-7	
Selenium	0.099	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 17:53	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 18:06	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EP	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	GA				
Mercury	0.000082J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:18	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 19:02	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-30I	Lab ID:	92491393008	Collected: 08/19/20 15:05			Received: 08/20/20 10:03 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte)					
рН	6.36	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	βA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 17:59	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 17:59	7440-38-2	
Barium	0.026	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 17:59	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 17:59	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 17:59	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 17:59	7440-47-3	
Cobalt	0.00080J	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 17:59	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 18:12	7439-92-1	
Lithium	0.018J	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 17:59	7439-93-2	
Molybdenum	0.00078J	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 17:59	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 17:59	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 18:12	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	θA				
Mercury	0.000082J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:25	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.14	mg/L	0.10	0.050	1		08/21/20 19:15	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-45	Lab ID:	92491393009	9 Collected: 08/20/20 12:12			Received: 08/21/20 11:08 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	;					
рН	5.86	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prej	paration Met	thod: EF	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	GΑ				
Antimony	0.0031	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:48	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:48	7440-38-2	
Barium	0.083	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 16:48	7440-39-3	
Beryllium	0.000046J	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 16:48	7440-41-7	
Cadmium	0.00014J	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 16:48	7440-43-9	
Chromium	0.0010J	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 16:48	7440-47-3	
Cobalt	0.022	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 16:48	7440-48-4	
Lead	0.00021J	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:48	7439-92-1	
Lithium	0.0034J	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 16:48	7439-93-2	
Molybdenum	0.00076J	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 16:48	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 16:48	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 16:48	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prep	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	GA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:27	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/25/20 17:21	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-47	Lab ID:	92491393010	Collected: 08/20/20 14:00			Received: 08/21/20 11:08 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte	•					
рН	5.75	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prej	paration Met	hod: EP	A 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ЗA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:53	7440-36-0	
Arsenic	0.00089J	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:53	7440-38-2	
Barium	0.035	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 16:53	7440-39-3	
Beryllium	0.000047J	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 16:53	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 16:53	7440-43-9	
Chromium	0.00064J	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 16:53	7440-47-3	
Cobalt	0.00043J	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 16:53	7440-48-4	
Lead	0.000048J	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:53	7439-92-1	
Lithium	0.044	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 16:53	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 16:53	7439-98-7	
Selenium	0.0016J	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 16:53	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 16:53	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prep	paration Met	hod: EP	A 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ЗA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:29	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/25/20 18:05	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-50	Lab ID:	92491393011	Collected: 08/20/20 09:32			Received: 08/21/20 11:08 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte)					
рН	5.26	Std. Units			1		09/09/20 17:01		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	SA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:59	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:59	7440-38-2	
Barium	0.019	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 16:59	7440-39-3	
Beryllium	0.0044	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 16:59	7440-41-7	
Cadmium	0.0079	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 16:59	7440-43-9	
Chromium	0.00065J	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 16:59	7440-47-3	
Cobalt	1.4	mg/L	0.025	0.0019	5	08/24/20 15:10	08/28/20 15:08	7440-48-4	
Lead	0.000067J	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:59	7439-92-1	
Lithium	0.040	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 16:59	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 16:59	7439-98-7	
Selenium	0.0037J	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 16:59	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 16:59	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	7470A Prej	paration Met	hod: EP	A 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ΒA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:32	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville						
Fluoride	0.39	mg/L	0.10	0.050	1		08/25/20 18:20	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-52I	Lab ID:	92491393012	Collecte	ed: 08/20/20	0 09:45	Received: 08/21/20 11:08 Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
Field Data	Analytical	Method:								
	Pace Ana	lytical Services	- Charlotte	•						
рН	6.85	Std. Units			1		09/09/20 17:01			
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EP	A 3005A				
	Pace Ana	lytical Services	- Peachtre	e Corners, C	SA					
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 17:05	7440-36-0		
Arsenic	0.0031J	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 17:05	7440-38-2		
Barium	0.017	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 17:05	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 17:05	7440-41-7		
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 17:05	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 17:05	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 17:05	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 17:05	7439-92-1		
Lithium	0.0022J	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 17:05	7439-93-2		
Molybdenum	0.0012J	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 17:05	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 17:05	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 17:05	7440-28-0		
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EP	A 7470A				
	Pace Ana	lytical Services	- Peachtre	e Corners, C	θA					
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:34	7439-97-6		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993						
	Pace Ana	lytical Services	- Asheville							
Fluoride	0.23	mg/L	0.10	0.050	1		08/25/20 19:05	16984-48-8		



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: DUP-2	Lab ID:	92491393013	Collecte	ed: 08/20/20	00:00	Received: 08/	21/20 11:08 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Pace Ana	Method: EPA 6 lytical Services	020B Pre - Peachtre	paration Met e Corners, 0	thod: EP 3A	A 3005A			
Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Lead Lithium Molybdenum Selenium	ND 0.019 0.0046 0.0077 0.00065J 1.4 0.000050J 0.041 ND 0.0038J	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0030 0.0050 0.010 0.0025 0.010 0.025 0.0050 0.030 0.030 0.010	0.00028 0.00071 0.000046 0.00012 0.00055 0.0019 0.000036 0.00081 0.00069 0.0016	1 1 1 1 1 5 1 1 1 1	08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10	08/27/20 17:10 08/27/20 17:10 08/27/20 17:10 08/27/20 17:10 08/27/20 17:10 08/27/20 17:10 08/28/20 15:13 08/27/20 17:10 08/27/20 17:10 08/27/20 17:10	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7439-92-1 7439-93-2 7439-98-7 7782-49-2	
Thallium 7470 Mercury	ND Analytical Pace Ana	mg/L Method: EPA 7 lytical Services	0.0010 470A Pre - Peachtre	0.00014 paration Met ee Corners, 0	1 hod: EP GA	08/24/20 15:10 A 7470A	08/27/20 17:10	7440-28-0	
Mercury 300.0 IC Anions 28 Days	ND Analytical Pace Ana	mg/L Method: EPA 3 lytical Services	0.00020 00.0 Rev 2 - Asheville	0.000078 2.1 1993	1	08/24/20 11:30	08/25/20 10:37	7439-97-6	
Fluoride	0.38	mg/L	0.10	0.050	1		08/25/20 19:20	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: FB-2	Lab ID:	Lab ID: 92491393014 Collected: 08/20/20 09:20 Received: 08/21/20 11:08 Matrix: Wa							
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Pace Ana	Method: EPA 6 lytical Services	020B Pre	paration Met ee Corners, C	thod: EF 3A	PA 3005A			
Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Lead Lithium Molybdenum Selenium	ND ND ND ND ND ND ND ND ND	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0030 0.0050 0.010 0.0025 0.010 0.0050 0.0050 0.030 0.030 0.010	0.00028 0.00078 0.00071 0.000046 0.00012 0.00055 0.00038 0.000036 0.00081 0.00069 0.0016	1 1 1 1 1 1 1 1 1	08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10 08/24/20 15:10	08/27/20 17:38 08/27/20 17:38 08/27/20 17:38 08/27/20 17:38 08/27/20 17:38 08/27/20 17:38 08/27/20 17:38 08/27/20 17:38 08/27/20 17:38 08/27/20 17:38	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7439-92-1 7439-93-2 7439-98-7 7782-49-2	
Thallium 7470 Mercury Mercury	ND Analytical Pace Ana ND	mg/L Method: EPA 7 lytical Services mg/L	0.0010 470A Pre - Peachtre 0.00020	0.00014 paration Met ee Corners, 0 0.000078	1 hod: EP GA 1	08/24/20 15:10 A 7470A 08/24/20 11:30	08/27/20 17:38 08/25/20 10:39	7440-28-0 7439-97-6	
300.0 IC Anions 28 Days	Analytical Pace Ana ND	Method: EPA 3 lytical Services mg/L	00.0 Rev 2 - Asheville 0.10	2.1 1993 9 0.050	1		08/25/20 19:35	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: EB-1	Lab ID: 92491393015 Collected: 08/20/20 12:45 Received: 08/21/20 11:08 Matrix							atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EP	A 3005A			
	Pace Ana	liytical Services	- Peachtre	e Corners, C	ΞA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 17:43	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 17:43	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 17:43	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 17:43	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 17:43	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 17:43	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 17:43	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 17:43	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 17:43	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 17:43	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 17:43	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 17:43	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	SA				
Mercury	0.000082J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:25	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
-	Pace Ana	lytical Services	- Asheville	•					
Fluoride	ND	mg/L	0.10	0.050	1		08/25/20 19:50	16984-48-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

QC Batch:	561324	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samp	bles: 92491393001, 92491393002, 92	491393003	

METHOD BLANK: 29775	87	Matrix:	Water			
Associated Lab Samples:	92491393001, 92491393002, 92	491393003				
		Blank	Reporting			
Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/21/20 17:31	
Arsenic	mg/L	ND	0.0050	0.00078	08/21/20 17:31	
Barium	mg/L	ND	0.010	0.00071	08/21/20 17:31	
Beryllium	mg/L	ND	0.0030	0.000046	08/21/20 17:31	
Cadmium	mg/L	ND	0.0025	0.00012	08/21/20 17:31	
Chromium	mg/L	ND	0.010	0.00055	08/21/20 17:31	
Cobalt	mg/L	ND	0.0050	0.00038	08/21/20 17:31	
Lead	mg/L	ND	0.0050	0.000036	08/21/20 17:31	
Lithium	mg/L	ND	0.030	0.00081	08/21/20 17:31	
Molybdenum	mg/L	ND	0.010	0.00069	08/21/20 17:31	
Selenium	mg/L	ND	0.010	0.0016	08/21/20 17:31	
Thallium	mg/L	ND	0.0010	0.00014	08/21/20 17:31	

LABORATORY CONTROL SAMPLE: 2977588

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.10	103	80-120	
Arsenic	mg/L	0.1	0.094	94	80-120	
Barium	mg/L	0.1	0.096	96	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.097	97	80-120	
Lithium	mg/L	0.1	0.10	100	80-120	
Molybdenum	mg/L	0.1	0.096	96	80-120	
Selenium	mg/L	0.1	0.095	95	80-120	
Thallium	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SP	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977589 2977590											
		92491389001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	106	105	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.094	0.095	94	95	75-125	2	20	
Barium	mg/L	0.022	0.1	0.1	0.13	0.12	108	96	75-125	9	20	
Beryllium	mg/L	ND	0.1	0.1	0.095	0.097	95	97	75-125	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

MATRIX SPIKE & MATRIX SPI		2977590										
			MS	MSD								
		92491389001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Cadmium	mg/L	ND	0.1	0.1	0.097	0.10	97	100	75-125	3	20	
Chromium	mg/L	0.0069J	0.1	0.1	0.11	0.11	102	101	75-125	1	20	
Cobalt	mg/L	0.00048J	0.1	0.1	0.10	0.099	99	99	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	1	20	
Lithium	mg/L	0.00095J	0.1	0.1	0.098	0.098	97	97	75-125	0	20	
Molybdenum	mg/L	0.0015J	0.1	0.1	0.10	0.10	99	101	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.095	0.091	94	90	75-125	4	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

QC Batch:	561963	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92491393004, 92491393005, 92491393006, 92491393007, 92491393008

METHOD BLANK: 2980652

Associated Lab Samples:	92491393004	92491393005	92491393006	92491393007	92491393008
	02101000001,	02101000000,	02101000000,	02101000001,	02101000000

		Blank	Reporting			
Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/25/20 16:08	
Arsenic	mg/L	ND	0.0050	0.00078	08/25/20 16:08	
Barium	mg/L	ND	0.010	0.00071	08/25/20 16:08	
Beryllium	mg/L	ND	0.0030	0.000046	08/25/20 16:08	
Cadmium	mg/L	ND	0.0025	0.00012	08/25/20 16:08	
Chromium	mg/L	ND	0.010	0.00055	08/25/20 16:08	
Cobalt	mg/L	ND	0.0050	0.00038	08/25/20 16:08	
Lead	mg/L	ND	0.0050	0.000036	08/26/20 16:20	
Lithium	mg/L	ND	0.030	0.00081	08/25/20 16:08	
Molybdenum	mg/L	ND	0.010	0.00069	08/25/20 16:08	
Selenium	mg/L	ND	0.010	0.0016	08/25/20 16:08	
Thallium	mg/L	ND	0.0010	0.00014	08/26/20 16:20	

Matrix: Water

LABORATORY CONTROL SAMPLE: 2980653

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.098	98	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.097	97	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980654 2980655												
		92491455013	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Мах	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony	mg/L	0.00064J	0.1	0.1	0.10	0.10	101	99	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Barium	mg/L	0.12	0.1	0.1	0.24	0.23	115	114	75-125	0	20	
Beryllium	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

MATRIX SPIKE & MATRIX SPI	654		2980655									
			MS	MSD								
		92491455013	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Cadmium	mg/L		0.1	0.1	0.096	0.096	95	95	75-125	0	20	
Chromium	mg/L	0.0015J	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Cobalt	mg/L	0.00040J	0.1	0.1	0.10	0.10	99	99	75-125	0	20	
Lead	mg/L	0.00035J	0.1	0.1	0.094	0.093	94	93	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.096	0.098	96	97	75-125	1	20	
Molybdenum	mg/L	0.00077J	0.1	0.1	0.10	0.10	102	99	75-125	2	20	
Selenium	mg/L	0.0028J	0.1	0.1	0.10	0.10	99	99	75-125	0	20	
Thallium	mg/L	0.00021J	0.1	0.1	0.094	0.093	94	93	75-125	1	20	

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Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

QC Batch:	561964	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA
Associated Lab Sam	ples: 92491393009, 9249	1393010, 92491393011, 92491393012	, 92491393013, 92491393014, 92491393015
METHOD BLANK:	2980659	Matrix: Water	
Associated Lab Sam	ples: 92491393009, 9249	1393010, 92491393011, 92491393012	, 92491393013, 92491393014, 92491393015
		Blank Reporting	
_			

Parameter	arameter Units		Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/27/20 15:08	
Arsenic	mg/L	ND	0.0050	0.00078	08/27/20 15:08	
Barium	mg/L	ND	0.010	0.00071	08/27/20 15:08	
Beryllium	mg/L	ND	0.0030	0.000046	08/27/20 15:08	
Cadmium	mg/L	ND	0.0025	0.00012	08/27/20 15:08	
Chromium	mg/L	ND	0.010	0.00055	08/27/20 15:08	
Cobalt	mg/L	ND	0.0050	0.00038	08/27/20 15:08	
Lead	mg/L	ND	0.0050	0.000036	08/27/20 15:08	
Lithium	mg/L	ND	0.030	0.00081	08/27/20 15:08	
Molybdenum	mg/L	ND	0.010	0.00069	08/27/20 15:08	
Selenium	mg/L	ND	0.010	0.0016	08/27/20 15:08	
Thallium	mg/L	ND	0.0010	0.00014	08/27/20 15:08	

LABORATORY CONTROL SAMPLE: 2980660

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.10	101	80-120	
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.10	101	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980661						2980662								
		92491663009	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max			
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual		
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20			
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20			
Barium	mg/L	0.047	0.1	0.1	0.14	0.14	98	97	75-125	0	20			
Beryllium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20			

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REPORT OF LABORATORY ANALYSIS

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Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

MATRIX SPIKE & MATRIX SPI		2980662										
			MS	MSD								
		92491663009	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Cadmium	mg/L	ND	0.1	0.1	0.10	0.098	100	98	75-125	2	20	
Chromium	mg/L	0.012	0.1	0.1	0.12	0.11	106	102	75-125	4	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Lithium	mg/L	0.0010J	0.1	0.1	0.10	0.099	98	98	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	103	100	75-125	2	20	
Selenium	mg/L	0.0030J	0.1	0.1	0.10	0.10	99	102	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.


1 10/000	BRANCH BCD NE	TWORK										
Pace Project No.:	92491393											
QC Batch:	561377		Analys	sis Method	d:	EPA 7470A						
QC Batch Method:	EPA 7470A		Analys	sis Descrip	otion:	7470 Mercu	ry					
			Labor	atory:		Pace Analyt	ical Servic	es - Peach	tree Corne	rs, GA		
Associated Lab Sar	nples: 92491393	001, 9249139300	2, 92491393	3003								
METHOD BLANK:	2977870			Matrix: Wa	ater							
Associated Lab Sar	nples: 92491393	001, 9249139300	2, 92491393	3003								
			Blan	k I	Reporting							
Parar	neter	Units	Resu	lt	Limit	MDI	-	Analyzed	Qı	ualifiers		
Mercury		mg/L		ND	0.0005	0.00	00078 0	8/21/20 12	:32			
LABORATORY COI	NTROL SAMPLE:	2977871										
LABORATORY CO	NTROL SAMPLE:	2977871	Spike	LC	S	LCS	% R	lec				
LABORATORY CO	NTROL SAMPLE:	2977871 Units	Spike Conc.	LC Res	S	LCS % Rec	% R Lim	ec its	Qualifiers			
LABORATORY COl Parar Mercury	NTROL SAMPLE:	2977871 Units mg/L	Spike Conc.	LC Res	S sult	LCS % Rec 108	% R 	lec its 80-120	Qualifiers			
LABORATORY COL Parar Mercury	NTROL SAMPLE:	2977871 Units mg/L	Spike Conc. 0.0025	LC Res	S sult 0.0027	LCS % Rec 108	% R Lim 3	lec its 80-120	Qualifiers	_		
LABORATORY COL Parar Mercury MATRIX SPIKE & M	NTROL SAMPLE: neter	2977871 Units mg/L LICATE: 2977	Spike Conc. 0.0025	LC Res	S sult 0.0027 2977873	LCS % Rec 108	% R Lim 3	lec its 80-120	Qualifiers	_		
LABORATORY COL Parar Mercury MATRIX SPIKE & M	NTROL SAMPLE: neter MATRIX SPIKE DUP	2977871 Units mg/L LICATE: 2977	Spike Conc. 0.0025 872 MS	LC Res MSD	S sult 0.0027 2977873	LCS % Rec 108	% R Lim 3	lec its	Qualifiers			
LABORATORY COL Parar Mercury MATRIX SPIKE & M	NTROL SAMPLE: neter MATRIX SPIKE DUP	2977871 Units mg/L LICATE: 2977 92491389001	Spike Conc. 0.0025 872 MS Spike	LC Res MSD Spike	S sult 0.0027 2977873 MS	LCS % Rec 108	% R Lim	tec its 80-120 MSD	Qualifiers % Rec	_	Мах	
LABORATORY COL Parar Mercury MATRIX SPIKE & M Parameter	NTROL SAMPLE: neter IATRIX SPIKE DUP	2977871 Units mg/L LICATE: 2977 92491389001 Result	Spike Conc. 0.0025 872 MS Spike Conc.	LC Res MSD Spike Conc.	S sult 0.0027 2977873 MS Result	LCS % Rec 108 MSD Result	MS % Rec	MSD % Rec	Qualifiers % Rec Limits	RPD	Max RPD	Qual

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD NE	TWORK										
Pace Project No.:	92491393											
QC Batch:	561894		Analy	sis Metho	d:	EPA 7470A						
QC Batch Method:	EPA 7470A		Analy	sis Descri	ption:	7470 Mercu	ry					
			Labor	atory:		Pace Analyt	ical Servic	es - Peach	tree Corne	rs, GA		
Associated Lab Sar	nples: 92491393	015										
METHOD BLANK:	2980088			Matrix: W	/ater							
Associated Lab Sar	nples: 92491393	015										
			Blan	k	Reporting							
Parar	neter	Units	Resu	ılt	Limit	MDI	-	Analyzed	Qı	ualifiers		
Mercury		mg/L		ND	0.0005	0.00	00078 0	8/25/20 08	:19			
		0										
		0										
LABORATORY COI	NTROL SAMPLE:	2980089										
LABORATORY CO	NTROL SAMPLE:	2980089	Spike	LC	S	LCS	% R	lec				
LABORATORY COI Parar	NTROL SAMPLE:	2980089 Units	Spike Conc.	LC	CS sult	LCS % Rec	% R Lim	tec its	Qualifiers			
LABORATORY COI Parar Mercury	NTROL SAMPLE:	2980089 Units mg/L	Spike Conc. 0.0025	LC 5	CS sult 0.0026	LCS % Rec 105	% R Lim	ec its 80-120	Qualifiers			
LABORATORY COI Parar Mercury	NTROL SAMPLE:	2980089 Units mg/L	Spike Conc. 0.002	LC 5	CS sult	LCS % Rec 105	% R Lim	Rec its 80-120	Qualifiers			
LABORATORY COI Paran Mercury MATRIX SPIKE & M	NTROL SAMPLE: neter MATRIX SPIKE DUP	2980089 Units mg/L LICATE: 2980	Spike Conc. 0.0029		2S sult 0.0026 2980091	LCS % Rec 105	% R Lim	tec its 80-120	Qualifiers	_		
LABORATORY COI Parar Mercury MATRIX SPIKE & M	NTROL SAMPLE: neter MATRIX SPIKE DUP	2980089 Units mg/L LICATE: 2980	Spike Conc. 0.0023	LC Re: 5 MSD Spike	2S sult 0.0026 2980091 MS	LCS % Rec 105	% R Lim	Rec its	Qualifiers		Мах	
LABORATORY COI Paran Mercury MATRIX SPIKE & M Parameter	NTROL SAMPLE: neter IATRIX SPIKE DUP	2980089 Units mg/L LICATE: 2980 92491616002 Result	Spike Conc. 0.0029 090 MS Spike Conc.	LC Res 5 MSD Spike Conc.	CS sult 0.0026 2980091 MS Result	LCS % Rec 105 MSD Result	MS % Rec	Rec its 80-120 MSD % Rec	Qualifiers % Rec Limits	RPD	Max RPD	Qual

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD N	ETWORK										
Pace Project No.:	92491393											
QC Batch:	561900		Analy	sis Metho	d:	EPA 7470A						
QC Batch Method:	EPA 7470A		Analy	/sis Descri	ption:	7470 Mercu	iry					
			Labo	ratory:		Pace Analy	tical Servic	es - Peach	tree Corne	rs, GA		
Associated Lab Sa	mples: 92491393 92491393	3004, 9249139300 3011, 9249139301)5, 9249139 2, 9249139	3006, 924 3013, 924	91393007, 91393014	924913930	08, 924913	393009, 92	491393010),		
METHOD BLANK:	2980098			Matrix: W	ater							
Associated Lab Sar	mples: 92491393 92491393	3004, 9249139300 3011, 9249139301)5, 9249139 2, 9249139	3006, 924 3013, 924	91393007, 91393014	924913930	08, 924913	393009, 92	491393010),		
			Blar	nk	Reporting							
Parar	meter	Units	Res	ult	Limit	MD	L	Analyzed	Qi	Jalifiers		
Mercury		mg/L		ND	0.0005	50 0.0	00078 08	8/25/20 09:	:32			
LABORATORY CO	NTROL SAMPLE:	2980099										
			Spike	LC	S	LCS	% R	ec				
Parar	meter	Units	Conc.	Res	sult	% Rec	Limi	ts	Qualifiers			
Mercury		mg/L	0.002	25	0.0026	10	2 8	80-120				
MATRIX SPIKE & M	MATRIX SPIKE DU	PLICATE: 2980	100		298010	1						
			MS	MSD								
_		92491663001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	r Unit	s Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Mercury	mg/	L ND	0.0025	0.0025	0.0023	0.0024	90	94	75-125	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD NE	TWORK										
Pace Project No.:	92491393											
QC Batch:	561236		Anal	ysis Metho	d:	EPA 300.0	Rev 2.1 19	93				
QC Batch Method:	EPA 300.0 Rev 2	2.1 1993	Anal	ysis Descri	ption:	300.0 IC An	nions					
			Labo	oratory:		Pace Analy	tical Servic	es - Ashevil	le			
Associated Lab Sar	mples: 92491393	001, 9249139300	02, 9249139	93003								
METHOD BLANK:	2977010			Matrix: W	ater							
Associated Lab Sar	nples: 92491393	001, 9249139300	02, 9249139	93003								
			Bla	nk	Reporting							
Para	neter	Units	Res	ult	Limit	MD	L	Analyzed	Qı	ualifiers		
Fluoride		mg/L		ND	0.1	0	0.050 0	8/20/20 16:2	29		_	
LABORATORY CO	NTROL SAMPLE:	2977011										
			Spike	LC	s	LCS	% R	ec				
Para	neter	Units	Conc.	Res	sult	% Rec	Lim	its C	Qualifiers			
Fluoride		mg/L	2	.5	2.4	9	5	90-110				
MATRIX SPIKE & M	ATRIX SPIKE DUF	PLICATE: 2977	012		2977013	3						
			MS	MSD					_			
Deveryete		92490037006	Spike	Spike	MS	MSD	MS % Dee	MSD	% Rec		Max	0
Paramete			Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Quai
Fluoride	mg/L	. 0.055J	2.5	2.5	2.7	2.4	107	94	90-110	12	10	R1
MATRIX SPIKE & M	ATRIX SPIKE DUF	PLICATE: 2977	014		297701	5						
			MS	MSD								
_		92491455002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	-
Paramete	r Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Fluoride	mg/L	. ND	2.5	2.5	2.4	2.3	95	92	90-110	4	10	

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Project:	BRANCH B	CD NET	WORK										
Pace Project No.:	92491393												
QC Batch:	561506			Anal	ysis Method	d:	EPA 300.0 I	Rev 2.1 19	93				
QC Batch Method:	EPA 300.0	Rev 2.7	1 1993	Anal	ysis Descrip	otion:	300.0 IC An	ions					
				Labo	oratory:		Pace Analy	tical Servic	es - Ashevi	le			
Associated Lab Sa	mples: 924	913930	04, 9249139300	5, 9249139	93006, 9249	91393007,	924913930	08					
METHOD BLANK:	2978310				Matrix: Wa	ater							
Associated Lab Sa	mples: 924	913930	04, 9249139300	5, 9249139	93006, 9249	91393007,	924913930	08					
				Bla	nk l	Reporting							
Para	meter		Units	Res	ult	Limit	MD	L	Analyzed	Qu	ualifiers		
Fluoride			mg/L		ND	0.1	0	0.050 0	8/21/20 17::	28			
LABORATORY CO	NTROL SAM	PLE: 2	2978311	Cailua		<u> </u>	1.00	0/ 0					
Para	meter		Linits	Spike	LU Res	S ult	LUS % Rec	% R Lim	its (Jualifiers			
Fluorido			mall							guainero	_		
Fluoride			IIIg/L	2	.0	2.4	9	0	90-110				
MATRIX SPIKE & M	MATRIX SPIK	E DUPL	ICATE: 2978	312 MS	MSD	2978313	3						
			92491393004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	er	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Fluoride		mg/L	0.17	2.5	2.5	3.0	3.0	112	112	90-110	0	10	M1
MATRIX SPIKE & M	MATRIX SPIKI	E DUPL	ICATE: 2978	314		297831	5						
				MS	MSD								
			92491663005	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	er	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Fluoride		mg/L	0.060J	2.5	2.5	2.7	2.7	105	106	90-110	1	10	

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Project:	BRAN	CH BCD NE	TWORK										
Pace Project No.:	92491	393											
QC Batch:	5620	94		Anal	ysis Method	d:	EPA 300.0	Rev 2.1 19	93				
QC Batch Method:	EPA	300.0 Rev 2.	.1 1993	Anal	ysis Descrij	ption:	300.0 IC An	ions					
				Labo	oratory:		Pace Analy	tical Servic	es - Ashevi	lle			
Associated Lab Sa	mples:	924913930	009, 9249139301	0, 9249139	93011, 9249	91393012,	924913930	13, 924913	93014, 924	491393015	5		
METHOD BLANK:	29813	03			Matrix: W	ater							
Associated Lab Sa	mples:	924913930	009, 9249139301	0, 9249139	93011, 9249	91393012,	924913930	13, 924913	93014, 924	491393015	5		
				Bla	nk l	Reporting							
Para	meter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	ualifiers		
Fluoride			mg/L		ND	0.1	0	0.050 08	3/25/20 12:	53		_	
LABORATORY CO	NTROL	SAMPLE:	2981304	Spike	LC	S	LCS	% R	ec				
Para	meter		Units	Conc.	Res	sult	% Rec	Limi	ts (Qualifiers			
Fluoride			mg/L	2	.5	2.7	10	8 9	90-110				
MATRIX SPIKE & I	MATRIX	SPIKE DUP	LICATE: 2981	305		298130	6						
			02402099004	MS Spike	MSD Spike	MS	MCD	MC	MOD	0/ Boo		Mov	
Paramete	er	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Fluoride		mg/L	ND	2.5	2.5	2.6	2.6	104	105	90-110	1	10	
MATRIX SPIKE & I	MATRIX	SPIKE DUPI	LICATE: 2981	307		298130	3						
				MS	MSD								
			92491393009	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	er	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Fluoride		mg/L	ND	2.5	2.5	2.6	2.6	103	103	90-110	0	10	

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Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWA-12I	Lab ID: 92491393	001 Collected: 08/18/20 13:05	Received:	08/19/20 10:10 N	latrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	ices - Greensburg				
Radium-226	EPA 9315	0.240 ± 0.122 (0.185) C:91% T:NA	pCi/L	09/08/20 17:44	13982-63-3	
	Pace Analytical Serv	ices - Greensburg				
Radium-228	EPA 9320	0.748 ± 0.489 (0.931) C:70% T:80%	pCi/L	09/09/20 14:47	15262-20-1	
	Pace Analytical Serv	ices - Greensburg				
Total Radium	Total Radium Calculation	0.988 ± 0.611 (1.12)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWA-12S PWS:	Lab ID: 9249139 Site ID:	33002 Collected: 08/18/20 16:25 Sample Type:	Received:	08/19/20 10:10 M	fatrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	rvices - Greensburg				
Radium-226	EPA 9315	0.157 ± 0.111 (0.189) C:90% T:NA	pCi/L	09/08/20 17:44	13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	0.812 ± 0.497 (0.953) C:70% T:90%	pCi/L	09/09/20 11:25	15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	0.969 ± 0.608 (1.14)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWA-23S PWS:	Lab ID: 92491	393003 Collected: 08/18/20 15:28 Sample Type:	Received:	08/19/20 10:10 N	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg				
Radium-226	EPA 9315	0.197 ± 0.113 (0.177) C:84% T:NA	pCi/L	09/08/20 17:44	13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	0.587 ± 0.442 (0.866) C:72% T:79%	pCi/L	09/09/20 11:25	15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.784 ± 0.555 (1.04)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-25I PWS:	Lab ID: 924913 Site ID:	93004 Collected: 08/19/20 09:50 Sample Type:	Received:	08/20/20 10:03 M	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	0.288 ± 0.130 (0.188) C:86% T:NA	pCi/L	09/08/20 17:44	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 9320	0.179 ± 0.343 (0.752) C:72% T:90%	pCi/L	09/09/20 11:25	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.467 ± 0.473 (0.940)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-29I	Lab ID: 924913	393005 Collected: 08/19/20 10:50 Sample Type:	Received:	08/20/20 10:03 N	Aatrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg				
Radium-226	EPA 9315	0.299 ± 0.162 (0.267) C:91% T:NA	pCi/L	09/08/20 17:44	13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	0.577 ± 0.428 (0.848) C:77% T:82%	pCi/L	09/09/20 11:25	15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.876 ± 0.590 (1.12)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-27I PWS:	Lab ID: 92491393 Site ID:	3006 Collected: 08/19/20 12:05 Sample Type:	Received:	08/20/20 10:03 N	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	rices - Greensburg				
Radium-226	EPA 9315	0.260 ± 0.132 (0.203) C:91% T:NA	pCi/L	09/08/20 17:44	13982-63-3	
	Pace Analytical Serv	rices - Greensburg				
Radium-228	EPA 9320	0.424 ± 0.358 (0.718) C:74% T:87%	pCi/L	09/09/20 11:26	15262-20-1	
	Pace Analytical Serv	rices - Greensburg				
Total Radium	Total Radium Calculation	0.684 ± 0.490 (0.921)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-32S	Lab ID: 9249139	3007 Collected: 08/19/20 13:20	Received:	08/20/20 10:03 N	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 9315	0.0531 ± 0.0881 (0.172) C:92% T:NA	pCi/L	09/08/20 17:44	13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 9320	0.429 ± 0.407 (0.839) C:75% T:82%	pCi/L	09/09/20 11:26	15262-20-1	
	Pace Analytical Ser	vices - Greensburg				
Total Radium	Total Radium Calculation	0.482 ± 0.495 (1.01)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-30I	Lab ID: 9249139 Site ID:	3008 Collected: 08/19/20 15:05 Sample Type:	Received:	08/20/20 10:03 N	Aatrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 9315	0.299 ± 0.125 (0.167) C:88% T:NA	pCi/L	09/08/20 17:44	13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 9320	0.703 ± 0.450 (0.863) C:72% T:86%	pCi/L	09/09/20 11:26	15262-20-1	
	Pace Analytical Ser	vices - Greensburg				
Total Radium	Total Radium Calculation	1.00 ± 0.575 (1.03)	pCi/L	09/11/20 08:26	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-45 PWS:	Lab ID: 924913 Site ID:	393009 Collected: 08/20/20 12:12 Sample Type:	Received:	08/21/20 11:08 M	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	0.194 ± 0.154 (0.275) C:88% T:NA	pCi/L	09/03/20 18:45	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 9320	0.307 ± 0.468 (1.01) C:62% T:74%	pCi/L	09/09/20 15:08	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.501 ± 0.622 (1.29)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-47 PWS:	Lab ID: 9249 Site ID:	1393010 Collected: 08/20/20 14:00 Sample Type:	Received:	08/21/20 11:08 M	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.500 ± 0.164 (0.181) C:86% T:NA	pCi/L	09/03/20 18:45	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	1.14 ± 0.652 (1.17) C:53% T:73%	pCi/L	09/09/20 15:08	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	1.64 ± 0.816 (1.35)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-50 PWS:	Lab ID: 924913 Site ID:	93011 Collected: 08/20/20 09:32 Sample Type:	Received:	08/21/20 11:08 M	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	0.735 ± 0.193 (0.151) C:89% T:NA	pCi/L	09/03/20 18:18	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 9320	2.04 ± 0.699 (0.948) C:71% T:67%	pCi/L	09/09/20 15:08	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	2.78 ± 0.892 (1.10)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: BRGWC-52I	Lab ID: 9249	1393012 Collected: 08/20/20 09:45	Received:	08/21/20 11:08 M	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.684 ± 0.388 (0.589) C:84% T:NA	pCi/L	09/04/20 07:17	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	2.29 ± 0.728 (0.901) C:70% T:69%	pCi/L	09/09/20 14:43	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	2.97 ± 1.12 (1.49)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: DUP-2	Lab ID: 9249	1393013 Collected: 08/20/20 00:00	Received:	08/21/20 11:08	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.602 ± 0.324 (0.420) C:87% T:NA	pCi/L	09/04/20 07:18	3 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	2.11 ± 0.682 (0.878) C:71% T:75%	pCi/L	09/09/20 14:43	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	2.71 ± 1.01 (1.30)	pCi/L	09/10/20 15:16	8 7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: FB-2	Lab ID: 924913	393014 Collected: 08/20/20 09:20	Received:	08/21/20 11:08 M	Aatrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg				
Radium-226	EPA 9315	0.0152 ± 0.200 (0.536) C:84% T:NA	pCi/L	09/04/20 07:18	13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	0.713 ± 0.432 (0.796) C:69% T:83%	pCi/L	09/09/20 14:43	15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.728 ± 0.632 (1.33)	pCi/L	09/10/20 15:16	7440-14-4	



Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Sample: EB-1	Lab ID: 9249	1393015 Collected: 08/20/20 12:45	Received:	08/21/20 11:08 M	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.115 ± 0.167 (0.346) C:89% T:NA	pCi/L	09/04/20 07:51	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.206 ± 0.334 (0.724) C:69% T:84%	pCi/L	09/09/20 14:43	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.321 ± 0.501 (1.07)	pCi/L	09/10/20 15:16	7440-14-4	



Project:	BRANCH BCD N	ETWORK							
Pace Project No .:	92491393								
QC Batch:	411440		Analysis Method:	EPA 9320					
QC Batch Method:	EPA 9320		Analysis Description:	9320 Radium 22	28				
			Laboratory:	Pace Analytical	Services - Greensbur	g			
Associated Lab San	Associated Lab Samples: 92491393002, 92491393003, 92491393004, 92491393005, 92491393006, 92491393007, 92491393008								
METHOD BLANK:	1990348		Matrix: Water						
Associated Lab San	nples: 92491393	8002, 92491393003,	92491393004, 9249139300	05, 92491393006, 9	92491393007, 924913	393008			
Paran	neter	Act ± Unc	(MDC) Carr Trac	Units	Analyzed	Qualifiers			
Radium-228		0.805 ± 0.381 (0.6	35) C:74% T:86%	pCi/L	09/09/20 11:25				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANC	BRANCH BCD NETWORK							
Pace Project No.:	924913	93							
QC Batch:	41143	9	An	alysis Method:	EPA 9320				
QC Batch Method: EPA 9320			An	alysis Description:	9320 Radium 228				
Laboratory: Pace Analytical Services - Greensburg Associated Lab Samples: 92491393001, 92491393009, 92491393010, 92491393011, 92491393012, 92491393013, 92491393014, 92491393015									
METHOD BLANK:	199034	7		Matrix: Water					
Associated Lab San	nples:	92491393001, 92 92491393015	2491393009, 92491	393010, 92491393011	, 92491393012,	92491393013, 92491	393014,		
Paran	neter		Act ± Unc (MDC) Carr Trac		Units	Analyzed	Qualifiers		
Radium-228 0.274			± 0.326 (0.685) C:	63% T:88%	pCi/L	09/09/20 12:01			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANC	BRANCH BCD NETWORK							
Pace Project No .:	924913	93							
QC Batch:	41235	9	Analysis Method	EPA 9315					
QC Batch Method:	EPA 9	315	Analysis Descrip	tion: 9315 Total Ra	9315 Total Radium				
Laboratory: Pace Analytical Services - Greensburg Associated Lab Samples: 92491393001, 92491393002, 92491393003, 92491393004, 92491393005, 92491393006, 92491393007, 92491393008									
METHOD BLANK:	199451	9	Matrix: Wa	ter					
Associated Lab Samples: 92491393001, 9249 92491393008			1393002, 92491393003, 9249	1393004, 92491393008	5, 92491393006, 92491	393007,			
Paran	neter		Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers			
Radium-226		0.0753 ± 0	0.0856 (0.159) C:96% T:NA	pCi/L	09/08/20 17:44				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD N	ETWORK				
Pace Project No.:	92491393					
QC Batch:	411375	Analysis Method:	EPA 9315			
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radi	um		
		Laboratory:	Pace Analytical	Services - Greensbur	g	
Associated Lab San	nples: 92491393	3009, 92491393010, 92491393011, 9249139301	2, 92491393013, 9	92491393014, 924913	893015	
METHOD BLANK:	1989998	Matrix: Water				
Associated Lab San	nples: 92491393	3009, 92491393010, 92491393011, 9249139301	2, 92491393013, 9	92491393014, 924913	393015	
Paran	neter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-226		0.135 ± 0.115 (0.203) C:91% T:NA	pCi/L	09/03/20 16:47		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- R1 RPD value was outside control limits.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491393001	BRGWA-12I				
92491393002	BRGWA-12S				
92491393003	BRGWA-23S				
92491393004	BRGWC-25I				
92491393005	BRGWC-29I				
92491393006	BRGWC-27I				
92491393007	BRGWC-32S				
92491393008	BRGWC-30I				
92491393009	BRGWC-45				
92491393010	BRGWC-47				
92491393011	BRGWC-50				
92491393012	BRGWC-52I				
92491393001	BRGWA-12I	EPA 3005A	561324	EPA 6020B	561396
92491393002	BRGWA-12S	EPA 3005A	561324	EPA 6020B	561396
92491393003	BRGWA-23S	EPA 3005A	561324	EPA 6020B	561396
92491393004	BRGWC-25I	EPA 3005A	561963	EPA 6020B	562039
92491393005	BRGWC-29I	EPA 3005A	561963	EPA 6020B	562039
92491393006	BRGWC-27I	EPA 3005A	561963	EPA 6020B	562039
92491393007	BRGWC-32S	EPA 3005A	561963	EPA 6020B	562039
92491393008	BRGWC-30I	EPA 3005A	561963	EPA 6020B	562039
92491393009	BRGWC-45	EPA 3005A	561964	EPA 6020B	562041
92491393010	BRGWC-47	EPA 3005A	561964	EPA 6020B	562041
92491393011	BRGWC-50	EPA 3005A	561964	EPA 6020B	562041
92491393012	BRGWC-52I	EPA 3005A	561964	EPA 6020B	562041
92491393013	DUP-2	EPA 3005A	561964	EPA 6020B	562041
92491393014	FB-2	EPA 3005A	561964	EPA 6020B	562041
92491393015	EB-1	EPA 3005A	561964	EPA 6020B	562041
92491393001	BRGWA-12I	EPA 7470A	561377	EPA 7470A	561555
92491393002	BRGWA-12S	EPA 7470A	561377	EPA 7470A	561555
92491393003	BRGWA-23S	EPA 7470A	561377	EPA 7470A	561555
92491393004	BRGWC-25I	EPA 7470A	561900	EPA 7470A	562049
92491393005	BRGWC-29I	EPA 7470A	561900	EPA 7470A	562049
92491393006	BRGWC-27I	EPA 7470A	561900	EPA 7470A	562049
92491393007	BRGWC-32S	EPA 7470A	561900	EPA 7470A	562049
92491393008	BRGWC-30I	EPA 7470A	561900	EPA 7470A	562049
92491393009	BRGWC-45	EPA 7470A	561900	EPA 7470A	562049
92491393010	BRGWC-47	EPA 7470A	561900	EPA 7470A	562049
92491393011	BRGWC-50	EPA 7470A	561900	EPA 7470A	562049
92491393012	BRGWC-52I	EPA 7470A	561900	EPA 7470A	562049
92491393013	DUP-2	EPA 7470A	561900	EPA 7470A	562049
92491393014	FB-2	EPA 7470A	561900	EPA 7470A	562049
92491393015	EB-1	EPA 7470A	561894	EPA 7470A	562048
92491393001	BRGWA-12I	EPA 9315	412359		
92491393002	BRGWA-12S	EPA 9315	412359		
92491393003	BRGWA-23S	EPA 9315	412359		



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491393004	BRGWC-25I	 EPA 9315	412359		
92491393005	BRGWC-29I	EPA 9315	412359		
92491393006	BRGWC-27I	EPA 9315	412359		
92491393007	BRGWC-32S	EPA 9315	412359		
92491393008	BRGWC-30I	EPA 9315	412359		
92491393009	BRGWC-45	EPA 9315	411375		
92491393010	BRGWC-47	EPA 9315	411375		
92491393011	BRGWC-50	EPA 9315	411375		
92491393012	BRGWC-52I	EPA 9315	411375		
92491393013	DUP-2	EPA 9315	411375		
92491393014	FB-2	EPA 9315	411375		
92491393015	EB-1	EPA 9315	411375		
92491393001	BRGWA-12I	EPA 9320	411439		
92491393002	BRGWA-12S	EPA 9320	411440		
92491393003	BRGWA-23S	EPA 9320	411440		
92491393004	BRGWC-25I	EPA 9320	411440		
92491393005	BRGWC-29I	EPA 9320	411440		
92491393006	BRGWC-27I	EPA 9320	411440		
92491393007	BRGWC-32S	EPA 9320	411440		
92491393008	BRGWC-30I	EPA 9320	411440		
92491393009	BRGWC-45	EPA 9320	411439		
92491393010	BRGWC-47	EPA 9320	411439		
92491393011	BRGWC-50	EPA 9320	411439		
92491393012	BRGWC-52I	EPA 9320	411439		
92491393013	DUP-2	EPA 9320	411439		
92491393014	FB-2	EPA 9320	411439		
92491393015	EB-1	EPA 9320	411439		
92491393001	BRGWA-12I	Total Radium Calculation	413385		
92491393002	BRGWA-12S	Total Radium Calculation	413385		
92491393003	BRGWA-23S	Total Radium Calculation	413385		
92491393004	BRGWC-25I	Total Radium Calculation	413385		
92491393005	BRGWC-29I	Total Radium Calculation	413385		
92491393006	BRGWC-27I	Total Radium Calculation	413385		
92491393007	BRGWC-32S	Total Radium Calculation	413385		
92491393008	BRGWC-30I	Total Radium Calculation	413442		
92491393009	BRGWC-45	Total Radium Calculation	413385		
92491393010	BRGWC-47	Total Radium Calculation	413385		
92491393011	BRGWC-50	Total Radium Calculation	413385		
92491393012	BRGWC-52I	Total Radium Calculation	413385		
92491393013	DUP-2	Total Radium Calculation	413385		
92491393014	FB-2	Total Radium Calculation	413385		
92491393015	EB-1	Total Radium Calculation	413385		
92491393001	BRGWA-12I	EPA 300.0 Rev 2.1 1993	561236		
92491393002	BRGWA-12S	EPA 300.0 Rev 2.1 1993	561236		
92491393003	BRGWA-23S	EPA 300.0 Rev 2.1 1993	561236		



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH BCD NETWORK

Pace Project No.: 92491393

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491393004	BRGWC-25I	EPA 300.0 Rev 2.1 1993	561506		
92491393005	BRGWC-29I	EPA 300.0 Rev 2.1 1993	561506		
92491393006	BRGWC-27I	EPA 300.0 Rev 2.1 1993	561506		
92491393007	BRGWC-32S	EPA 300.0 Rev 2.1 1993	561506		
92491393008	BRGWC-30I	EPA 300.0 Rev 2.1 1993	561506		
92491393009	BRGWC-45	EPA 300.0 Rev 2.1 1993	562094		
92491393010	BRGWC-47	EPA 300.0 Rev 2.1 1993	562094		
92491393011	BRGWC-50	EPA 300.0 Rev 2.1 1993	562094		
92491393012	BRGWC-52I	EPA 300.0 Rev 2.1 1993	562094		
92491393013	DUP-2	EPA 300.0 Rev 2.1 1993	562094		
92491393014	FB-2	EPA 300.0 Rev 2.1 1993	562094		
92491393015	EB-1	EPA 300.0 Rev 2.1 1993	562094		

San Pace Analytical Client Name:	nple Condition I	Jpon Recei	J0#:92491393
Courier: Fed Ex UPS USPS Clier	nt El Commercial I	Pace Other	Proj. Due Date: Proj. Name:
Custody Seal on Cooler/Box Present: 2 yes		ntact: 🗡 yes i	no <u>Contactorio contacto</u>
Packing Material: Bubble Wrap Bubble	Bags] Other	
Thermometer Used	Type of Ice: Wet	Blue None	Date and initials of person examining
Cooler Temperature <u>3.6.C</u> Temp should be above freezing to 6°C	Biological Tissue i	s Frozen: Yes No Comments:	contents: 3/19/20 (84
Chain of Custody Present:	ETES DNO DNIA	1.	
Chain of Custody Filled Out:		2.	
Chain of Custody Relinquished:	Pres DNO DN/A	3.	
Sampler Name & Signature on COC:		4.	
Samples Arrived within Hold Time:		5.	
Short Hold Time Analysis (<72hr):		6.	
Rush Turn Around Time Requested:		7.	
Sufficient Volume:		8	
Correct Containers Used:	Dies DNO DNA	9.	
-Pace Containers Used:			4
Containers Intact:	EYes DNO DNA	10.	
Filtered volume received for Dissolved tests	DYES DNO LANIA	11.	
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:	BYES DNO DN/A	12	
All containers needing preservation have been checked.	Dres DNo DN/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.			
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	TYes DHI	Initial when completed	Lol # of added preservative
Samples checked for dechlorination:		14.	
Headspace in VOA Vials (>6mm):	CIYes CINO ENIA	15.	
Trip Blank Present:	DYes DNO ZN/A	16.	
Trip Blank Custody Seals Present			
Pace Trip Blank Lot # (if purchased):			
Cilent Notification/ Resolution:			Field Data Required? Y / N
Person Contacted:	Date	Time:	
Comments/ Resolution:		nan de Milleranne, and anne de Milleranne, anne de Milleranne, and anne de Milleranne, a	
	·····		
	A CONTRACTOR OF CONTRACTOR	a - a	
		N _C .	
Project Manager Review:			Date:
Note: Whenever there is a discrepancy affecting North Certification Office (i.e. out of hold, incorrect preserva	n Carolina compliance sa live, out of temp, incorrec	mples, a copy of this fo ct containers)	orm will be sent to the North Carolina DEHNR

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F-ALLC003rev.3. 11September2006

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nnes	ttem#	BP&U-125 mL Plastic Unpreserved (19/19/10-1	Bp3U-250 mt Plastic Unpreserved (N/A)	entry of the stic Unpreserved (N/A)	urse Plastic Unpreserved (N/A)	BP10-1 net	BPAS-125 mL rissin mark	BP3M-250 mL plastic HNO3 (pri ~ 2)	BP42-125 mL Plastic ZN Accetate & NaUN (7-3)	earc-125 mL Plastic NaOH (pH > 12) (G-)	urve united Glass Jar Unpreserved	WGFU-WIGE-IIIOUT	AG1U-1 liter Amber Unpreserved to a		AG1H-1 liter Autor	AG3U-250 mL Amber Unpreserved 14	255-1 liter Amber H2SO4 (pH < 2)	AULT + 12504 (pH < 2)	AG35-250 mL Amost 111 111	AGSA(DG3A)-250 mL Amber NH4CI (W/MC-1	NAHCI (N/A)	DG9H-40 mL 400	VG91-40 mr VOA Na252U3 (WW	VG9U-40 mL VOA Unp (N/A)	(V/N) PUden vor	DG9P-40 mL VUN HUN HUN PG690	VOAK (6 vials per kit)-5035 kit (N/A)	in the ner kth-VPH/Gas kit (N/A)	V/GK (3 View per	SpST-125 mL Sterile Plastic (N/A - 192)	cept-250 mL Sterlle Plastic (N/A - lab)		(7.9-E.6) AOSCICIUM	BP3A-250 mL Pleasur Jun-7-	Amber Univ user
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ALL SHAUEU AREAS and (2) suffure acid. (2) nythochion are. (8) sodium thosulfare. (9) hean sp. (10) Unpreserved. (0) other Analyses NT (<72 hours): V N/A MT/LI VAB USE ON PB: PB:	Relinquished by/Company (Signature) Date/Time: Received by/Company ((App IV Metals): Sb, As, Ba, Be, Cd, Cr, Co, Hg, Pb, Li, Mo, Se, Ti Thipper of lot: Used: Wet Blue Dry None SHORT HOLDS PRESI Hadding Material Used: Relinquished hu/Company: /Signature1 Relinquished hu/Company: /Signature1	BRGWA-235 GW G 818-2020 1528 5.56 4 X X	BR(1WA-125 (5W (5 18-2020) 1425 5754 X X	DOC VIA VOL 0 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Customer Sample ID Matrix Comp / Collected (or Composite End pH # of Ctrip tals AF	* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wasti-water (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bidassay (B), Water (WT), Other (DT)	Rush, [Same Day [] Next Day Field Filtered (if applicable); [2Day [] 3 Day [] 4 Day [] 5 Day [] Ves [] No [2Day [] 3 Day [] 4 Day [] 5 Day [] No [] No (Expedite Charget Apply) Analysis [] Comments	Collected By (signature): Turnsround Date Required: Immediately Packed on Ice: [X] / es [] No	Collected by (print), Travis Martinez, Purchase Order # Andrea McCure Quote # Revision kevision	Phone: (404) 506-7239 Project Name: Plant Branch BCD Network Pace Profile# Email: jabraham@southernco.com Project # CCR Profile#	phone: (404) 506-7239 State: Georgia City: Mitedgeville Time Zone Collected: Email: iabraham@southernco.com I PT I Mat I ICT I X IET	Copy To. Golder Site Collection Info/Add ess: PlansBranch (C) ammon um hydroxide. (D) T	Report To: Joju Abraham Grupil To: scsinvokes@szutherncd.com ** Preservative Types: [1] initio	Address: 2480 Maner Road Atlanta, GA 30339 Conta	
	Date/Time: Prelogin: Date/Time: Prelogin: Date/Time: PM: Date/Time: PM:	SHORT HOLDS PRESENT (<72 hours) : V V N/A Lab Tracking #: Samples received via:			C Me	tals Ap oride lium 2 rcury	op IV - see 26.228	comments				Analyses	[6] methanol, (7) sodium bisulfate, (8) sodium throsulfate, (9) hexan [C] ammon um hydroxide, (0) TSP, (U) Unpreserved, (0) Other	** Preservative Types: (1) nitric acid. (2) sulfuric acid. (3) hydrochlor	Container Preservative Type **	ALL SHADED AREAS

Relinquished by/Company: (Signature	Relinquished by/C6mpany: (Signatur	Relinquished by/Company: Dignature			(App IV Metals): Sb, As, Ba, Be, Cd, Ci		BRGWC-301	BRGWC-325	BRGWC- 27I	BRGWC-292	BRGWC-251		Customer Sample ID	 Matrix Codes (Insert in Matrix box t Product (P), Soil/Solid (SU, Oil (OL), 		War Inter	Collected By tignatural:	Collected By (print): Travis Martinez, Andrea McClure	Email: jabraham@southernco.com	Email: jabraham@southernco.com	phone: (404) 506-7239	Capy To: Golder	Report To: Joju Abraham	Address: 2480 Maner Road Atlanta, GA 30339	Company: Georgia Power - Coal Comi	Pace Analytical
÷	<u>ت</u>	2.			τ, Co, Hg, Pb, Li, Mo, S		~~) ~~	65	55	62	Gw		Matrix *	ielow): Drinking Wate Wipe (WP), Air (AR), '	(]]	Rush:	Turnaround Dat	Purchase Order Quote #	Project # CCR	2					bustion Residuals	
Date	Date	- Obele			ж, Д		5	0	6	6	6		Comp / Grab	er (DW), Gi Tissue (TS)	Same Day] 3 Day [Expedite Chi		te Require	u	Tant bran							Chain-of-Cu
/Time:	/Time: 1	10-202/08/5	Radchern sample(s) screer	Packing Material Used:	Type of Ice Used: V		8-19-2020 1500	84.2020 1320	8-19-2020 120	8-19-20201050	8-19-20200450	Date Time	Collected (or Composite Start)	round Water (GW), Wastev , Bioassay (B), Water (WT)	[] Next Day] 4 Day [] 5 Day arges Apply]		4:		IN BCD Network	1 P	State: Georgia City: Mille	Site Collection Info/Addre	Email To: scsinvoices@soi		Billing Information:	-COSTODT Analyt stody is a LEGAL DOCUME
Received by/Company:	Received by/Company	Received by/company:	1ed (<500 cpm): Y N		Vet Blue Dry I						0	Date Tim	Composite End	water (WW), , Other (OT)	[]Yes []No Analysis:	Field Filtered (if applic	Immediately Packed or	Pace Project Manager: kevin.herring@pacelat	Pace Protile#	T []MT []CT [X]ET	dgeville Time Zone Colle	ss: Plant Branch	uthernco.com			NT - Complete all relevent
(Signature)	(Signafure)	(Senature)	NA		None		6.2	5.4	5.0	H.6.	6.3	ē	말			able):	n Ice:	os.com			ected					fields
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Date/Time:	Dafe/Timé:	BIQ02	DEX UPS	racking #:	AT HOLDS PRE		<	×	×	×	×	Flu	oride		ad (GHa Gailtean T		\$133	711				(7) sodium bisi n hydroxide, (D	e Types (1) nit	- Con		
		1003	Client		ESENT (<72		X	×	×	×	×	Rac	lium 2	26.228	g Sector 			1.44			An	ulfate, (8) so) TSP, (U) Ut	ric acid (2)	tainer Pres	AL	
PB:	Acctn Temp	3 Table	Courler		hours) :										le stifferj	A196	eesj			No.	alyses	dium thio	sulfuric ac	<u>ا</u> ء	P	15
		TJL LAB L	Pace C		X N	14 20 38 68 P		×	×	×	×	Me	rcury		Malente	al de l					-	suffate, (9 1, (0) Oth	id (3) hvo	IENT		0
		JSE ONLY	ourier		N/A				355. (人)(新)					147 2081 147 2081			age 2 Jackson		1997 1783) hexane, (A) a er	rochloric acid	: GA-G	.H1	1:9
Non Conformance(s): Page: 1 YES / NO of: 1	Trip Blank Received: Y N N HCL MeOH TSP Other	Comments	Cooler 1 Therm Corr. Factor:OC Cooler 1 Corrected Temp:OC	Cooler 1 Temp Upon Receipd Sc	LAB Sample Temperature Info:			~			W	KILAZD	Lab Sample # / Comments:	pH Strips:Y N NA Suffide Present Y N NA Lead Acruste Strips:	Samples in Holding Time V N NA Residual Otiorine Present V N NA CI Strips: Samole pit Accentable V N NA	VOA - Headspace Acceptable Y N NA USOA Regulated Solls Y N NA	Sufficient Volume Y N NA Samples Received on Ice Y N NA	Bottles Intact Y N NA Correct Bottles Y N NA	Custody Signatures Present Y N NA Collector Signature Present Y N NA	Custody Seals Present/Intact Y N NA	Lab Sample Bergint Chartility	scorbic acid, (6) ammonium suffate,		A Power	Due Date: 09/02/20	2491393

Non Conformance(s): Page: 1 YES / NO of: 1	PM:		ate/Time:			(Signature)	ved by/Company	Rece	/Time:	Date		uished by/Company (Signature)	Reling
Trip Blank Received: Y N NA HCL MeOH TSP Other	Acctnum: Template: Prelogin:		ale/Time:			(Signature)	ved by/Compary	Recei	Time:	Date	- Cont M Co	ushed by/Company: (Signature)	Reing
	MTJL LAB USE ONLY	SUI US	ate/Time:	. 0	Pris	Supaturat	wedues ha par	Rec	Time It n &	Date	allandat	uished by/Compagy: (Signature)	Ref
Cooler 1 Therm Corr, Factor CoC Cooler 1 Corrected Temp: 300 oC	Courier Pace Courier	d via: S Client	les receive EX UF	Samp		4 NA	0 cpm}: Y	reened (<sc< td=""><td>Radchem sample(s) sc</td><td></td><td></td><td></td><td></td></sc<>	Radchem sample(s) sc				
Therm 104: 252 Cooler 1 Temp Upon Receipt: 20C			acking #:	Lab Ti					Packing Material Used				
LAB Sample Temperature Info: Temp Blank Received: 4, N NA	ours): Y N N/A	RESENT (<72 H	T HOLDS P	SHOR		None	Blue Dry	Wet	Type of Ice Used:	Se, 11	io, Hg, Pb, Li, Mo,	V Metals) Sb, As, Ba, Be, Cd, Cr, C	(App I
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004	×	×	X	×	Ч	5.86		2	8-20-2020 12	0	GW	CWC - 45	Z
Challen .	Me	Ra	Flu	Me		P	Date Tim	me	Date T				
Lab Sample #/ Comments:	ercury	dium	oride	tals A	Crns # of	PH	Composite End	site	Collected (or Compo Start)	Comp / Grab	Matrix *	er Sample ID	Custom
DH Strips: Suifde Present Y N NA Lead Acetate Strips:		226.228		opp IV - see			, E	.tewater (W VT), Other (C	ound Water (GW), Was Bioassay (B), Water (V	er (DW), Gro Tissue (TS),	w]: Drinking Wate be (WP), Air (AR),	x Codes (Insert in Matrix box belo ct (P), Soil/Solid (SL), Oil (OL), Wip	* Matri
Samples in Holding Time Y N NA Residual Chlorine Present Y N NA Cl Strips: Sample pH Acceptable Y N NA				commen			sis:	I] Yo	{ Next Day] 4 Day { 5 Day ges Apply}	3 Day {	[] 2 Day [١	
USDA Regulated Soils Y N NA				ts		ble):	Filtered (if applica	Field			Rush:	1.1	N
Samples Received on Ice YN NA						lce	diately Packed or	lmme		e Required	Turnaround Dat	d By (signature):	Collega
Correct Bottles Y N NA Sufficient Volume Y N NA					<u> </u>	s.com	herring@pacelab	kevin		1	Purchase Order Quote #	d By (print): Travis Martinez, McClure	Andrea
Custody Signatures Present Y N NA Collector Signature Present Y N NA Bottles Intact Y N NA					<u> </u>		Protile#	Pace	BCD Network	lant Branch	Project Name: P Project # CCR	404) 506-7239 braham@southernco.com	Phone: (Email: ja
Lab Sample Receipt Crecoust: Custody Seals Present/Intact Y N NA							ן וכו (x ונו	IPT [IMT] 			braham@southernco.com	Email: ja
Lab Profile/Line:	ses	Analy				cted:	Time Zone Co le	illedeeville	tate: Georgia City: M			ANAL COC. 7720	
acid, (6) ammonium sulfate,	m thiosulfate, (9) hexane, (A) ascorbic : served, (0) Other	ulfate, (3) sodiu o) TSP, (U) Unpri) sodium bis ydroxide, (1	nethanol, (7) mmonium h	(C) =		Branch	dress Plant I	site Collection Info/Add			: Golder	Copy To
inter hedrounds IC vinc sorten		1	1	1			com	southernco	mail To: scsinvoices@			GA 30339 o: Joju Abraham	Atlanta,
Lab Project Manager:	rative Type **	Itainer Presen	0		T							2480 Maner Road	Address
LAB USE ONLY	HADED AREAS are for L	ALL SI							silling Information:		ion Residuals	y: Georgia Power - Coal Combusti	Compan
	MTA Log-in Number He				1 (r) 1	fields	slete all relevent	MENT - Com	rody is a LEGAL DOCUM	hain-of-Curd		Face Analytical	D
List Pace Workorder Number or	: Workorder/Login Label Here or I	SE ONLY- Affa	LABL		eda Ta	ment	auest Docu	vtical Re	CUSTODY Anal	VIN-OF-	CHA	2	

PACE Analytical Services Ra-228 Analysis

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Pace Analytical

Quality Control Sample Performance Assessment

MS/MSD 2

ellow.	 MS/MSD 1																																							
<u>Analyst Must Manually Enter All Fields Highlighted in </u>	Sample Matrix Spike Control Assessment	Sample Collection Date:	Sample I.D. Sample MS I.D.	Sample MSD I.D.	Spike I.D.:	MS/MSD Decay Corrected Spike Concentration (pCi/mL);	Spike Volume Used in MS (mL): Saite Volume Hood in Nerr (mL):		MS Tarroet Conc. (pC)(1 or F)	MSD Alignot (L. g. F):	MSD Target Conc. (pCi/L, g, F);	MS Spike Uncertainty (calculated):	Mou spike Uncertainty (calculated);	Sample Result:	- Satupie result counting uncenainty (pu/L, g, F): Samole Matrix Solice Desult-	Matrix Spike Result Counting Uncertainty (nCi) - EV	Sample Matrix Snike Duniheate Decut-	Matrix Spike Duplicate Result Countinn Uncertainty (nCi/) a EV	MS Numerical Performance Indicator:	MSD Numerical Performance Indicator	MS Percent Recovery	MSD Percent Recovery:	MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator;	MS Status vs Recovery:	MSD Status vs Recovery:	MS/MSD Upper % Recovery Limits:	MIS/MISU LOWER % RECOVERY LIMITS:	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample (D.	Sample MS I.D.	Sample MSD I.D.	Sample Matrix Spike Result:	wathX Spike Result Counting Uncertainty (pCi/L, g, F);	Matrix Spike Duplicate Result Counting Encodainty (ACUI)	Duplicate Numerical Performance Indicator	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD;	MS/ MSD Duplicate Status vs Numerical Indicator,	MS/ MSD Duplicate Status vs RPD: % RPD 1 imit-	2010 (100)
				•									I CENERDIA																	Enter Duplicate	sample IDs if	other than		. Molane and and		92491393012	92491393012DUP			_
Da.776	LAL 9/3/2020	55839	MO		100000	0 135	0.113	0.203	2.34	N/A	Pass	CSD (V or N12	1 555820	0/4/2020	19-033	24.045	0.10	0.502	4.785	0.057	4.098	0.782	-1.72	85.64%	A/A	Pass	125% 75%	22.2		92491393012	92491393012DUP	0.684	6/6.0 776 0	0.254	See Below 群。	1.327 04	57.84%	NA NA	7 all 25%	
Tect	Analyst Date:	Worklist	Matrix	Method Blank Assessment	MR Samola ID	MB concentration	M/B Counting Uncertainty:	MB MDC:	MB Numerical Performance Indicator:	MB Status vs Numerical Indicator,	MB Status vs. MDC:	Laboratory Control Sample Assessment		Count Date.	Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL):	Volume Used (mL);	Aliquot Volume (L., g, F):	Target Conc. (pCI/L, g, F):	Uncertainty (Calculated):	Result (pCi/L, g, F);	LUS/LUSD Counting Uncertainty (pCi/L, g, F);		Status un Mumorical Indiana		Status vs Kecovery	Upper % recovery Limits: Lower % Recovery Limits:		Duplicate Sample Assessment	Sample I.D.:	Comple LU	Sample Result Counting Threatainty (AC/A, g, F); Sample Result Counting Threatainty (AC/A, g, F).	Sample Duplicate Result (PCIC, 9, F).	Sample Duplicate Result Counting Uncertainty (pCVL, g, F)	Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator.	Duplicate RPD:	Unplicate Status VS Numerical Indicator:	Cupricate Status vs KFU. % RPD Limit:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

***Bateh-must De'te-preped-s

Here precision - Nia-Lann GIY / 2020

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1 of 1

2022/11/6 WAN

PACE Analytical Services Ra-228 Analysis

Eace Analytical

Quality Control Sample Performance Assessment

MS/MSD 2

MS/MSD 1

Yellow.	WS/W			
<u>Analyst Must Manually Enter All Fields Highlighted ir</u>	Sample Matrix Spike Control Assessment Sample Collection Date: Sample I.D. Sample MS I.D.	Sample MSD LD: Sample MSD LD: Spike Volume Used in MSD (mL): Spike Volume Used in MSD (mL): MS Aliquot (L, g, F): MS Target Conc. (pci/L, g, F): MSD Spike Uncertainty (calculated): Sample Result Sample Matrix Spike Result Matrix Spike Result Counting Uncertainty (pci/L, g, F): MSD Numerical Performance Indicator: MSD Numerical Performance Indicator: MSD Numerical Performance Indicator: MSD Status vs Numerical Indicator: MSD Status vs Recovery MSD Status vs Recovery MSD Status vs Recovery MSD Upper % Recovery Imits: MSMSD Upper % Recovery Limits: MSMSD Upper % Recovery Limits:		Matrix Spike/Matrix Spike Duplicate Sample Assessment Sample I.D. Sample MS I.D. Sample MS I.D. Sample Matrix Spike Result Matrix Spike Duplicate Result Uncertainty (pc/id. 9, F): Sample Matrix Spike Duplicate Result Duplicate Numerical Performance Indicator (Based on the Percent Recoveries) MS/ MSD Duplicate RPD: MS/ MSD Duplicate Status vs Numerical Indicator MS/ MSD Duplicate Status vs Numerical Indicator MS/ MSD Duplicate Status vs Numerical Indicator
		Z S S S S S S S S S S S S S S S S S S S		Enter Duplicate sample IDs if conter than LCSNLCSD in the space below. 92491663008 92491663008DUP
Ra-226	LAL 9/3/2020 55839 DW	1989998 0.135 0.135 0.135 0.135 0.135 0.203 2.34 N/A Pass 19-033 19-033 19-033 19-033 19-033 19-033 19-033 19-033 19-033 19-033 19-033 19-033 19-033 11-038 11-172 85.64% N/A Pass 125% 125% 125%		92491663008 92491663008 0.467 0.143 0.143 0.143 0.143 0.146 0.146 0.256 See <u>Belo</u> k 0.728 26:34% NAA Fall*** 25:34%
Tate Milly Utal www.exerce.com Test:	Analyst Date: Worklist Matrix:	Method Blank Assessment MB concentration: MB concentration: MB Numerical Performance Indicator: MB Numerical Performance Indicator: MB Status vs. MDC: MB Status vs. MDC: MB Status vs. MDC: Decay Corrected Spike Concentration (p.C.m.); Volume Used (mL); Aliquot Volume Used (mL); CS/LCSD Counting Uncertainty (cleiculated); LCS/LCSD Counting Uncertainty (cleiculated); Result (p.CI), g. F); Uncertainty (cleiculated); Result (p.CI), g. F); Uncertainty (cleiculated); Result (p.CI), g. F); Uncertainty (cleiculated); Status vs Recovery; Upper % Recovery Limits: Lower % Recovery Limits:	Dimlicate Samula Accoremont	Sample I.D.: Duplicate Sample I.D.: Duplicate Sample I.D. Sample Result Counting Uncertainty (pC/i/, g, F) Sample Duplicate Result (pC/i/, g, F) Sample Duplicate Result (pC/i/, g, F): Are sample and/or duplicate Results below RL? Duplicate Numerical Performance indicator: Duplicate Status vs Numerical Indicates RPD: Duplicate Status vs RPD: Duplicate Status vs RPD: S RPD Limit;

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

m 91412020 ...Batch must be terpresped due to unscooptable precision: $\mathcal{N}|
ho$

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any mon

TAR_55839_W.xls Total Alpha Radium (R104-3 11Feb2019).xls 20202/17/18000m
Pace Analytical

Quality Control Sample Performance Assessment

Pace Analytical			Analyst Must Manually Enter All Fields Highlighted in)	fellow.	
I GSL	077-BN				
Analyst Date	LAL 9/8/2020		Sample Matrix Spike Control Assessment Sample Collection Date	MS/MSD 1	MS/MSD 2
Worklist	55962 DW		Sample I.D.		
		_	Sample MSD I.D.		
Method Blank Assessment MB Sample ID	1994519		Spike I.D.: MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
MB concentration:	0.075		Solke Volume Used in MS (mL):		
M/B Counting Uncertainly: MB MDC	0.085		Spike Volume Used in MSD (mL): MS Alimited in EV		
MB Numerical Performance Indicator:	1.74		MS Target Conc.(pCi/l, g, F):		
MB Status vs Numerical Indicator: MB Status vs. MDC:	N/A Pass		MSD Aliquot (L, g, F): MSD Target Conc. (pCi/t, g, F):		
		_	MS Spike Uncertainty (calculated):		
Laboratory Control Sample Assessment	LCSD (Y or N)?	Å	MSD Spike Uncertainty (calculated):		
	LCS55962	LCSD55962	Sample Result		
Count Date: Spike I.D.:	9/9/2020 19-033	9/9/2020 19-033	Sample Result Counting Uncertainty (pCi/L, g, F); Sample Matrix Soike Result:		
Decay Corrected Spike Concentration (pCi/mL):	24.045	24.045	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Volume Used (mL):	0.10	0.10	Sample Matrix Spike Duplicate Result:		
Aliquot Volume (L., g, F):	0.506	0.506	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
larget Conc. (pUIL, g, F):	4.75/	4./35			
Uncertainty (Calculated):	0.057	0.057	MSD Numerical Performance Indicator: MS Parrent Bernven:		
LCS/LCSD Counting Uncertainty (oCi/L. o. F):	0.784	0.767	MSD Percent Recovery:		
Numerical Performance Indicator:	-0.13	-0.69	MS Status vs Numerical Indicator:		
Percent Recovery:	98.88%	94.27%	MSD Status vs Numerical Indicator:		
Status vs Numerical Indicator:	N/A	N/A	MS Status vs Recovery:		
Status vs Recovery:	Pass	Pass	MSD Status vs Recovery:		
Upper % Recovery Limits:	125%	125%	MS/MSD Upper % Recovery Limits:		
Tower % Recovery Limits	9,61	94.67	MIS/MISH FOWER & RECOVERY LITTING		
Duplicate Sample Assessment			Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Samme D	1 0.555962	Fnter Duniicate	Samole I.D.		
Duplicate Sample I.D.	LCSD55962	sample IDs if	Sample MS LD.		
Sample Result (pCi/L, g, F):	4.703	other than	Sample MSD I.D.		
Sample Result Counting Uncertainty (pCi/L, g, F):	0.784	LCS/LCSD in	Sample Matrix Spike Result:		
Sample Duplicate Result (pCi/L, g, F):	4,482	the space below.	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.767		Sample Matrix Spike Duplicate Result:		
Are sample and/or duplicate results below RL?	9 2		Matrix Spike Duplicate Result Counting Uncertainty (pCi/t, g, F);		
Duplicate Numerical Performance Indicator:	0.395		Duplicate Numerical Performance Indicator		
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	4.17%		(Based on the Percent Recovenes) MS/ MSU Juppicate KPU:		
Duplicate Status vs Numerical Indicator:	N/A		MS/ MSU Upplicate Status vs Nurnencal Indicator.		
Duplicate Status vs אשטין RPD Limit:	Lass 25%		MS/ MSU UUPICATE Status vs KFU. % RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC. Pass 25%

Comments:

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TAR_55962_W.xls Total Alpha Radium (R104-3 11Feb2019).xls

Face Analytical

Quality Control Sample Performance Assessment

	MS/MSD 2									
Yellow.	MS/MSD 1									
Analyst Must Manually Enter All Fields Highlighted in	Sample Matrix Spike Control Assessment Sample Collection Date: Sample 1.D. Sample MS 1.D. Sample MSD 1.D.	Spike I.D.: MS/MSD Decay Corrected Spike Concentration (pc/iml): Spike Volume Used in MSC (mL): Spike Volume Used in MSD (mL): MS Target Conc.(pc/id., g, F): MSD Target Conc. (pc/id., g, F):	mo opine uncertainty (calculated): MSD Spike Uncertainty (calculated): Sample Result	Sample Result Counting Uncertainty (pCl/L, g, F): Sample Matrix Spike Result Matrix Spike Result Counting Uncertainty (pCl/L, g, F): Sample Matrix Spike Duplicate Result Matrix Spike Duplicate Result Counting Uncertainty (pCl/L, g, F): MS Numerical Performance Indicator	MSD Nutrandor Ferioritarioa Franciaria MS Percent Recovery: MSD Status vs Numerical Indicator: MSD Status vs Numerical Indicator: MSD Status vs Recovery: MS/MSD Upper * Recovery: MS/MSD Lower * Recovery: MS/MSD Lower * Recovery: MS/MSD Lower * Recovery:	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample MS I.D. Sample MS I.D. Sample MSD I.D.	uartiper mattrix Spike Result Counting Uncertainty (pCML, g, F); Matrix Spike Result Counting Uncertainty (pCM, g, F); Matrix Spike Duplicate Result Counting Uncertainty (pCM, g, F);	Duplicate Numerical Performance Indicator (Based on the Percent Recoveries) MS/ MSD Duplicate RPD: MS/ MSD Duplicate Status vs Numerical Indicator MS/ MSD Duplicate Status vs RPD:	% RPD Limit:
			N LCSD55962			Enter Dunlinate	sample IDs if other than	the space below.	92491393007 92491393007DUP	
Ra-226	LAL 9/8/2020 55962 DW	1994519 0.075 0.085 0.085 0.159 1.74 NVA Pass	LCSD (Y or N)? LCS55962	9/9/2020 19-033 24.045 0.10 0.506 4.757	4.703 4.703 0.784 0.13 98.88% N/A Pass 125% 75%	2000000000000	92491393007DUP 0.053	0.094 0.086 See Below #	-0.651 55.49% N/A Fail***	25%
Pace Analytical www.packata.com	Analyst Date: Worklist Matrix:	Method Blank Assessment MB Sample ID MB concentration: M/B Counting Uncertainty: MB MDC: MB Numerical Performance Indicator: MB Status vs Numerical Indicator: MB Status vs Numerical Indicator:	Laboratory Control Sample Assessment	Count Date: Spike I.D.: Decay Corrected Spike Concentration (pCI/mL): Volume Used (mL): Aliquot Volume (L, g, F): Target Conc. (pCi/L, g, F):	Untertainty (C-drundare), Result (pC/L, g, F); LCS/LCSD Counting Uncertainty (pC/L, g, F); Numerical Performance Indicator: Percent Recovery: Status vs Recovery: Upper % Recovery: Lower % Recovery: Lower % Recovery:	Duplicate Sample Assessment	Duplicate Sample I.D. Sample Result (pCl(I, g.F):	santpre resour outuring oncarany proctr. 9, 71, Sample Duplicate Result (pCl/L, g, F); Sample Duplicate Result Counting Uncertainty (pCl/L, g, F); Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator: Duplicate RPD: Duplicate Status vs Numerical Indicator: Duplicate Status vs RPD:	% RPD Limit

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

unn gallon ***Batch must be re-prepped-due to unacceptable-presision. $\mathcal{O}(eta)$

Page 71 of 73

1 of 1

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202/6/5mg

Quality Control Sample Performance Assessment

	2 MS/MSD 2																																						_
<u>ahlighted in Yellow.</u>	ISWSW	blection Date:	Sample I.D. Imple MS I.D.	Rpie Mou LU.	spike I.U.:	d in MS (mL):	in MSD (mL);	quot (L, g, F);	c(pCi/L, g, F);	iquot (L, g, F);	. (pCi/L, g, F);	r (calculated).	strate Decut	l (pCM., a. F):	Spike Result:	1 (pCi/L, g, F);	olicate Result:	((pCi/L, g, F);	nce Indicator;	nce Indicator.	alk Recovery.	ical Indicator	ical Indicator;	vs Recovery:	vs Recovery:	overy Limits:	sovery Limits:	sment	Sample I.D.	mote MS LD.	ple MSD I.D.	Spike Result:	(pCi/L, g, F):	dicate Result:	(pCi/L, g, F):	nce Indicator:	plicate RPD:	ical Indicator;	
<u>Analyst Must Manually Enter All Fields Hi</u>	Sample Matrix Spike Control Assessment	Sample Co			MSMSD Decay Corrected Shike Concentra	MUNING DECAY CONCERED SPIRE CONCENTER	Spike Volume Used	MS AII	MS Target Conc	MSD All	MSUJ Target Conc.	MSD Snike [Incertainty		Sample Result 2 Sigma CSU	Sample Matrix	Matrix Spike Result 2 Sigma CSU	Sample Matrix Spike Dup	Matrix Spike Duplicate Result 2 Sigma CSU		MSU Numerical Performat	MSD Perce	MS Status vs Numer	MSD Status vs Numer	MS Status	MSD Status	MS/MSD Upper % Rec	MS/MSU Lower % Rec	Matrix Spike/Matrix Spike Duplicate Sample Assess		BS	Sam	Sample Matrix	Matrix Spike Result 2 Sigma CSU	Sample Matrix Spike Dup	Matrix Spike Duplicate Result 2 Sigma CSU	Duplicate Numerical Performar	(Based on the Percent Recoveries) MS/ MSD Du	MS/ MS/ Uppicate Status vs Numer MS/ MS/) Dunitrate Sta	
													LCSD55853	9/9/2020	20-030	38.472	0.10	0.812	0.00	0.232 5.603	1.205	1.38	118.30%	N/A	Pass	135%	% CD		Enter Duplicate	sample IDs if	other than	LCS/LCSD in	the space below.						
8-0-6 2	VAL	9/2/2020	55853 WT		1990347	0.274	0.326	0.685	1.65	Pass	1 43.9	LCSD (Y or N)?	LCS55853	9/9/2020	20-030	38.472	0.10	0.810	1.720	U.233 4 963	1,118	0.37	104.53%	N/A	Pass	135% 60%	e.00		LCS55853	LCSD55853	4.963	1.118	5.603	1.205	Q N	-0.762	%DC.21	Pass	
Tact	Analyst	Date:	Worklist Matrix	lethod Blank Assessment	MB Samole ID	MB concentration:	M/B 2 Sigma CSU:	MB MDC:	MB Numerical Performance Indicator:	MB Status vs Numerical Indicator: MR Status vs MnD:		aboratory Control Sample Assessment	1	Count Date:	Spike I.D .:	Decay Corrected Spike Concentration (pCi/mL):	Volume Used (mL):	Aliquot Volume (L, g, F): Tarret Conc. (ACiil c):	Incertainty (Calculated)	Oncertainty (Calculateu). Result (nCi/L or F)·	LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator:	Status vs Recovery:	Upper % Recovery Limits: Lower % Recovery Limits:		Iplicate Sample Assessment	Sample I.D.:	Duplicate Sample (,D,	Sample Result (pCi/L, g, F):	Sample Result 2 Sigma CSU (pCi/L, g, F);	Sample Duplicate Result (pCi/L., g, F):	Sample Duplicate Result 2 Sigma CSU (pCi/l., g, F):	Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator: (Based on the LCS/LCSD Decrement Decrement) Durationte DDD:	Varava via die ECOVECOD F diversi Necovarias) Dapsidata (NFD). Dirplicata Status va Numacioni Indiantari	Duplicate Status vs runnervar unanteriori. Duplicate Status vs RPD:	-

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

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Pace Analytical

Quality Control Sample Performance Assessment

	MS/MSD 2													****										
Yellow.	MS/MSD 1																							
Analyst Must Manually Enter All Fields Highlighted in	Sample Matrix Spike Control Assessment Sample Collection Date: Sample I.D. Sample MS I.D. Sample MS I.D.	Spike I.D.: MS/MSD Decay Corrected Spike Concentration (pCi/mL): Spike Volume Used in MS (mL): Spike Volume Used in MSD (mL): MS Target Conc. (pCi/L, g, F): MSD Target Conc. (pCi/L, g, F):	MS Spike Uncertainty (calculated):	MSU Spike Uncertainty (calculated):	Sample Result 2 Sigma COU (pCML g, F): Sample Matrix Spike Result	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	oaniyle maurx opne olement of annowed the puppleate result. Matrix Spike Duplicate Result 2 Sigma CSU (pCML, g, F): MS Niumerical Performance Indicator:	MSD Numerical Performance Indicator:	MSD Percent Recovery: MSD Percent Recovery:	MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	MSD Status vs Recovery: MSD Status vs Recovery:	MS/MSD Upper % Recovery Limits: MS/MSD Lower % Recovery Limits:	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample I.D.	Sample MS I.D.	Sample MSD I.D.	Sample Matrix Spike Result:	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F): Samula Matrix Snike Dunlinate Result-	Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	Duplicate Numerical Performance Indicator:	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Status vs Numericai Indicator.	MS/ MSD Duplicate Status vs KPU: % RPD Limit:
			>	T CENEROLA	9/9/2020 20-030	38.472	0.812 0.812 4 741	0.232	5.257 1 159	0.86	110.89%	Pass	135% 60%		Enter Duplicate	sample IDs if	other than	LCS/LCSD in	the space below.					
D0 278	VAL VAL 9/3/2020 55854 WT	1990348 0.805 0.381 0.535 4.14 Fail* See Comment*	000 07 - 700	CSD (Y OF N)?	9/9/2020 20-030	38.472 2.40	0.815 0.815 4 718	0.231	5.944 1 289	1.83	125.98%	N/A Pass	135% 60%		LCS55854	LCSD55854	5.944	1.289	5.257 1 150	ON N	0.777	12.74%	Pass	Pass 36%
	Analyst Date: Worklist Matrix:	Viethod Blank Assessment MB Sample ID MB concentration: MB 2 Sigma CSU: MB Numerical Performance indicator: MB Status vs Numerical Indicator: MB Status vs. MDC:		-aboratory Control Sample Assessment	Count Date:	Decay Corrected Spike Concentration (pCi/mL):	Volume Used (m.): Aliquot Volume (L, g, F): Tarnet Conc. (ACM - A F):	Uncertainty (Catculated):	Result (pCi/L, g, F): I CS/I CSD 2 Siama CSU (nCi/L g, F):	Numerical Performance Indicator:	Percent Recovery.	Status vs Numercal indicator: Status vs Recovery:	Upper % Recovery Limits: Lower % Recovery Limits:	Ouplicate Sample Assessment	Sample I.D.:	Duplicate Sample I.D.	Sample Result (pCi/L, g, F):	Sample Result 2 Sigma CSU (pCi/L, g, F).	Sample Duplicate Result (pCi/L, g, F): Sample Dunificate Desult 2 Sioma CSU (nCi/L, g, F):	Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator:	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Duplicate Status vs Numerical Indicator:	Duplicate Status vs RPU: % RPD Limit:

1

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.



6 of 10

Ra-228 (R086-8 045ep2019) xis



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

September 11, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH E NETWORK WELLS Pace Project No.: 92491663

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on August 20, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Charlotte
- Pace Analytical Services Peachtree Corners, GA
- · Pace Analytical Services Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

typer Pager

Tyler Forney for Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta



Brian Steele, Golder

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L

South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



SAMPLE SUMMARY

Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92491663001	DUP-1	Water	08/19/20 00:00	08/20/20 10:03
92491663002	BRGWC-33S	Water	08/19/20 09:47	08/20/20 10:03
92491663003	BRGWC-34S	Water	08/19/20 10:34	08/20/20 10:03
92491663004	FB-1	Water	08/19/20 10:16	08/20/20 10:03
92491663005	BRGWC-35S	Water	08/19/20 11:25	08/20/20 10:03
92491663006	BRGWC-37S	Water	08/19/20 12:23	08/20/20 10:03
92491663007	BRGWC-38S	Water	08/19/20 13:26	08/20/20 10:03
92491663008	BRGWC-36S	Water	08/19/20 14:58	08/20/20 10:03
92491663009	BRGWC-17S	Water	08/19/20 16:27	08/20/20 10:03



SAMPLE ANALYTE COUNT

Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92491663001	DUP-1	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491663002	BRGWC-33S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491663003	BRGWC-34S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491663004	FB-1	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491663005	BRGWC-35S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491663006	BRGWC-37S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491663007	BRGWC-38S	EPA 6020B	CW1	12	PASI-GA



SAMPLE ANALYTE COUNT

Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491663008	BRGWC-36S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491663009	BRGWC-17S	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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

PASI-PA = Pace Analytical Services - Greensburg



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491663001	DUP-1					
EPA 6020B	Barium	0.025	mg/L	0.010	08/25/20 18:05	
EPA 6020B	Beryllium	0.00012J	mg/L	0.0030	08/25/20 18:05	
EPA 6020B	Cadmium	0.00016J	mg/L	0.0025	08/25/20 18:05	
EPA 6020B	Cobalt	0.0042J	mg/L	0.0050	08/25/20 18:05	
EPA 9315	Radium-226	0.208 ± 0.117 (0.174)	pCi/L		09/02/20 17:59	
EPA 9320	Radium-228	C:77% I:NA 1.08 ± 0.591 (1.08) C:70% T:77%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	1.29 ± 0.708 (1.25)	pCi/L		09/10/20 13:24	
EPA 300.0 Rev 2.1 1993	Fluoride	0.065J	mg/L	0.10	08/21/20 19:29	
92491663002	BRGWC-33S					
	рН	4.78	Std. Units		09/09/20 17:02	
EPA 6020B	Barium	0.020	mg/L	0.010	08/25/20 18:11	
EPA 6020B	Beryllium	0.0014J	mg/L	0.0030	08/25/20 18:11	
EPA 6020B	Cadmium	0.00029J	mg/L	0.0025	08/25/20 18:11	
EPA 6020B	Cobalt	0.036	mg/L	0.0050	08/25/20 18:11	
EPA 6020B	Lead	0.000060J	mg/L	0.0050	08/26/20 18:23	
EPA 6020B	Lithium	0.0090J	mg/L	0.030	08/25/20 18:11	
EPA 6020B	Thallium	0.00018J	mg/L	0.0010	08/26/20 18:23	
EPA 9315	Radium-226	0.270 ± 0.129 (0.180) C:84% T:NA	pCi/L		09/02/20 17:59	
EPA 9320	Radium-228	0.866 ± 0.525 (0.981) C:65% T:82%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	1.14 ± 0.654 (1.16)	pCi/L		09/10/20 13:24	
EPA 300.0 Rev 2.1 1993	Fluoride	0.11	mg/L	0.10	08/21/20 20:23	
92491663003	BRGWC-34S					
	рН	5.78	Std. Units		09/09/20 17:02	
EPA 6020B	Barium	0.024	mg/L	0.010	08/25/20 18:16	
EPA 6020B	Beryllium	0.00015J	mg/L	0.0030	08/25/20 18:16	
EPA 6020B	Cadmium	0.00018J	mg/L	0.0025	08/25/20 18:16	
EPA 6020B	Cobalt	0.0041J	mg/L	0.0050	08/25/20 18:16	
EPA 6020B	Lithium	0.00082J	mg/L	0.030	08/25/20 18:16	
EPA 7470A	Mercury	0.00012J	mg/L	0.00020	08/25/20 09:49	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491663003	BRGWC-34S					
EPA 9315	Radium-226	0.344 ± 0.136 (0.166)	pCi/L		09/02/20 17:59	
EPA 9320	Radium-228	C:81% 1:NA 0.868 ± 0.608 (1.17) C:68%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	1.39 /⁄s 1.21 ± 0.744 (1.34)	pCi/L		09/10/20 13:24	
EPA 300.0 Rev 2.1 1993	Fluoride	0.074J	mg/L	0.10	08/21/20 20:36	
92491663004	FB-1					
EPA 7470A	Mercury	0.00012J	mg/L	0.00020	08/25/20 09:51	
EPA 9315	Radium-226	0.0526 ± 0.0700 (0.132) C:81% T:NA	pCi/L		09/02/20 17:59	
EPA 9320	Radium-228	0.705 ± 0.443 (0.820) C:71% T:75%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	0.758 ± 0.513 (0.952)	pCi/L		09/10/20 13:29	
92491663005	BRGWC-35S					
	рН	5.97	Std. Units		09/09/20 17:02	
EPA 6020B	Barium	0.040	mg/L	0.010	08/25/20 18:39	
EPA 6020B	Beryllium	0.00015J	mg/L	0.0030	08/25/20 18:39	
EPA 6020B	Chromium	0.0073J	mg/L	0.010	08/25/20 18:39	
EPA 6020B	Lithium	0.0021J	mg/L	0.030	08/25/20 18:39	
EPA 7470A	Mercury	0.00013J	mg/L	0.00020	08/25/20 09:59	
EPA 9315	Radium-226	0.117 ± 0.111 (0.202) C:92% T:NA	pCi/L		09/02/20 18:00	
EPA 9320	Radium-228	0.0450 ± 0.477 (1.10) C:70% T:76%	pCi/L		09/09/20 16:24	
Total Radium Calculation	Total Radium	0.162 ± 0.588 (1.30)	pCi/L		09/10/20 13:29	
EPA 300.0 Rev 2.1 1993	Fluoride	0.060J	mg/L	0.10	08/21/20 21:03	
92491663006	BRGWC-37S					
	рН	5.66	Std. Units		09/09/20 17:02	
EPA 6020B	Barium	0.026	mg/L	0.010	08/25/20 18:45	
EPA 6020B	Chromium	0.0017J	mg/L	0.010	08/25/20 18:45	

REPORT OF LABORATORY ANALYSIS

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Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491663006	BRGWC-37S					
EPA 7470A	Mercury	0.00014J	mg/L	0.00020	08/25/20 10:01	
EPA 9315	Radium-226	0.235 ±	pCi/L		09/03/20 16:47	
		0.132				
		(0.211) C:89% T·NA				
EPA 9320	Radium-228	0.347 ±	pCi/L		09/09/20 16:46	
		0.444	·			
		(0.941)				
		T:81%				
Total Radium Calculation	Total Radium	0.582 ±	pCi/L		09/10/20 13:29	
		0.576				
EBA 200 0 Boy 2 1 1002	Fluorido	(1.15)	~~~/l	0.10	09/21/20 21.44	
EPA 300.0 Rev 2.1 1993	Fluonde	0.055J	mg/∟	0.10	06/21/20 21.44	
92491663007	BRGWC-38S					
	рН	4.12	Std. Units		09/09/20 17:02	
EPA 6020B	Arsenic	0.0021J	mg/L	0.0050	08/25/20 18:51	
EPA 6020B	Barium	0.016	mg/L	0.010	08/25/20 18:51	
EPA 6020B	Beryllium	0.0079	mg/L	0.0030	08/25/20 18:51	
EPA 6020B	Cadmium	0.00056J	mg/L	0.0025	08/25/20 18:51	
EPA 6020B	Chromium	0.0043J	mg/L	0.010	08/25/20 18:51	
EPA 6020B	Load	0.22	mg/L	0.0050	08/25/20 10:01	
EPA 6020B	Lead	0.000313	mg/L	0.0030	08/25/20 18:51	
EPA 6020B	Selenium	0.0210	mg/L	0.030	08/25/20 18:51	
EPA 6020B	Thallium	0.00019J	mg/L	0.0010	08/26/20 19:03	
EPA 7470A	Mercury	0.00018J	mg/L	0.00020	08/25/20 10:03	
EPA 9315	Radium-226	0.832 ±	pCi/L		09/03/20 16:47	
		0.221				
		(0.210) C:929/ T:NA				
EPA 9320	Radium-228	2.34 ±	nCi/l		09/09/20 15:11	
		0.758	powe		00,00,20 10.11	
		(1.07)				
		C:67%				
Total Radium Calculation	Total Radium	3.17 ±	pCi/l		09/10/20 13:29	
		0.979	powe		00,10,20 10.20	
		(1.28)				
EPA 300.0 Rev 2.1 1993	Fluoride	0.95	mg/L	0.10	08/21/20 21:57	
92491663008	BRGWC-36S					
	рН	5.53	Std. Units		09/09/20 17:02	
EPA 6020B	Barium	0.037	mg/L	0.010	08/25/20 18:56	
EPA 6020B	Beryllium	0.00011J	mg/L	0.0030	08/25/20 18:56	
EPA 6020B	Chromium	0.0094J	mg/L	0.010	08/25/20 18:56	
EPA 6020B	Lead	0.000047J	mg/L	0.0050	08/26/20 19:09	
	Solonium	0.0024J	mg/∟	0.030	08/25/20 18:56	
ΕΓΑ 00200 ΕΡΔ 7470Δ	Mercury	0.0020J	mg/L	0.010	08/25/20 10.00	
	Moroury	0.000133	ing/L	0.00020	00/20/20 10.00	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491663008	BRGWC-36S					
EPA 9315	Radium-226	0.467 ± 0.158 (0.187) C:94% T:NA	pCi/L		09/03/20 16:47	
EPA 9320	Radium-228	0.933 ± 0.441 (0.727) C.68% T.78%	pCi/L		09/09/20 12:01	
Total Radium Calculation	Total Radium	1.40 ± 0.599 (0.914)	pCi/L		09/10/20 15:11	
EPA 300.0 Rev 2.1 1993	Fluoride	0.051J	mg/L	0.10	08/21/20 22:11	
92491663009	BRGWC-17S					
	рН	6.24	Std. Units		09/09/20 17:02	
EPA 6020B	Barium	0.047	mg/L	0.010	08/27/20 15:20	
EPA 6020B	Chromium	0.012	mg/L	0.010	08/27/20 15:20	
EPA 6020B	Lithium	0.0010J	mg/L	0.030	08/27/20 15:20	
EPA 6020B	Selenium	0.0030J	mg/L	0.010	08/27/20 15:20	
EPA 7470A	Mercury	0.000084J	mg/L	0.00020	08/25/20 10:08	
EPA 9315	Radium-226	0.118 ± 0.0995 (0.173) C:88% T:NA	pCi/L		09/03/20 16:47	
EPA 9320	Radium-228	0.867 ± 0.503 (0.914) C:66% T:71%	pCi/L		09/09/20 12:02	
Total Radium Calculation	Total Radium	0.985 ± 0.603 (1.09)	pCi/L		09/10/20 15:11	
EPA 300.0 Rev 2.1 1993	Fluoride	0.10	mg/L	0.10	08/21/20 22:24	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: DUP-1	Lab ID: 92491663001 Collected: 08/19/20 00:00					Received: 08/20/20 10:03 Matrix: Water			
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	thod: EP	A 3005A			
	Pace Analy	tical Services	- Peachtre	e Corners, C	GA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 18:05	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 18:05	7440-38-2	
Barium	0.025	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 18:05	7440-39-3	
Beryllium	0.00012J	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 18:05	7440-41-7	
Cadmium	0.00016J	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 18:05	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 18:05	7440-47-3	
Cobalt	0.0042J	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 18:05	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 18:17	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 18:05	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 18:05	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 18:05	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 18:17	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	hod: EP	A 7470A			
	Pace Analy	tical Services	- Peachtre	e Corners, C	GA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:37	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
-	Pace Analy	tical Services	- Asheville						
Fluoride	0.065J	mg/L	0.10	0.050	1		08/21/20 19:29	16984-48-8	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-33S	Lab ID:	92491663002	Collected: 08/19/20 09:47			Received: 08/20/20 10:03 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte)					
рН	4.78	Std. Units			1		09/09/20 17:02		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prej	paration Met	hod: EP	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	SA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 18:11	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 18:11	7440-38-2	
Barium	0.020	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 18:11	7440-39-3	
Beryllium	0.0014J	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 18:11	7440-41-7	
Cadmium	0.00029J	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 18:11	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 18:11	7440-47-3	
Cobalt	0.036	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 18:11	7440-48-4	
Lead	0.000060J	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 18:23	7439-92-1	
Lithium	0.0090J	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 18:11	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 18:11	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 18:11	7782-49-2	
Thallium	0.00018J	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 18:23	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prep	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ΒA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:47	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.11	mg/L	0.10	0.050	1		08/21/20 20:23	16984-48-8	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-34S	Lab ID:	92491663003	Collected: 08/19/20 10:34			Received: 08/20/20 10:03 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	;					
рН	5.78	Std. Units			1		09/09/20 17:02		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prej	paration Met	hod: EP	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ΒA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 18:16	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 18:16	7440-38-2	
Barium	0.024	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 18:16	7440-39-3	
Beryllium	0.00015J	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 18:16	7440-41-7	
Cadmium	0.00018J	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 18:16	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 18:16	7440-47-3	
Cobalt	0.0041J	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 18:16	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 18:29	7439-92-1	
Lithium	0.00082J	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 18:16	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 18:16	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 18:16	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 18:29	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prep	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ΒA				
Mercury	0.00012J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:49	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.074J	mg/L	0.10	0.050	1		08/21/20 20:36	16984-48-8	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: FB-1	Lab ID: 92491663004 Collected: 08/19/20 10:16 Received:						ceived: 08/20/20 10:03 Matrix: Water			
			Report							
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EP	A 3005A				
	Pace Anal	ytical Services	- Peachtre	e Corners, C	GΑ					
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 18:34	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 18:34	7440-38-2		
Barium	ND	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 18:34	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 18:34	7440-41-7		
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 18:34	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 18:34	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 18:34	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 18:34	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 18:34	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 18:34	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 18:34	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 18:34	7440-28-0		
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	hod: EP	A 7470A				
	Pace Anal	ytical Services	- Peachtre	e Corners, C	GΑ					
Mercury	0.00012J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:51	7439-97-6		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993						
	Pace Anal	ytical Services	- Asheville	•						
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 20:50	16984-48-8		



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-35S	Lab ID:	Collected: 08/19/20 11:25			Received: 08/20/20 10:03 Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte)					
рН	5.97	Std. Units			1		09/09/20 17:02		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prej	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЗA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 18:39	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 18:39	7440-38-2	
Barium	0.040	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 18:39	7440-39-3	
Beryllium	0.00015J	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 18:39	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 18:39	7440-43-9	
Chromium	0.0073J	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 18:39	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 18:39	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 18:52	7439-92-1	
Lithium	0.0021J	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 18:39	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 18:39	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 18:39	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 18:52	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prep	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЗA				
Mercury	0.00013J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:59	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.060J	mg/L	0.10	0.050	1		08/21/20 21:03	16984-48-8	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-37S	Lab ID:	Collected: 08/19/20 12:23			Received: 08/20/20 10:03 Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	9					
рН	5.66	Std. Units			1		09/09/20 17:02		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	thod: EP	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	GΑ				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 18:45	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 18:45	7440-38-2	
Barium	0.026	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 18:45	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 18:45	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 18:45	7440-43-9	
Chromium	0.0017J	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 18:45	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 18:45	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 18:57	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 18:45	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 18:45	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 18:45	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 18:57	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, O	GA				
Mercury	0.00014J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:01	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville	•					
Fluoride	0.055J	mg/L	0.10	0.050	1		08/21/20 21:44	16984-48-8	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-38S	Lab ID:	Lab ID: 92491663007			0 13:26	Received: 08/20/20 10:03 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	•					
рН	4.12	Std. Units			1		09/09/20 17:02		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EP	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ΒA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 18:51	7440-36-0	
Arsenic	0.0021J	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 18:51	7440-38-2	
Barium	0.016	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 18:51	7440-39-3	
Beryllium	0.0079	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 18:51	7440-41-7	
Cadmium	0.00056J	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 18:51	7440-43-9	
Chromium	0.0043J	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 18:51	7440-47-3	
Cobalt	0.22	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 18:51	7440-48-4	
Lead	0.00031J	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 19:03	7439-92-1	
Lithium	0.021J	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 18:51	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 18:51	7439-98-7	
Selenium	0.041	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 18:51	7782-49-2	
Thallium	0.00019J	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 19:03	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	ЗA				
Mercury	0.00018J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:03	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.95	mg/L	0.10	0.050	1		08/21/20 21:57	16984-48-8	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-36S	Lab ID:	92491663008	Collecte	ed: 08/19/20	0 14:58	Received: 08/	20/20 10:03 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	•					
рН	5.53	Std. Units			1		09/09/20 17:02		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EP	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЭA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 18:56	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 18:56	7440-38-2	
Barium	0.037	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 18:56	7440-39-3	
Beryllium	0.00011J	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 18:56	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 18:56	7440-43-9	
Chromium	0.0094J	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 18:56	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 18:56	7440-48-4	
Lead	0.000047J	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 19:09	7439-92-1	
Lithium	0.0024J	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 18:56	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 18:56	7439-98-7	
Selenium	0.0020J	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 18:56	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 19:09	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЗA				
Mercury	0.00013J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:06	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.051J	mg/L	0.10	0.050	1		08/21/20 22:11	16984-48-8	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-17S	Lab ID:	92491663009	Collecte	ed: 08/19/20) 16:27	Received: 08/	20/20 10:03 Ma	atrix: Water	
-	D 1		Report						
Parameters	Results	Units	Limit		DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte)					
рН	6.24	Std. Units			1		09/09/20 17:02		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	βA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 15:20	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 15:20	7440-38-2	
Barium	0.047	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 15:20	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 15:20	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 15:20	7440-43-9	
Chromium	0.012	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 15:20	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 15:20	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 15:20	7439-92-1	
Lithium	0.0010J	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 15:20	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 15:20	7439-98-7	
Selenium	0.0030J	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 15:20	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 15:20	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	βA				
Mercury	0.000084J	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 10:08	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.10	mg/L	0.10	0.050	1		08/21/20 22:24	16984-48-8	



BRANCH E NETWORK WELLS

Project:

QUALITY CONTROL DATA

QC Batch: 561963 Analysis Method: EPA 6020B QC Batch Method: EPA 3005A Analysis Description: 6020 MET Laboratory: Pace Analytical Services - Peachtree Corners, GA Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663008 METHOD BLANK: 2980652 Matrix: Water Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663008	
QC Batch Method: EPA 3005A Analysis Description: 6020 MET Laboratory: Pace Analytical Services - Peachtree Corners, GA Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663007, 92491663008 METHOD BLANK: 2980652 Matrix: Water Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663007, 92491663007, 92491663007, 92491663007, 92491663007, 92491663007, 92491663007, 92491663007, 92491663007, 92491663008	
Laboratory: Pace Analytical Services - Peachtree Corners, GA Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663008 METHOD BLANK: 2980652 Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663007, 92491663007, 92491663007, 92491663008	
Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663008 METHOD BLANK: 2980652 Matrix: Water Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663007, 92491663008	
METHOD BLANK: 2980652 Matrix: Water Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663008	
Associated Lab Samples: 92491663001, 92491663002, 92491663003, 92491663004, 92491663005, 92491663006, 92491663007, 92491663008	
Blank Reporting	
Parameter Units Result Limit MDL Analyzed Qualifiers	
Antimony mg/L ND 0.0030 0.00028 08/25/20 16:08	-
Arsenic mg/L ND 0.0050 0.00078 08/25/20 16:08	
Barium mg/L ND 0.010 0.00071 08/25/20 16:08	
Beryllium mg/L ND 0.0030 0.000046 08/25/20 16:08	
Cadmium mg/L ND 0.0025 0.00012 08/25/20 16:08	
Chromium mg/L ND 0.010 0.00055 08/25/20 16:08	
Cobalt mg/L ND 0.0050 0.00038 08/25/20 16:08 Load mg/L ND 0.0050 0.000036 08/25/20 16:08	
Lead IIIg/L ND 0.0000 0.000030 06/20/20 16:00	
Molybdenum mg/l ND 0.050 0.00081 08/25/20 16:08	
Selenium mg/L ND 0.010 0.00003 00/25/20 10:00	
Thallium mg/L ND 0.0010 0.00014 08/26/20 16:20	
LABORATORY CONTROL SAMPLE: 2980653 Spike LCS LCS % Rec	
Parameter Units Conc. Result % Rec Limits Qualifiers	
Antimony mg/L 0.1 0.10 100 80-120	
Arsenic mg/L 0.1 0.096 96 80-120	
Barium mg/L 0.1 0.097 97 80-120	
Beryllium mg/L 0.1 0.098 98 80-120	
Cadmium mg/L 0.1 0.099 99 80-120	
Chromium mg/L 0.1 0.099 99 80-120	
Lead mg/L 0.1 0.096 96 60-120	
Lithium mg/L 0.1 0.098 98 80-120	
Molybdenum mg/l 0.1 0.097 97 80-120	
Selenium ma/L 0.1 0.098 98 80-120	
Thallium mg/L 0.1 0.10 100 80-120	
MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980654 2980655	
MS MSD	
92491455013 Spike Spike MS MSD MS MSD % Rec M Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD R	/lax (PD Qual
	20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

0.24

0.23

115

114 75-125

0 20

0.1

REPORT OF LABORATORY ANALYSIS

mg/L

0.12

0.1

Barium

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Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

MATRIX SPIKE & MATRIX SPIK	ATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980654 2980655												
Parameter	Units	92491455013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Beryllium	mg/L	 ND	0.1	0.1	0.098	0.099	98	99	75-125	0	20		
Cadmium	mg/L	0.00058J	0.1	0.1	0.096	0.096	95	95	75-125	0	20		
Chromium	mg/L	0.0015J	0.1	0.1	0.10	0.10	100	100	75-125	0	20		
Cobalt	mg/L	0.00040J	0.1	0.1	0.10	0.10	99	99	75-125	0	20		
Lead	mg/L	0.00035J	0.1	0.1	0.094	0.093	94	93	75-125	1	20		
Lithium	mg/L	ND	0.1	0.1	0.096	0.098	96	97	75-125	1	20		
Molybdenum	mg/L	0.00077J	0.1	0.1	0.10	0.10	102	99	75-125	2	20		
Selenium	mg/L	0.0028J	0.1	0.1	0.10	0.10	99	99	75-125	0	20		
Thallium	mg/L	0.00021J	0.1	0.1	0.094	0.093	94	93	75-125	1	20		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: BRANCH E NETWORK WELLS

Pace Project No.:	92491663
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·····								
QC Batch:	561964		Analysis Meth	nod: E	PA 6020B			
QC Batch Method:	EPA 3005A		Analysis Des	cription: 6	020 MET			
			Laboratory:	Р	ace Analytical Se	rvices - Peachtree	Corners, GA	
Associated Lab Sa	mples: 92491663	009						
METHOD BLANK:	2980659		Matrix:	Water				
Associated Lab Sa	mples: 92491663	009						
			Blank	Reporting				
Para	meter	Units	Result	Limit	MDL	Analyzed	Qualifiers	
Antimony		mg/L	ND	0.0030	0.00028	08/27/20 15:08		
Arsenic		mg/L	ND	0.0050	0.00078	08/27/20 15:08		
Barium		mg/L	ND	0.010	0.00071	08/27/20 15:08		
Beryllium		mg/L	ND	0.0030	0.000046	08/27/20 15:08		
Cadmium		mg/L	ND	0.0025	0.00012	08/27/20 15:08		
Chromium		mg/L	ND	0.010	0.00055	08/27/20 15:08		
Cobalt		mg/L	ND	0.0050	0.00038	08/27/20 15:08		
Lead		mg/L	ND	0.0050	0.000036	08/27/20 15:08		
Lithium		mg/L	ND	0.030	0.00081	08/27/20 15:08		

ND

ND

ND

0.010

0.010

0.0010

0.00069 08/27/20 15:08

0.0016 08/27/20 15:08

0.00014 08/27/20 15:08

LABORATORY CONTROL SAMPLE: 2980660

Molybdenum

Selenium

Thallium

mg/L

mg/L

mg/L

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.10	101	80-120	
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.10	101	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SP	IKE DUPL	ICATE: 2980	661		2980662							
		92491663009	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Мах	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Barium	mg/L	0.047	0.1	0.1	0.14	0.14	98	97	75-125	0	20	
Beryllium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

MATRIX SPIKE & MATRIX SPI	661	MOD	2980662									
Parameter	Units	92491663009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec	RPD	Max RPD	Qual
Cadmium	ma/l		0.1	0.1	0.10	0.098	100	98	75-125	2	20	
Chromium	mg/L	0.012	0.1	0.1	0.10	0.030	100	102	75-125	4	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Lithium	mg/L	0.0010J	0.1	0.1	0.10	0.099	98	98	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	103	100	75-125	2	20	
Selenium	mg/L	0.0030J	0.1	0.1	0.10	0.10	99	102	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	

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Project:	BRAN	CH E NETW	ORK WELLS										
Pace Project No.:	92491	663											
QC Batch:	5619	00		Analy	sis Metho	od:	EPA 7470A						
QC Batch Method:	EPA	7470A		Analy	/sis Descr	iption:	7470 Mercu	ry					
				Labo	ratory:		Pace Analyt	ical Servic	es - Peach	tree Corne	rs, GA		
Associated Lab Sa	mples:	92491663 92491663	001, 9249166300 008, 9249166300	2, 9249166 9	3003, 924	191663004,	924916630	05, 924916	63006, 92	491663007	7,		
METHOD BLANK:	29800	98			Matrix: W	/ater							
Associated Lab Sar	mples:	92491663 92491663	001, 9249166300 008, 9249166300	2, 9249166 9	3003, 924	191663004,	924916630	05, 924916	63006, 92	491663007	,		
				Blar	nk	Reporting							
Parar	neter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	ualifiers		
Mercury			mg/L		ND	0.0005	50 0.0	00078 08	3/25/20 09:	32			
LABORATORY CO	NTROL	SAMPLE:	2980099										
				Spike	LC	CS	LCS	% R	ec				
Parar	neter		Units	Conc.	Re	sult	% Rec	Limi	ts o	Qualifiers			
Mercury			mg/L	0.002	25	0.0026	10	2 8	30-120		_		
MATRIX SPIKE & M	MATRIX	SPIKE DUP	LICATE: 2980	100		298010	1						
				MS	MSD								
Paramete	r	Units	92491663001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury		mg/L		0.0025	0.0025	0.0023	0.0024	90	94	75-125	3	20	

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Project:	BRAN	CH E NETWO	ORK WELLS										
Pace Project No.:	92491	663											
QC Batch:	5615	06		Anal	ysis Metho	d:	EPA 300.0 I	Rev 2.1 19	93				
QC Batch Method:	EPA	300.0 Rev 2.	1 1993	Anal	ysis Descri	ption:	300.0 IC An	ions					
				Labo	oratory:		Pace Analy	tical Servic	es - Ashevi	le			
Associated Lab Sa	mples:	924916630 924916630	01, 9249166300 08, 9249166300	2, 9249166 9	63003, 924	91663004,	924916630	05, 924916	63006, 924	191663007	⁷ ,		
METHOD BLANK:	29783	10			Matrix: W	/ater							
Associated Lab Sa	mples:	924916630 924916630	01, 9249166300 08, 9249166300	2, 9249166 9	63003, 924	91663004,	924916630	05, 924916	63006, 924	191663007	ζ,		
				Bla	nk	Reporting							
Para	meter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	Jalifiers	;	
Fluoride			mg/L		ND	0.1	0	0.050 08	8/21/20 17::	28			
LABORATORY CC	NTROL	SAMPLE:	2978311	Spiko		<u>```</u>		0/ P					
Para	meter		Units	Conc.	Res	sult	% Rec	76 R Limi	its (Qualifiers			
Fluoride			mg/L	2	.5	2.4	9	8	90-110		_		
MATRIX SPIKE & I	MATRIX	SPIKE DUPL	ICATE: 2978	312		2978313	3						
				MS	MSD								
Paramete	er	Units	92491393004 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride		mg/L	0.17	2.5	2.5	3.0	3.0	112	112	90-110	0	10	M1
MATRIX SPIKE & I	MATRIX	SPIKE DUPL	ICATE: 2978	314		2978315	5						
				MS	MSD								
Danasati		1.1.4.1.5	92491663005	Spike	Spike	MS	MSD	MS % Dec	MSD	% Rec		Max	Qual
Paramete	er			Conc.	Conc.	Result	Result	% KeC	% KeC		крр 	KPD	Qual
Fluoride		mg/L	0.060J	2.5	2.5	2.7	2.7	105	106	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: DUP-1 PWS:	Lab ID: 92491663 Site ID:	3001 Collected: 08/19/20 00:00 Sample Type:	Received:	08/20/20 10:03 M	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	vices - Greensburg			_	
Radium-226	EPA 9315	0.208 ± 0.117 (0.174) C:77% T:NA	pCi/L	09/02/20 17:59	13982-63-3	
	Pace Analytical Serv	vices - Greensburg				
Radium-228	EPA 9320	1.08 ± 0.591 (1.08) C:70% T:77%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Serv	vices - Greensburg				
Total Radium	Total Radium Calculation	1.29 ± 0.708 (1.25)	pCi/L	09/10/20 13:24	7440-14-4	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-33S	Lab ID: 924916	63002 Collected: 08/19/20 09:47	Received:	08/20/20 10:03 N	Aatrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	0.270 ± 0.129 (0.180) C:84% T:NA	pCi/L	09/02/20 17:59	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 9320	0.866 ± 0.525 (0.981) C:65% T:82%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	1.14 ± 0.654 (1.16)	pCi/L	09/10/20 13:24	7440-14-4	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-34S PWS:	Lab ID: 9249166 Site ID:	3003 Collected: 08/19/20 10:34 Sample Type:	Received:	08/20/20 10:03 N	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	rvices - Greensburg				
Radium-226	EPA 9315	0.344 ± 0.136 (0.166) C:81% T:NA	pCi/L	09/02/20 17:59	13982-63-3	
	Pace Analytical Ser	rvices - Greensburg				
Radium-228	EPA 9320	0.868 ± 0.608 (1.17) C:68% T:59%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Ser	rvices - Greensburg				
Total Radium	Total Radium Calculation	1.21 ± 0.744 (1.34)	pCi/L	09/10/20 13:24	7440-14-4	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: FB-1	Lab ID: 92491	663004 Collected: 08/19/20 10:16	Received:	08/20/20 10:03	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 9315	0.0526 ± 0.0700 (0.132) C:81% T:NA	pCi/L	09/02/20 17:59	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 9320	0.705 ± 0.443 (0.820) C:71% T:75%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.758 ± 0.513 (0.952)	pCi/L	09/10/20 13:29	7440-14-4	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-35S PWS:	Lab ID: 9249 Site ID:	1663005 Collected: 08/19/20 11:25 Sample Type:	Received:	08/20/20 10:03 M	fatrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.117 ± 0.111 (0.202) C:92% T:NA	pCi/L	09/02/20 18:00	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.0450 ± 0.477 (1.10) C:70% T:76%	pCi/L	09/09/20 16:24	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.162 ± 0.588 (1.30)	pCi/L	09/10/20 13:29	7440-14-4	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-37S PWS:	Lab ID: 9249166 Site ID:	63006 Collected: 08/19/20 12:23 Sample Type:	Received:	08/20/20 10:03 N	Aatrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	rvices - Greensburg				
Radium-226	EPA 9315	0.235 ± 0.132 (0.211) C:89% T:NA	pCi/L	09/03/20 16:47	13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	0.347 ± 0.444 (0.941) C:70% T:81%	pCi/L	09/09/20 16:46	15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	0.582 ± 0.576 (1.15)	pCi/L	09/10/20 13:29	7440-14-4	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-38S PWS:	Lab ID: 924910 Site ID:	663007 Collected: 08/19/20 13:26 Sample Type:	Received:	08/20/20 10:03 N	Aatrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg				
Radium-226	EPA 9315	0.832 ± 0.221 (0.210) C:83% T:NA	pCi/L	09/03/20 16:47	13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	2.34 ± 0.758 (1.07) C:67% T:86%	pCi/L	09/09/20 15:11	15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	3.17 ± 0.979 (1.28)	pCi/L	09/10/20 13:29	7440-14-4	



Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-36S PWS:	Lab ID: 924916 Site ID:	563008 Collected: 08/19/20 14:58 Sample Type:	Received:	08/20/20 10:03 M	fatrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg				
Radium-226	EPA 9315	0.467 ± 0.158 (0.187) C:94% T:NA	pCi/L	09/03/20 16:47	13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	0.933 ± 0.441 (0.727) C:68% T:78%	pCi/L	09/09/20 12:01	15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	1.40 ± 0.599 (0.914)	pCi/L	09/10/20 15:11	7440-14-4	


ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Sample: BRGWC-17S	Lab ID: 924916	Collected: 08/19/20 16:27	Received:	08/20/20 10:03 N	latrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	rvices - Greensburg				
Radium-226	EPA 9315	0.118 ± 0.0995 (0.173) C:88% T:NA	pCi/L	09/03/20 16:47	13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	0.867 ± 0.503 (0.914) C:66% T:71%	pCi/L	09/09/20 12:02	15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	0.985 ± 0.603 (1.09)	pCi/L	09/10/20 15:11	7440-14-4	



Project:	BRANCH E NETV	ORK WELLS					
Pace Project No.:	92491663						
QC Batch:	411439		Analysis Method:	EPA 9320			
QC Batch Method:	EPA 9320		Analysis Description:	9320 Radium 2	28		
			Laboratory:	Pace Analytical	Services - Greensbu	rg	
Associated Lab San	nples: 92491663	008, 92491663009					
METHOD BLANK:	1990347		Matrix: Water				
Associated Lab San	nples: 92491663	008, 92491663009					
Paran	neter	Act ± Uno	c (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-228		0.274 ± 0.326 (0.6	85) C:63% T:88%	pCi/L	09/09/20 12:01		

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Project:	BRANCH E NET	VORK WELLS					
Pace Project No.:	92491663						
QC Batch:	411436		Analysis Method:	EPA 9320			
QC Batch Method:	EPA 9320		Analysis Description:	9320 Radium 22	28		
			Laboratory:	Pace Analytical	Services - Greensbur	g	
Associated Lab Sam	nples: 92491663	8001, 9249166300	2, 92491663003, 9249166300	4, 92491663005,	92491663006, 924916	63007	
METHOD BLANK:	1990343		Matrix: Water				
Associated Lab Sam	nples: 92491663	3001, 9249166300	2, 92491663003, 9249166300	4, 92491663005, 9	92491663006, 924916	63007	
Param	neter	Act ± l	Inc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-228		0.245 ± 0.335 (0).716) C:71% T:90%	pCi/L	09/09/20 15:09		

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Project:	BRANCH E NETW	/ORK WELLS				
Pace Project No.:	92491663					
QC Batch:	411375	Analysis Method:	EPA 9315			
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radiu	ım		
		Laboratory:	Pace Analytical	Services - Greensbur	g	
Associated Lab San	nples: 92491663	006, 92491663007, 92491663008, 92491663009				
METHOD BLANK:	1989998	Matrix: Water				
Associated Lab San	nples: 92491663	006, 92491663007, 92491663008, 92491663009				
Paran	neter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-226		0.135 ± 0.115 (0.203) C:91% T:NA	pCi/L	09/03/20 16:47		

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Project:	BRANCH E NETWOR	RKWELLS				
Pace Project No.:	92491663					
QC Batch:	411374	Analysis Method:	EPA 9315			
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium	า		
		Laboratory:	Pace Analytical Se	ervices - Greensburg	g	
Associated Lab Sam	ples: 92491663001	, 92491663002, 92491663003, 92491663004	, 92491663005			
METHOD BLANK:	1989996	Matrix: Water				
Associated Lab Sam	ples: 92491663001	, 92491663002, 92491663003, 92491663004	, 92491663005			
Param	ieter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-226	0.2	41 ± 0.165 (0.285) C:87% T:NA	pCi/L	09/02/20 18:01		

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QUALIFIERS

Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491663002	BRGWC-33S				
92491663003	BRGWC-34S				
92491663005	BRGWC-35S				
92491663006	BRGWC-37S				
92491663007	BRGWC-38S				
92491663008	BRGWC-36S				
92491663009	BRGWC-17S				
92491663001	DUP-1	EPA 3005A	561963	EPA 6020B	562039
92491663002	BRGWC-33S	EPA 3005A	561963	EPA 6020B	562039
92491663003	BRGWC-34S	EPA 3005A	561963	EPA 6020B	562039
92491663004	FB-1	EPA 3005A	561963	EPA 6020B	562039
92491663005	BRGWC-35S	EPA 3005A	561963	EPA 6020B	562039
92491663006	BRGWC-37S	EPA 3005A	561963	EPA 6020B	562039
92491663007	BRGWC-38S	EPA 3005A	561963	EPA 6020B	562039
92491663008	BRGWC-36S	EPA 3005A	561963	EPA 6020B	562039
92491663009	BRGWC-17S	EPA 3005A	561964	EPA 6020B	562041
92491663001	DUP-1	EPA 7470A	561900	EPA 7470A	562049
92491663002	BRGWC-33S	EPA 7470A	561900	EPA 7470A	562049
92491663003	BRGWC-34S	EPA 7470A	561900	EPA 7470A	562049
92491663004	FB-1	EPA 7470A	561900	EPA 7470A	562049
92491663005	BRGWC-35S	EPA 7470A	561900	EPA 7470A	562049
92491663006	BRGWC-37S	EPA 7470A	561900	EPA 7470A	562049
92491663007	BRGWC-38S	EPA 7470A	561900	EPA 7470A	562049
92491663008	BRGWC-36S	EPA 7470A	561900	EPA 7470A	562049
92491663009	BRGWC-17S	EPA 7470A	561900	EPA 7470A	562049
92491663001	DUP-1	EPA 9315	411374		
92491663002	BRGWC-33S	EPA 9315	411374		
92491663003	BRGWC-34S	EPA 9315	411374		
92491663004	FB-1	EPA 9315	411374		
92491663005	BRGWC-35S	EPA 9315	411374		
92491663006	BRGWC-37S	EPA 9315	411375		
92491663007	BRGWC-38S	EPA 9315	411375		
92491663008	BRGWC-36S	EPA 9315	411375		
92491663009	BRGWC-17S	EPA 9315	411375		
92491663001	DUP-1	EPA 9320	411436		
92491663002	BRGWC-33S	EPA 9320	411436		
92491663003	BRGWC-34S	EPA 9320	411436		
92491663004	FB-1	EPA 9320	411436		
92491663005	BRGWC-35S	EPA 9320	411436		
92491663006	BRGWC-37S	EPA 9320	411436		
92491663007	BRGWC-38S	EPA 9320	411436		
92491663008	BRGWC-36S	EPA 9320	411439		
92491663009	BRGWC-17S	EPA 9320	411439		
92491663001	DUP-1	Total Radium Calculation	413343		
92491663002	BRGWC-33S	Total Radium Calculation	413343		



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH E NETWORK WELLS

Pace Project No.: 92491663

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491663003	BRGWC-34S	Total Radium Calculation	413343		
92491663004	FB-1	Total Radium Calculation	413344		
92491663005	BRGWC-35S	Total Radium Calculation	413344		
92491663006	BRGWC-37S	Total Radium Calculation	413344		
92491663007	BRGWC-38S	Total Radium Calculation	413344		
92491663008	BRGWC-36S	Total Radium Calculation	413382		
92491663009	BRGWC-17S	Total Radium Calculation	413382		
92491663001	DUP-1	EPA 300.0 Rev 2.1 1993	561506		
92491663002	BRGWC-33S	EPA 300.0 Rev 2.1 1993	561506		
92491663003	BRGWC-34S	EPA 300.0 Rev 2.1 1993	561506		
92491663004	FB-1	EPA 300.0 Rev 2.1 1993	561506		
92491663005	BRGWC-35S	EPA 300.0 Rev 2.1 1993	561506		
92491663006	BRGWC-37S	EPA 300.0 Rev 2.1 1993	561506		
92491663007	BRGWC-38S	EPA 300.0 Rev 2.1 1993	561506		
92491663008	BRGWC-36S	EPA 300.0 Rev 2.1 1993	561506		
92491663009	BRGWC-17S	EPA 300.0 Rev 2.1 1993	561506		

Relinquished by/Company: (Signature)	Relinquished by/Company: (Signature)	Los Moder	Relinquished by/Company: (Signature)			(App IV Metals): Sb, As, Ba, Be, Cd, Cr, Co,	BROWC- 175	RRGWC - 365	BRGMC- 385	BR6WC - 375	BRGWC-355	FB-1	BRGWC-345	BRGWC-335	DUP-1		Customer Sample 1D		Product (P), Soil/Solid (SL), Oil (OL), Wip	• Matrix Codes (Insert in Matrix box below				0	Collected By (signature):	Andrea McClure	Collected By (print): Travis Martinez,	Phone: (404) 506-7239 Email: jabraham@southernco.com	Email: jabraham@southernco.com	ohone: (404) 506-7239	Copy To: Golder		Report To: Joju Abraham	Address: 2480 Maner Road	Company: Georgia Power - Coal Combustic	A ace Analytical	Ś
						, Hg, Pb, Li, Mo, Se	 52	3	55	54	5	T Y	55	6 w	52		Matrix *		e (WP), Air (AR), T	v): Drinking Water			[]Sa	Rush:	Turnaround Date	Quote #	Purchase Order #	Project Name: Bra Project # CCR							on Residuals	Cha	CHA
Date	Date	0.	Date	_		е, т і	¢,	5	5	5	5	C	5	6	6		Grab	Comp/	issue (TS)	(DW), G		pedite Cha	ame Day		Required			anch E Ne								ain-of-Cu	IN-OF-
/Time:	/Time:	20-2020/08	Time: Inc	Radchem sample(Packing Material L	Type of Ice Used:	8-19-2020	8-19-2020	8-19-2020	8-19-2020	8-14-2020	8-19-2020	8-14-2020	8-19-2020	8-19-2020	Date	Start)	Collected for Co	, Bioassay (B), Wat	round Water (GW)	6 + F 11	J T COT [J T COT	[] Next Day		H			twork Welis		State: Georgia Cit	Site Collection Info		Email To: scsinvo c		Billing Information	stody is a LEGAL DO	CUSTODY A
		10	Ť	s) screene	Jsed:	We	1627	1458	9261	5221	1125	1016	1034	2h 60	1	Time		mposite	ter (WT), O	, Wastewa			c			And a second]PT	ty: Milledg	o/Address		es@south		π.	OCUMENT	nalytic
Received by/Comp	Received by/Comp	KINR	Received by/Comp	d (<500 cpm): Y		t Blue Dry										Date	Composite E		Other (OT)	iter (WW),		Analysis.	[]Yes []N	Field Filtered (if ap	Immediately Pack	kevin.herring@pa	Pace Project Mana	Pace Profile#	ן אוד ()כוד (x)ו	eville Time Zone	Plant Branch		lemco com			- Complete all rele	al Request D
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PB:	Templa	Table #:	MTJ	Courier		hours):	X	×	×	~	×	x	x	×	×	Me	rcu													yses	reserved, (C		92	151		Ξ	fix Worko
	- 6 5	1. Sec. 2.	L LAB USE (Pace Couri		Y N N		1		Î		122.02											•			1					b) Other		49166			0#	rder/Login
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Non Conformance(s): Pa YES / NO of	Trip Blank Received: HCL MeOH TSP		Comments:	Cooler 1 Therm Corr. Factor: Co Cooler 1 Corrected Temp: 0.1	Therm ID#: THIRS	Temp Blank Received: Y 14 HA		3ad-2(+2 Rua		の一を、東京の市地で、「市村市」	ad · 1(+2 Rad		はいで たんない たんない たんない の			2H24	iample # / Comments:	USE ONLY:	Acetate Strips:	de Present Y N NA	ple pH Acceptable Y N NA	ibs:	sies in Holding Time YN NA	- Headspace Acceptable Y N NA A Regulated Solis Y N NA	oles Received on Ice YN NA	tet Bottles Y N NA	es Intact YN NA	ody Signatures Present YN NA ctor Signature Present YN NA	ample Receipt Checklist: ody Seals Present/Intact Y N NA	Profile/Line:		white, (2) Zinc acetale,				1000	ce Workorder Minutan
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and within les. ons: VOA, Colifor	the acceptance ra m, TOC, Oil and Grease	//or dechlorination is inge for preservation ORO/8015 (water) DOC, LLHg er of bottle	Project #	WO#:92 PM: KLH1 CLIENT: GA-GA	491663 Due Date: 09/03/20 Power
(1) I Harrier (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	BP2U-500 mL Plastic Unpreserved (N/A) BP1U-1 liter Plastic Unpreserved (N/A) BP3U-2 liter Plastic Unpreserved (N/A) BP3L-2 liter Plastic HN03 (pH < 2) (CI-)	BP4C-125 mL Plastic NaCH (pH > 12) [Cl-1] BP4C-125 mL Plastic NaCH (pH > 12) [Cl-1] WGFU-Wide-mouthed Glass Jar Unpreserved (N/A) [Cl-1] AG1U-1 liter Amber Unpreserved (N/A) [Cl-1] AG1U-1] AG1U-1] AG1U-1 AG1U-1] AG1U-1 AG1U-1] AG1U-1] AG1U-1] AG1U-1] AG1U-1] AG1U-1] AG1	T T AGIS-1 liter Amoer Hauser AGIS-1 liter Amoer Hauser AGIS-250 mL Amber H2504 (pH < 2) AGIA[DG3A]-250 mL Amber NH4Cl (N/A)(Cl-)	Interview of the second	VIGK (3 vials per kit)-vPH/Gas kit (N/A) SPST-125 mL Sterile Plastic (N/A - lab) SPST-125 mL Sterile Plastic (N/A - lab) SPST-250 mL Sterile Plastic (N/A - lab) SPST-250 mL Sterile Plastic (N/A - lab) SPST-250 mL Plastic (N/A - lab) SPST-250 mL Plastic (N/2)2504 (9.3-9.7)
	tom half of a (V/V) (CV/V) (V/V) (CV/V) (V/V) (CV/V) (CV/V	torm half of pox 13 to list mama torm half of pox 13 to list mama (I/) (I/) (I/) (I/) (I/) (I/) (I/) (I/)	tom half of pox is to list human or a second list in the list (updeserved [NA] (C) is a second basic updeserved (NA] (C) is a second basic updeserved (NA] (C) is a second basic updeserved (NA] (C) is a second basic updeterved (NA] (C) is a second basic updete	tom that of box is to list intermeder or where it is in the part of parts in the part of parts in the parts of the parts of the parts in the parts of the parts in the parts of the parts in the parts of the parts o	tom half of box is to list number of the list numbe

Face Analytical

Quality Control Sample Performance Assessment

		Analyst Must Manually Enter All Fields Highlighted in	Yellow.
lest	Ka-226		
Analyst	LAL	Sample Matrix Spike Control Assessment	MS/MSD 1
Date:	9/2/2020	Sample Collection Date:	
Worklist	55838	Sample I.D.	
Matrix:	DW	Sample MS I.D.	
		Sample MSD I.D.	
Method Blank Assessment		Spike I.D.:	
MB Sample ID	1989996	MS/MSD Decay Corrected Spike Concentration (pCi/mL);	
MB concentration:	0.241	Spike Volume Used in MS (mL):	
M/B Counting Uncertainty:	0.161	Spike Volume Used in MSD (mL):	
MB MDC:	0.285	MS Aliquot (L. g. F):	
MB Numerical Performance Indicator.	2.94	MS Target Conc. (pCi/L. g. F):	
MR Status vs Numerical Indicator	N/A	MSD Aliquint () or E).	
MB Status vs. MDC;	Pass	MSD Target Conc. (pCi/L, g, F):	
		MS Spike Uncertainty (calculated):	
Laboratory Control Sample Assessment	SD (Y or N)? N	MSD Spike Uncertainty (calculated):	
	LCS55836 LCSD55838	Sample Result	
Count Date	9/2/2020	Sample Result Counting Uncertainty (nCi/L o F):	
Spike LD.:	19-033	Samole Matrix Spike Result:	
Decay Corrected Solke Concentration (pCVmL):	24.045	Matrix Spike Result Counting Uncertainty (pCi/L. g. F):	
Volume [[sed (m])]	010	Sample Matrix Snike Dunlicate Result	
	0.601	Matrix Saita Dimlinate Decut Counting I torotaint/ /nCi/l o E)-	
Tarret Conc. (n/2) a EV	4 708	Indukt opike Dupikale Result Oxformatical Parformance Indicator	
	0.050		
Uncertainty (Laicutated):	800.0	WSU NUMERCAL PEROMARKE INDICATOR	
Kesult (pCrkL, g, F):	4.336	MS Percent Recovery:	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.343	MSD Percent Recovery:	
Numerical Performance Indicator:	-2.60	MS Status vs Numerical Indicator:	
Percent Recovery:	90.37%	MSD Status vs Numerical Indicator:	
Status vs Numerical Indicator:	N/A	MS Status vs Recovery.	
Status vs Recovery:	Pass	MSD Status vs Recovery.	
Upper % Recovery Limits:	125%	MS/MSD Upper % Recovery Limits:	
Lower % Recovery Limits:	75%	MS/MSD Lower % Recovery Limits:	
Duplicate Sample Assessment		Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.: 9	2491663005 Enter Duplica	e Sample I.D.	
Duplicate Sample I.D. 924	91663005DUP sample IDs i	Sample MS I.D.	
Sample Result (pCVL, q, F);	0.117 other than	Sample MSD I.D.	
Sample Result Counting Uncertainty (pCi/t, g, F):	0.110 LCS/LCSD ii	Sample Matrix Solke Result:	
Samole Duplicate Result (nC)/I. n. F):	0.098 the space belo	w. Matrix Spike Result Counting Uncertainty (pCi/L. g. F):	
Samole Duolicate Result Counting Uncertainty (oCi/L. g. F):	0.087	Sample Matrix Spike Duplicate Result:	
Are sample and/or duplicate results below RL?	ee Below ##	Matrix Solke Duolicate Result Counting Uncertainty (pCi/L. g. F):	
Duplicate Numerical Performance Indicator	0.253 9249166300	Dublicate Numerical Performance Indicator:	
Duplicate RPD:	16.83% <u>32491663005D</u>	UP (Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
Duplicate Status vs Numerical Indicator	N/A	MS/ MSD Duplicate Status vs Numerical Indicator.	
Duplicate Status vs RPD:	Pass	MS/ MSD Duplicate Status vs RPD:	
% RPD Limit:	25%	% RPD Limit	

MS/MSD 2

TAR DW QC Printed: 9/3/2020 7:05 AM

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1 of 1

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

Face Analytical

Quality Control Sample Performance Assessment

MS/MSD 2

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Analyst Must Manually Enter All Fields Highlighted in		Sample Matrix Spike Control Assessment Sample Collection Date:	Sample I.D.	Sample MSD I.D.	Spike I.D.: Spike I.D.:	Mis/Mis/J Decay Corrected Spike Concentration (pC/mL); Spike Volume Lised in MIS (m1)?	Spike Volume Used in MSD (mL):	MS Aliquot (L, g, F):	MS Target Conc.(pCi/L, g, F):	MSD Aliquot (L. g. F): MSD Target Conc. (pCi/L. g. F):	MS Spike Uncertainty (calculated):	MSD Spike Uncertainty (calculated):	Sample Result:	Sample Result Counting Uncertainty (pCi/L, g. F): Semula Martix Solve Desult	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	MS Numerical Performance Indicator:	MSD Numerical Performance Indicator:	MS Percent Recovery:	MSD Percent Recovery:	MS Status vs Numerical Indicator:	MSD Status vs Numencal Indicator:	MS Status vs Recovery:	MSD Status vs Recovery:	MS/MSD Lower % Recovery Limits: MS/MSD Lower % Recovery Limits:	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample I.D.	Sample MS I.D.	Sample MSD I.D.	Sample Matrix Spike Kesult:	Matrix Spike Result Counting Uncertainty (pCVL, g, h): Common Matrix Solito Distriction Beaulty	Matrix Snike Dunlicate Result Counting Uncertainty (nC)/i a EV	Duolicate Numerical Performance indicator:	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Status vs Numerical Indicator:	MS/ MSD Duplicate Status vs RPD: % RPD Limit:
											-	>	LCSD55838	9/2/2020	24.045	0.10	0.509	4.720	0.057	4.783	0.364	0.34	101.35%	A/N	Pass	75%		Enter Duplicate	sample IDs if	other than	LCS/LCSD IN	the space below.		92491663005	92491663005DUP		
00 JOR	077-67	9/2/2020	55838		000000	1969990 0.241	0.161	0.285	2.94	N/A Pass		LCSD (Y or N)?	LCS55838	9/2/2020 10 033	24.045	0.10	0.501	4.798	0.058	4.336	0,343	-2.60	90.37%	A/N	Pass	75%		LCS55838	LCSD55838	4.336	0.343	4.783	HOR ON	-1.753	11.46%	N/A	Pass 25%
Pace Analytical		Analyst. Date:	Worklist	Maux	Method Blank Assessment	MB Sample IU MB concentration:	M/B Counting Uncertainty:	MB MDC:	MB Numerical Performance Indicator:	MB Status vs Numerical Indicator: MB Status vs. MDC:		Laboratory Control Sample Assessment		Count Date:	Decay Corrected Soike Concentration (pCi/mL):	Volume Used (mL):	Aliquot Volume (L, g, F):	Target Conc. (pCi/L, g, F):	Uncertainty (Calculated):	Result (pCi/L, g, F):	LCS/LCSD Counting Uncertainty (pC/L, g, F):	Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator.	Status vs Recovery:	Upper % Recovery Limits: Lower % Recovery Limits:	Duplicate Sample Assessment	Sample I.D.:	Duplicate Sample I.D.	Sample Result (pC/IL, g, F):	Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Result (pCVL, g, F):	Sattiple Duplicate Result Countring Office tailing (pOVE), y, r). Are sample and/or duplicate results below Di 0	Dunicate Nitmenical Performance Indicator	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Duplicate Status vs Numerical Indicator:	Duplicate Status vs RPD: % RPD Limit:

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

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Pace Analytical

Quality Control Sample Performance Assessment

MS/MSD 2

fanually Enter All Fields Highlighted in Yellow.	ike Control Assessment MS/MSD 1		Sample I.D. Sample MS I.D.	Sample MSD I.D.	Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL);	Spike Volume Used in MS (mL);		MS Tarnet Conc (ACill of E).		MSD Target Conc. (pCi/l, g, F);	MS Spike Uncertainty (calculated):	MSD Spike Uncertainty (calculated):	amole Pecult Counting Incontraint. ACUIT	Sample Matrix Solke Result:	Spike Result Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Duplicate Result:	plicate Result Counting Uncertainty (pCi/L, g, F);	MS Numerical Performance Indicator:	MOU NUMERICAL FEMOLIFIATION INDUCATOR	MSD Percent Recovery:	MS Status vs Numerical Indicator;	MSD Status vs Numerical Indicator.	MS Status vs Recovery:	MS/MSD Upper % Recovery Limits:	MS/MSU Lower % Recovery Limits:	s Spike Duplicate Sample Assessment	Sample I.D.	Sample MS I.D.	Samole Matrix Soite Decisit:	Spike Result Counting Uncertainty (pCi/L, q, F);	Sample Matrix Spike Duplicate Result:	booke result counting uncertainty (pU/L, g, F); Duplicate Numerical Performance Indicator:	Percent Recoveries) MS/ MSD Duplicate RPD;	/ MSD Duplicate Status vs Numerical Indicator	MS/ MSU Duplicate Status vs RPD:
Analyst Must	AL Sample Matrix S _i 2020	839	M.			9990 MS/MSE MS/MSE	113	203	34	AI A	ass	OL NUS	55839 I CSD55839	2020	033	045 Matri	10	002 Matrix Spike Du	257	38	782	2/2	/A %	SS	5%		Matrix Spike/Matr	393012 Enter Duplicate	84 other than	75 LCS/LCSD in	77 the space below. Matrix	54 How ##	27 0 C 92491393012	14% 92491393012DUP (Based on the	A ••••	
Tect Boundary	Date: 9/3/2	Worklist: 556	Matrix	hod Blank Assessment	MB Samala ID 4000	MB concentration: 0.1	M/B Counting Uncertainty: 0.1	MB MDC: 0.2	MB Numerical Performance Indicator: 2.3	MB Status vs Numerical Indicator; N/	MB Status vs. MDC: Pa	oratory Control Sample Assessment		Count Date: 9/4/2	Spike I.D.: 19-0	ueday corrected Spike Concentration (pCl/mL): 24.0		Target Conc. (pCi/L., g, F):1 0.5	Uncertainty (Calculated): 0.0	Result (pCVL, g, F). 4.0	LCS/LCSD Counting Uncertainty (pCi/L, g, F): 0.7		Status vs Numerical Indicator" 03.0	Status vs Recovery' Par	Upper % Recovery Limits: 125 Lower % Recovery Limits: 75		licate Sample Assessment	Sample I.D.: 924913: Dunitrate Sample I.D. 9249133	Sample Result (pCi/L, q, F); 0.66	Sample Result Counting Uncertainty (pCi/L, g, F): 0.37	Sample Duplicate Result (pC)(L, g, F): 0.37	Comprehension result Counting Uncertainty (pCvL, g, F); 0.25 Are sample and/or duplicate results below R1.7 See Rel	Duplicate Numerical Performance Indicator	Duplicate RPD: 57.84	UUPIICATE STATUS VS NUMERICAI INDICATOF. N// Dublicate Status vs RPD: Fait	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

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and draw TAR_55839_W.xis Total Alpha Radium (R104-3 11Feb2019).xis

2022/11/6 WAN

Face Analytical

Quality Control Sample Performance Assessment

MS/MSD 2

MS/MSD 1

			Analyst Must Manually Enter All Fields Hinhlighted in V	Vollow
Test	Ra-226			1 2110
Analyst	LAL		Sample Matrix Spike Control Assessment	MSAA
Date:	9/3/2020		Sample Collection Date	IN ICHN
Worklist	55839			
Matrix;	MD		Sample MS I.D.	
Mathod Black Sectors		r	Sample MSD I.D.	
			Spike I.D.:	
MB Sample ID	1989998		MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
MB concentration:	0.135		Spike Volume Used in MS (mL):	
M/B Counting Uncertainty:	0.113		Spike Volume Used in MSD (mL):	
MB MDC: MB MDC:	D.203		MS Aliquot (L, g, F).	
MB Numerical Performance Indicator.	2.34		MS Target Conc.(pCi/L, g, F).	
MB Status vs Numerical Indicator	N/A		MSD Aliquot (L, g, F):	
WID Status VS. MUC.	Pass		MSD Target Conc. (pCi/L, g, F):	
I shorstony Control Comula Accounts			MS Spike Uncertainty (calculated):	
	LCSD (Y or N)?	z	MSD Spike Uncertainty (calculated);	
	LCS55839	LCSD55839	Sample Result:	
Count Date:	9/4/2020		Sample Result Counting Uncertainty (pCi/L, g, F):	
Decay Compared Called Contraction / 2011-11	000-01		Sample Matrix Spike Result.	
Decay confedered optice concentration (putting):	24.045		Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Volume Used (mL):	0.10		Sample Matrix Spike Duplicate Result:	
Aliquot Volume (č. g. F):	0.502		Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F);	
larget Conc. (pCvL, g, F):	4.785		MS Numerical Performance Indicator:	
Uncertainty (Caiculated):	0.057		MSD Numerical Performance Indicator	
Contraction of the second	4,098		MS Percent Recovery:	
LUS/LUSU Counting Uncertainty (pCi/L, g, F):	0.782		MSD Percent Recovery:	
Numerical Performance Indicator,	-1.72		MS Status vs Numerical Indicator:	
Percent Recovery:	85.64%		MSD Status vs Numerical Indicator:	
Status vs Numerical Indicator:	A/A		MS Status vs Recovery:	
Ilpere % Deservery:	Pass Pass		MSD Status vs Recovery:	
Upper % Recovery Limits:	%07L		MS/MSD Upper % Recovery Limits:	
LOWEL & RECOVER A LINUS	94.01		MS/MSD Lower % Recovery Limits:	
Duplicate Sample Assessment			Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.U.: Dunficete Semolo 1 D	92491663008 02404663008	Enter Duplicate	Sample I.D.	
Sample Result (nCill of EV	2473 1000000105	other than	Sample MS I.D.	
Sample Result Counting Uncertainty (nCi/l o F)-	0 143		Sample MSD I.D.	
Samole Duplicate Result (pCi/l o F)-	0.359	the share helow	Mattic Sails Damit Campie Mattix Spike Result	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.256		Mairix Spike Result Counting Uncertainty (pCi/L, g, F);	
Are sample and/or duplicate results below RL?	See Below #		Vatrix Spike Dublicate Result Counting Theoretainty (nOtin = EV-	
Duplicate Numerical Performance Indicator	0.728004	92491663008	Duplicate Numerical Performance indicator	
Duplicate RPD:	26.34%	92491663008DUP	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
			•	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

N/A Fail*** 25%

Duplicate Status vs Numerical Indicator: Duplicate Status vs RPD: % RPD Limit:

MS/ MSD Duplicate Status vs Numerical Indicator. MS/ MSD Duplicate Status vs RPD: MS/ MSD Duplicate Status vs RPD Limit:

Comments:

m 91412020 ***Batch must be terrepred due to unacceptable precision. $\mathcal{N}(\mathcal{P})$

TAR DW QC Printed: 9/4/2020 9:31 AM

an thismo TAR_55839_W.xls Total Alpha Radium (R104-3 11Feb2019).xls 2002/H/BUND

Quality Control Sample Performance Assessment

	MS/MSD 2																								
Yellow.	MS/MSD 1																								
Analyst Must Manually Enter All Fields Highlighted in	Sample Matrix Spike Control Assessment Sample Collection Date: Sample I.D. Sample MSI I.D. Sample MSD I.D.	Spike I.D.: MS/MSD Decay Corrected Spike Concentration (pCtimL): Spike Volume Used in MSC (mL): Spike Volume Used in MSD (mL): MS Target Conc. (pCtil, g, F): MSD Target Conc. (pCtil, g, F): MSD Target Conc. (pCtil, g, F):	MS Spike Uncertainty (calculated):	MSD Spike Uncertainty (calculated):	Sample Result 2 Sigma CSU (pCi/t, 9, F): Sample Matrix Spike Result:	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F): Common Modely Colled Division Document	aariyje maux spike Duplicate Result 2.5igma CSU (pCiU, 9, F): Matrix Spike Duplicate Result 2.5igma CSU (pCiU, 9, F): MS Ni merical Daffwrmanne Indiezlor	MSD Numerical Performance Indicator:	MSD Percent Recovery: MSD Percent Recovery:	MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator.	MSD Status vs Recovery: MSD Status vs Recovery:	MS/MSD Upper % Recovery Limits: MS/MSD I ruver % Recovery Limits:		Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample I.D.	Sample MS I.D.	Sample MSD I.D.	Sample Matrix Spike Result:	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F); Semula Matrix Snike Dunlicate Pastult	Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	Duplicate Numerical Performance Indicator:	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Status vs Numerical Indicator:	MS/ MSD Duplicate Status vs RPD: % RPD Limit:
				1 CEDEE863	9/9/2020 20-030	38.470 0.10	0.802	0.235	5.838 1.360	1.47	121.64%	N/A Dace	135% 60%	~~~~		Enter Duplicate	sample IDs if	other than	LCS/LCSD in	the space below.					
Ra-228	VAL 9/2/2020 55852 WT	1990343 0.245 0.335 0.716 1.43 Pass Pass		CSD (Y or N)?	9/9/2020 20-030	38.470 0.40	0.801	0.235	4.151 1.079	-1.16	86.42%	A/A Pass	135% 60%	200		LCS55852	LCSD55852	4.151	1.079	5.838	NON	-1.903	33.85%	Pass	Pass 36%
Pace Analytical" Test	Analyst Date: Worklist Matrix:	Aethod Blank Assessment MB Sample ID MB concentration: MB 2 Sigma CSU: MB Numerical Performance Indicator: MB Status vs Numerical Indicator: MB Status vs. MDC:		aboratory Control Sample Assessment	Count Date: Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL):	Volume Used Aliquot Volume (L, g, F): Transt Conn Andri	Uncertainty (Calculated):	Result (pCi/L, g, F): I CSA CSD 2 Simma CSU (nCi/L, g, F):	Numerical Performance Indicator:	Percent Recovery.	Status vs Numerical Indicator: Status ve Barowany	Upper % Recovery Limits:		buplicate Sample Assessment	Samole I.D.:	Duplicate Sample I.D.	Sample Result (pC/L, g, F):	Sample Result 2 Sigma CSU (pCi/L, g, F):	Sample Duplicate Result (pCl/L, g, F);	dample pupiloate result a agring door (point, g, n). Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator:	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Duplicate Status vs Numerical Indicator.	Duplicate Status vs RPD: % RPD Limit.

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

Ra-228 NELAC DW2 Printed: 9/10/2020 8:17 AM

21/120

6 of 10

N 0.10 m Ra-228_55852_W.xls -228 (R086-8 04Sep2019).xls

Pace Analytica

Quality Control Sample Performance Assessment

	MS/MSD 2																																
<u>Yellow.</u>	MS/MSD 1																																
Analyst Must Manually Enter All Fields Highlighted in	Sample Matrix Spike Control Assessment Sample Collection Date: Sample (.D. Sample MS I D	Sample MSD I.D.	Spike LD.: MS/MSD Decay Corrected Spike Concentration (pCl/mL):	Spike Volume Used in MS (mL): Spike Volume Used in MSD (mL):	MS Aliquot (L, g, F):	MSD Flight Conc. (p. F.): MSD Alique (L. g. F.): MSD Tanat Conc. (conc. (conc.)	MSS Spike Uncertainty (calculated)	MSD Solke Uncertainty (calculated):	Sample Result	Sample Result 2 Sigma CSU (pCi/l, g, F);	Sample Matrix Spike Result 2 Sigma CSU (pC)/L, d, F):	Samole Matrix Shike Duolicate Result	Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	MS Numerical Performance Indicator:	MSD Numerical Performance Indicator.	MS Percent Recovery:	MS Static vs Numerical Indicators	MSD Status vs Nurnational Indicator	MS Status vs Recovery	MSD Status vs Recovery:	MS/MSD Upper % Recovery Limits:	MONNON LUWER & RECORDED LUWER	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Samna D	Sample MS ID	Sample MSD I.D.	Sample Matrix Spike Result:	Matrix Spike Result 2 Sigma CSU (pCI/L, g, F):	Motive Solve Stample Matrix Spike Duplicate Result:	Mattix opine pupicate result 2 algrid COU (pC/L), g, r); Dunlicate Numerical Doromored Indicator;	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Status vs Numerical Indicator.	MS/ MSD Duplicate Status vs RPD: % RPD I imit-
								Ā	LCSD55853	0202/6/6	38.472	0.10	0.812	4.736	0.232	5.603	1.38	118.30%	N/A	Pass	135%	200		Enter Duplicate	sample IDs if	other than	LCS/LCSD in	the space below.					
Ra-228	VAL 9/2/2020 55853 WT		1990347	0.274 0.326	0.685 1.65	Pass Pass		LCSD (Y or N)?	LCS55853	20-030	38.472	0.10	0.810	4.748	0.233	4,903 1 11B	0.37	104.53%	N/A	Pass	135% 60%	2/20		LCS55853	LCSD55853	4.963	1.118	5.603		-0.762	12.36%	Pass	Pass 36%
Pace Analytical mm.postuta.com Test	Analyst Date: Worklist Matrix	Vethod Blank Assessment	MB Sample ID	MB concentration: M/B 2 Sigma CSU:	MB Mumerical Performance Indicator	MB Status vs Numerical Indicator: MB Status vs Numerical Indicator: MB Status vs. MDC:		Laboratory Control Sample Assessment		South Date:	Decay Corrected Spike Concentration (pCi/mL):	Volume Used (mL):	Aliquot Volume (L, g, F):	larget Conc. (pCi/L, g, F);	Uncertainty (Calculated):	LCS# CSD 2 Simma CSU (nCit) o E)	Numeñcal Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator:	Status vs Recovery:	Upper % Recovery Limits:		Duplicate Sample Assessment	Sample I.D.:	Duplicate Sample (,D,	Sample Result (pCi/L, g, F):	Sample Result 2 Sigma CSU (pCi/L, g, F):	Sample Duplicate Result (pCi/L, g, F);	denipre Dupinote Result 2 Olyma COU (pC//L, y, F). Are sample and/or diminate results below RI 2	Duplicate Numerical Performance Indicator	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Duplicate Status vs Numerical Indicator:	Duplicate Status vs RPD: % RPD Limit:

Ra-228_55853_W.xls Ra-228 (R086-8 04Sep2019).xls



Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

01-01-b



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

September 11, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH BCD ASSESSMENT RADS Pace Project No.: 92491914

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on August 21, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Hung

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder





Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92491914

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92491914

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92491914001	PZ-51S	Water	08/20/20 13:30	08/21/20 11:08
92491914002	PZ-51I	Water	08/20/20 11:45	08/21/20 11:08



SAMPLE ANALYTE COUNT

Project:BRANCH BCD ASSESSMENT RADSPace Project No.:92491914

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92491914001	PZ-51S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92491914002	PZ-51I	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg



SUMMARY OF DETECTION

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92491914

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491914001	PZ-51S					
EPA 9315	Radium-226	0.0795 ± 0.170 (0.400) C:94% T:NA	pCi/L		09/04/20 07:31	
EPA 9320	Radium-228	1.11 ± 0.491 (0.779) C:66% T:80%	pCi/L		09/09/20 14:43	
Total Radium Calculation	Total Radium	1.19 ± 0.661 (1.18)	pCi/L		09/10/20 15:16	
92491914002	PZ-51I					
EPA 9315	Radium-226	0.237 ± 0.130 (0.209) C:87% T:NA	pCi/L		09/08/20 17:44	
EPA 9320	Radium-228	0.700 ± 0.436 (0.811) C:69% T:82%	pCi/L		09/09/20 14:43	
Total Radium Calculation	Total Radium	0.937 ± 0.566 (1.02)	pCi/L		09/10/20 15:16	



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92491914

Sample: PZ-51S PWS:	Lab ID: 9249191 Site ID:	4001 Collected: 08/20/20 13:30 Sample Type:	Received:	08/21/20 11:08 N	Aatrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 9315	0.0795 ± 0.170 (0.400) C:94% T:NA	pCi/L	09/04/20 07:31	13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 9320	1.11 ± 0.491 (0.779) C:66% T:80%	pCi/L	09/09/20 14:43	15262-20-1	
	Pace Analytical Ser	vices - Greensburg				
Total Radium	Total Radium Calculation	1.19 ± 0.661 (1.18)	pCi/L	09/10/20 15:16	7440-14-4	



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92491914

Sample: PZ-51I	Lab ID: 92491914	Collected: 08/20/20 11:45	Received:	08/21/20 11:08 M	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	vices - Greensburg				
Radium-226	EPA 9315	0.237 ± 0.130 (0.209) C:87% T:NA	pCi/L	09/08/20 17:44	13982-63-3	
	Pace Analytical Serv	rices - Greensburg				
Radium-228	EPA 9320	0.700 ± 0.436 (0.811) C:69% T:82%	pCi/L	09/09/20 14:43	15262-20-1	
	Pace Analytical Serv	rices - Greensburg				
Total Radium	Total Radium Calculation	0.937 ± 0.566 (1.02)	pCi/L	09/10/20 15:16	7440-14-4	



Project:	BRANCH BCD AS	SESSMENT RAD	S				
Pace Project No.:	92491914						
QC Batch:	411439		Analysis Method:	EPA 9320			
QC Batch Method:	EPA 9320		Analysis Description:	9320 Radium 22	28		
			Laboratory:	Pace Analytical	Services - Greensbui	rg	
Associated Lab San	nples: 92491914	001, 9249191400	2				
METHOD BLANK:	1990347		Matrix: Water				
Associated Lab San	nples: 92491914	001, 92491914002	2				
Paran	neter	Act ± U	nc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-228		0.274 ± 0.326 (0	.685) C:63% T:88%	pCi/L	09/09/20 12:01		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD AS	SESSMENT RADS				
Pace Project No.:	92491914					
QC Batch:	412359	Analysis Method:	EPA 9315			
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radi	um		
		Laboratory:	Pace Analytical	Services - Greensbur	g	
Associated Lab San	nples: 92491914	002				
METHOD BLANK:	1994519	Matrix: Water				
Associated Lab San	nples: 92491914	002				
Paran	neter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-226		0.0753 ± 0.0856 (0.159) C:96% T:NA	pCi/L	09/08/20 17:44		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD AS	SSESSMENT RADS				
Pace Project No .:	92491914					
QC Batch:	411375	Analysis Method:	EPA 9315			
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radi	um		
		Laboratory:	Pace Analytical	Services - Greensbur	g	
Associated Lab Sar	nples: 92491914	4001				
METHOD BLANK:	1989998	Matrix: Water				
Associated Lab Sar	nples: 92491914	001				
Parar	neter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-226		0.135 ± 0.115 (0.203) C:91% T:NA	pCi/L	09/03/20 16:47		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92491914

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:BRANCH BCD ASSESSMENT RADSPace Project No.:92491914

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491914001	PZ-51S	EPA 9315	411375		
92491914002	PZ-511	EPA 9315	412359		
92491914001 92491914002	PZ-51S PZ-51I	EPA 9320 EPA 9320	411439 411439		
92491914001 92491914002	PZ-51S PZ-51I	Total Radium Calculation Total Radium Calculation	413385 413385		

San	nple Condition	Upon Receipt	
Pare Analytical	C.A.D.	.a. A	WO#:92491914
Client Name	OTTON	ver	
ourier: J Fed Ex J UPS USPS COPETier	nt 🗀 Commercial	D Pace Other	92491914
racking #:		intact: Types	Proj. Name:
ustody sear on coolenbox Presentyes			
acking Material: Bubble Wrap Bubble	Bags I fone	Other	
hermometer Used <u>450</u>	Type of Ice: Wet	Blue None	Date and initials, of person examining
ooler Temperature	Biological Tissue	is Frozen: Yes No	contents: 5/2(120 004
emp should be above freezing to 6°C		Comments:	
hain of Custody Present:		<u>1.</u>	
hain of Custody Filled Out:		2.	
hain of Custody Relinquished:	Larges LINO LIN/A	3.	
ampler Name & Signature on COC:	ETYes UNO UN/A	[4. 	
amples Arrived within Hold Time:	KIYes UNO UN/A	5.	
hort Hold Time Analysis (<72hr):		6	
ush Turn Around Time Requested:		<u> /.</u>	
ufficient Volume:	Tres UNO UN/A	8.	
orrect Containers Used:	ATAS DNO. UNA	9.	
-Pace Containers Used:			
ontainers Intact:		10.	
iltered volume received for Dissolved tests	TYes No PANIA	11	
ample Labels match COC:	QYes DNO DN/A	12.	
-Includes date/time/ID/Analysis Matrix:			
I containers needing preservation have been checked.	Gres DNo DN/A	13.	
Il containers needing preservation are found to be in	BYes DNO DNA		
ompliance with EPA recommendation.		Initial when	Lot # of added
xceptions: VOA, coliform, TOC, O&G, WI-DRO (water)		completed	preservative
amples checked for dechlorination:	OYes ONO ONIA	14.	
leadspace in VOA Vials (>6mm):		15	
rip Blank Present:	DYes DNo DNIA	16.	
rip Blank Custody Seals Present	DYes DNO DINIA		
ace Trip Blank Lot # (if purchased):			
lient Notification/ Resolution:			Field Data Required? Y / N
Person Contacted:	Date/	Time:	
Comments/ Resolution:			
			and the second
Droloot Manager Povlow			Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

a ,

F	PD.	Analy diast"	Document N Bottle Identificatio	ame: n Form (BIF) No.:	Document Issu Pag Issuin	ed: March 14, 2015
	Pace.	Analyuca	F-CAR-CS-043	-Rev.00	1104 . 0	2491914
Ched rerife priniple Diceptic **Bot	and within and within es. ons: VOA, Coliforn torn half of b	If of box if pH and the acceptance rai m, TOC, Oil and Grease, ox is to list number	/or dechlorination is nge for preservation DRO/8015 (water) DOC, LLH & of bottle	Project #	PM: KLH1 CLIENT: GR	Due Date: 09/14/
	TI D 6 8 4 9 5 6 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	BP2U-500 mL Plastic Unpreserved (N/Å) BP3U-1 liter Plastic Unpreserved (N/Å) BP45-125 mL Plastic H2504 (pH < 2) (C1-1 BP384-250 mL plastic HNU33 (pH < 2)	Breact-125 mL Plastic NaCH (DH > 12) (CH) Breact-125 mL Plastic NaCH (DH > 12) (CH) WGFU-WIde-mouthed Glass Jar Unpreserved AG3U-3 litter Amber Unpreserved (N/A) (CH) AG3U-1 litter Amber HCI (pH < 2)	AG3U-250 mL cmber H2504 [pH < 2] AG15-1 liter Amber H2504 [pH < 2] AG35-250 mL Amber H2504 [pH < 2] AG35-250 mL Amber H2504 [pH < 2]	Selved Sample	voak (6 vials per kth)-5035 kt (N/A) v/GK (3 vials per kth)-5035 kt (N/A) sp51-125 mL Sterile Plastic (N/A – lab) sp21-250 mL Sterile Plastic (N/A – lab)
ł	Sample ID	Type of Preservative	pH upon receipt		adjusted	
		·	++-		1	1
			+	·		DELNR Cert
			Link Corpling COR	apliance samples, a copy	of this form will be s	ent to the North Carolina Denon Cert

Pace Analytical	Chain-of-C	ustody is a LEGAL DOCUMENT	Complete all relevent field				MTJL Log-in I	Number Here	6
Company: Georgia Power - Coal Combus	tion Residuals	Billing Information:	and the second secon			ALL SH	ADED AREAS	are for LAB USE ONLY	
Address: 2480 Maner Road Atlanta, GA 30339				La constante de		Container Preserva	tive Type **	Lab Project Manager:	
Report To: Joju Abraham Conv To: Golder		Email To: scsinvoices@south Site Collection Info/Address:	Plant Branch	(6) n	eservative Types: () hethanol, (?) sodium) nitric acid, (2) suffur bisulfate, (8) sodium	thiosulfate, (9) hexane. (A sodium hydroxide, (5) zinc acetate, A scorbic acid, (8) ammonium sulfate,	
		A CONTRACT OF A CO				Analyse	3	Lab Profile/Line:	
phone: (404) 505-7239 Email: jabraham@southernco.com		State: Georgia City: Milledg	eville Time Zone Collecter					Lab Sample Receipt Checklis Custody Seals Present/Intac	CH Y N NA
Phone: (404) 506-7239 Email: jabraham@southernco.com	Project Name: Plant Bran Project # CCR	ich BCD Assessment	Pace Profile#					Custody Signatures Present Collector Signature Present	E YN NA
Collected By (print): Travis Martinez,	Purchase Order #		Pace Project Manager.					Bottles Intact YNN Correct Bottles YNN	MA
Collected By (signature):	Turnaround Date Requir	ed:	Immediately Packed on Ice					Sufficient Volume Y N	NNA
andrilla			[X]Yes []No					VOA - Headspace Acceptabl	JE YNNA
	Rush: Same Day	I I Next Day	Field Filtered (if applicable [] Yes [] No	¥	nents			USDA Regulated Solis Y Samples in Holding Time	YNNA
	[] 2 Day [] 3 Day (Expedite C	(4 Day []5 Day harges Apply)	Analysis:		comm			A Strips: Sample pH Acceptable	YNNA
* Matrix Codes (Insert in Matrix box be Product (P), Soil/Solid (SL), Oil (OL), W	ow): Drinking Water (DW), Epe (WP), Air (AR), Tissue (1	Ground Water (GW), Wastewa S), Bioassay (B), Water (WT), C	ater (WW), Other {OT)		p IV - see	26.228		PH Strips:	
Customer Sample ID	Matrix Comp	Collected (or Composite Start)	Composite End	pH # of Ctns	tals A	dium 2	rcury	Lab Sample # / Comments:	60 18 101
		Date Time	Date Time		Me	Ra	(Me		~[C471-114]
PZ-51s	0 - 0	8-20-2020 1330		n 519	74,	X	×		
P2-511	64 6	8-20-2020 1145		5.57 4	*	×	×		
									and the second
(App IV Metals): Sb, As, Ba, Be, Cd, Cr,	Co, Hg, Pb, Li, Mo, Se, Tl	Type of Ice Used: W	et Blue Dry No	ne l	SHORT HOLE	os present (<72 h	ours): Y N N/A	UAB Sample Temp	iperature Info: td:
		Packing Material Used:			Lab Tracking			Therm IO#	n Racestor Con
		Radchem sample(s) screen	ed (<500 cpm): Y N	NA	Samples rec FEDEX	eived via: UPS Client C	ourier Pace Courier	Cooler 1 Therm Con Cooler 1 Corrected	Temp Julg of
Relinquished by/Cumpany: (Signature		are/Time: /	Received by/Company: (S	gnature)	Date	1120 110X	MTJL LAB USE ON Table #:		
Relinquished by/Company: (Stanature			Received by/Comparty:15	(gnaphre)	Date/Ti	me me	Acctnum: Template: Deeloein:	Trip Blank HCL M	AECH TSP Other
Relinquished by/Company: (Signature	0	ate/Time:	Received by/Company: (S	ignature)	, Date/Ti	me:	P8:	Non Conforma YES / NO	ance(s): Page: 1 IO of: 1

	age	15	of	15
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Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

September 09, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH BCD ASSESSMENT Pace Project No.: 92491917

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on August 21, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Charlotte
- Pace Analytical Services Peachtree Corners, GA

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Stury

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder





Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92491917

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



SAMPLE SUMMARY

Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92491917

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92491917001	PZ-51S	Water	08/20/20 13:30	08/21/20 11:08
92491917002	PZ-51I	Water	08/20/20 11:45	08/21/20 11:08



SAMPLE ANALYTE COUNT

Project: BRANCH BCD ASSESSMENT Pace Project No.: 92491917

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92491917001	– – PZ-51S	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
92491917002	PZ-51I	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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



SUMMARY OF DETECTION

Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92491917

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491917001	PZ-51S					
	рН	6.15	Std. Units		09/09/20 17:02	
EPA 6020B	Barium	0.030	mg/L	0.010	08/28/20 15:53	
EPA 6020B	Chromium	0.00063J	mg/L	0.010	08/28/20 15:53	
EPA 6020B	Cobalt	0.0039J	mg/L	0.0050	08/28/20 15:53	
EPA 300.0 Rev 2.1 1993	Fluoride	0.056J	mg/L	0.10	08/25/20 20:05	
92491917002	PZ-511					
	рН	5.57	Std. Units		09/09/20 17:02	
EPA 6020B	Antimony	0.0017J	mg/L	0.0030	08/28/20 16:16	
EPA 6020B	Barium	0.013	mg/L	0.010	08/28/20 16:16	
EPA 6020B	Beryllium	0.000077J	mg/L	0.0030	08/28/20 16:16	
EPA 6020B	Cadmium	0.0019J	mg/L	0.0025	08/28/20 16:16	
EPA 6020B	Cobalt	0.020	mg/L	0.0050	08/28/20 16:16	
EPA 6020B	Lithium	0.019J	mg/L	0.030	08/28/20 16:16	
EPA 7470A	Mercury	0.000099J	mg/L	0.00020	08/27/20 10:24	


Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92491917

Sample: PZ-51S	Lab ID:	92491917001	Collecte	ed: 08/20/20) 13:30	Received: 08/	21/20 11:08 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	•					
рН	6.15	Std. Units			1		09/09/20 17:02		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	SA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/27/20 17:10	08/28/20 15:53	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/27/20 17:10	08/28/20 15:53	7440-38-2	
Barium	0.030	mg/L	0.010	0.00071	1	08/27/20 17:10	08/28/20 15:53	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/27/20 17:10	08/28/20 15:53	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/27/20 17:10	08/28/20 15:53	7440-43-9	
Chromium	0.00063J	mg/L	0.010	0.00055	1	08/27/20 17:10	08/28/20 15:53	7440-47-3	
Cobalt	0.0039J	mg/L	0.0050	0.00038	1	08/27/20 17:10	08/28/20 15:53	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/27/20 17:10	08/28/20 15:53	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/27/20 17:10	08/28/20 15:53	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/27/20 17:10	08/28/20 15:53	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/27/20 17:10	08/28/20 15:53	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/27/20 17:10	08/28/20 15:53	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prej	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ΒA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/26/20 12:00	08/27/20 10:14	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.056J	mg/L	0.10	0.050	1		08/25/20 20:05	16984-48-8	



Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92491917

Sample: PZ-51I	Lab ID:	92491917002	Collecte	ed: 08/20/20) 11:45	Received: 08/	21/20 11:08 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	•					
рН	5.57	Std. Units			1		09/09/20 17:02		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prej	paration Met	hod: EF	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЗA				
Antimony	0.0017J	mg/L	0.0030	0.00028	1	08/27/20 17:10	08/28/20 16:16	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/27/20 17:10	08/28/20 16:16	7440-38-2	
Barium	0.013	mg/L	0.010	0.00071	1	08/27/20 17:10	08/28/20 16:16	7440-39-3	
Beryllium	0.000077J	mg/L	0.0030	0.000046	1	08/27/20 17:10	08/28/20 16:16	7440-41-7	
Cadmium	0.0019J	mg/L	0.0025	0.00012	1	08/27/20 17:10	08/28/20 16:16	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/27/20 17:10	08/28/20 16:16	7440-47-3	
Cobalt	0.020	mg/L	0.0050	0.00038	1	08/27/20 17:10	08/28/20 16:16	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/27/20 17:10	08/28/20 16:16	7439-92-1	
Lithium	0.019J	mg/L	0.030	0.00081	1	08/27/20 17:10	08/28/20 16:16	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/27/20 17:10	08/28/20 16:16	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/27/20 17:10	08/28/20 16:16	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/27/20 17:10	08/28/20 16:16	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prep	paration Met	hod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЗA				
Mercury	0.000099J	mg/L	0.00020	0.000078	1	08/26/20 12:00	08/27/20 10:24	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/25/20 20:20	16984-48-8	



BRANCH BCD ASSESSMENT Project:

Pace Project No.:	92491917
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-										
QC Batch:	562831		Analysis Meth	nod:	EPA 6020B					
QC Batch Method:	EPA 3005A		Analysis Des	cription:	6020 MET					
			Laboratory:		Pace Analytical Se	rvices - Peachtree	Corners, GA			
Associated Lab Sar	mples: 924919170	001, 92491917002								
METHOD BLANK:	2984655		Matrix:	Water						
Associated Lab Sar	mples: 924919170	01, 92491917002								
			Blank	Reporting						
Parar	meter	Units	Result	Limit	MDL	Analyzed	Qualifiers			
Antimony		mg/L	ND	0.003	0.00028	08/28/20 15:42				
Arsenic		mg/L	ND	0.005	0.00078	08/28/20 15:42				
Barium		mg/L	ND	0.01	0 0.00071	08/28/20 15:42				
Beryllium		mg/L	ND	0.003	0.000046	08/28/20 15:42				
Cadmium		mg/L	ND	0.002	0.00012	08/28/20 15:42				
Chromium		mg/L	ND	0.01	0 0.00055	08/28/20 15:42				
Cobalt		ma/l		0.005	0 00038	08/28/20 15.42				

		Blank	Reporting			
Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/28/20 15:42	
Arsenic	mg/L	ND	0.0050	0.00078	08/28/20 15:42	
Barium	mg/L	ND	0.010	0.00071	08/28/20 15:42	
Beryllium	mg/L	ND	0.0030	0.000046	08/28/20 15:42	
Cadmium	mg/L	ND	0.0025	0.00012	08/28/20 15:42	
Chromium	mg/L	ND	0.010	0.00055	08/28/20 15:42	
Cobalt	mg/L	ND	0.0050	0.00038	08/28/20 15:42	
Lead	mg/L	ND	0.0050	0.000036	08/28/20 15:42	
Lithium	mg/L	ND	0.030	0.00081	08/28/20 15:42	
Molybdenum	mg/L	ND	0.010	0.00069	08/28/20 15:42	
Selenium	mg/L	ND	0.010	0.0016	08/28/20 15:42	
Thallium	mg/L	ND	0.0010	0.00014	08/28/20 15:42	

LABORATORY CONTROL SAMPLE: 2984656

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.095	95	80-120	
Arsenic	mg/L	0.1	0.094	94	80-120	
Barium	mg/L	0.1	0.093	93	80-120	
Beryllium	mg/L	0.1	0.096	96	80-120	
Cadmium	mg/L	0.1	0.096	96	80-120	
Chromium	mg/L	0.1	0.097	97	80-120	
Cobalt	mg/L	0.1	0.095	95	80-120	
Lead	mg/L	0.1	0.089	89	80-120	
Lithium	mg/L	0.1	0.094	94	80-120	
Molybdenum	mg/L	0.1	0.094	94	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.089	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2984657 2984658 MSD MS 92491917001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual Antimony mg/L ND 0.1 0.1 0.097 0.095 97 95 75-125 2 20 Arsenic mg/L ND 0.1 0.1 0.094 0.094 94 94 75-125 0 20 Barium mg/L 0.030 0.1 0.1 0.12 0.12 94 89 75-125 4 20 Beryllium mg/L ND 0.1 0.1 0.098 0.096 98 96 75-125 1 20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92491917

MATRIX SPIKE & MATRIX SPI	KE DUPL	ICATE: 2984	657		2984658							
			MS	MSD								
		92491917001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Cadmium	mg/L	ND	0.1	0.1	0.097	0.095	97	95	75-125	3	20	
Chromium	mg/L	0.00063J	0.1	0.1	0.098	0.095	98	94	75-125	4	20	
Cobalt	mg/L	0.0039J	0.1	0.1	0.10	0.098	96	94	75-125	3	20	
Lead	mg/L	ND	0.1	0.1	0.090	0.088	90	88	75-125	2	20	
Lithium	mg/L	ND	0.1	0.1	0.098	0.096	97	96	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.097	0.095	97	95	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.093	0.093	93	93	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.090	0.089	90	89	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD AS	SESSMENT										
Pace Project No.:	92491917											
QC Batch:	562436		Analy	sis Metho	od:	EPA 7470A						
QC Batch Method:	EPA 7470A		Analy	sis Descr	iption:	7470 Mercu	ıry					
			Labo	ratory:		Pace Analy	tical Serv	vices - Peach	tree Corne	ers, GA		
Associated Lab San	nples: 92491917	001, 9249191700)2									
METHOD BLANK:	2982834			Matrix: V	/ater							
Associated Lab San	nples: 92491917	001, 9249191700)2									
			Blar	nk	Reporting							
Paran	neter	Units	Res	ult	Limit	MD	L	Analyzed	Q	ualifiers	;	
Mercury		mg/L		ND	0.0005	50 0.0	00078	08/27/20 10	:10			
LABORATORY COM	NTROL SAMPLE:	2982835										
			Spike	LC	CS	LCS	%	Rec				
Paran	neter	Units	Conc.	Re	sult	% Rec	Li	mits	Qualifiers			
Mercury		mg/L	0.002	5	0.0025	9	8	80-120				
MATRIX SPIKE & M	IATRIX SPIKE DUF	PLICATE: 2982	836		298283	7						
			MS	MSD								
_		92491917001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	- ·
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Mercury	mg/L	. ND	0.0025	0.0025	0.0025	0.0024	g	97 96	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRAN	CH BCD AS	SESSMENT										
Pace Project No.:	92491	917											
QC Batch:	5620	94		Anal	ysis Metho	d:	EPA 300.0	Rev 2.1 19	93				
QC Batch Method:	EPA	300.0 Rev 2	.1 1993	Anal	ysis Descri	ption:	300.0 IC An	ions					
				Labo	oratory:		Pace Analy	tical Servic	es - Ashevi	lle			
Associated Lab Sar	mples:	924919170	001, 9249191700	2									
METHOD BLANK:	29813	03			Matrix: W	ater							
Associated Lab Sar	mples:	924919170	001, 9249191700	2									
				Bla	nk	Reporting							
Parar	neter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	ualifiers		
Fluoride			mg/L		ND	0.1	0	0.050 08	8/25/20 12:	53		_	
LABORATORY CO	NTROL	SAMPLE:	2981304										
_				Spike	LC	S	LCS	% R	ec				
Para	neter		Units	Conc.	Res	sult	% Rec	Limi	ts (Qualifiers	_		
Fluoride			mg/L	2	.5	2.7	10	8 9	90-110				
MATRIX SPIKE & M	MATRIX	SPIKE DUP	LICATE: 2981	305		2981306	6						
			0040000004	MS	MSD		MOD		MOD	0/ D			
Paramete	r	Unite	92492088001 Result	Spike	Spike	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec	PDD	Max PPD	Qual
Fluoride	•	mg/L		2.5	2.5	2.6	2.6	104	105	90-110	1	10	
		-											
MATRIX SPIKE & M	/ ATRIX	SPIKE DUP	LICATE: 2981	307		2981308	3						
				MS	MSD					_			
			92491393009	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	<u> </u>
Paramete	r	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Fluoride		mg/L	ND	2.5	2.5	2.6	2.6	103	103	90-110	0	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92491917

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:BRANCH BCD ASSESSMENTPace Project No.:92491917

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491917001 92491917002	PZ-51S PZ-51I				
92491917001 92491917002	PZ-51S PZ-51I	EPA 3005A EPA 3005A	562831 562831	EPA 6020B EPA 6020B	562944 562944
92491917001 92491917002	PZ-51S PZ-51I	EPA 7470A EPA 7470A	562436 562436	EPA 7470A EPA 7470A	562585 562585
92491917001 92491917002	PZ-51S PZ-51I	EPA 300.0 Rev 2.1 1993 EPA 300.0 Rev 2.1 1993	562094 562094		

Pace Analytical Client Name:	nple Condition I	Upon Receipt	WO#:92491917
		Pace Other	
Courier: Fed Ex DOPS DOSPS Content Tracking #:			Proj. Name:
Custody Seal on Cooler/Box Present: Tyes	🗌 no 🛛 Seals i	ntact: tyes	no
Backing Material: Bubble Wrap Bubble	Bags Thone	Other	
Thermometer Used 72(7)	Type of Ice: Wet	Blue None	Samples on ice, cooling process has begun
	Biological Tissue i	s Frozen: Yes No	Date and initials of person examining
Temp should be above freezing to 6°C		Comments:	
Chain of Custody Present:		1	
Chain of Custody Filled Out:		2	
Chain of Custody Relinquished:	Pres DNO DN/A	3	
Sampler Name & Signature on COC:	ETYes DNO DN/A	4	
Samples Arrived within Hold Time:	Yes DNO DN/A	5.	
Short Hold Time Analysis (<72hr):		6	
Rush Turn Around Time Requested:		7	
Sufficient Volume:		8.	
Correct Containers Used:	Tes DNo DNA	9.	
-Pace Containers Used:			
Containers Intact:		10.	
Filtered volume received for Dissolved tests		11.	
Sample Labels match COC:	Yes ONO ONA	12.	
-locudes date/lime/ID/Analysis Matrix:	W		
All containers needing preservation have been checked.	GYES DNO DN/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	BYes DNO DN/A		Lot # of added
eventions: VOA coliform TOC O&G WI-DBO (water)	TYes ANO	completed	preservative
Samples checked for dechlorination:	UYes DNO DNA	14.	-
Handragen in VOA Vials (>6mm):		15.	
		16.	
Trip Blank Present.	TYes DNO DANA	ſ	
Trip Blank Custouy Seals Present			
			Field Data Required 2 Y / N
Client Notification/ Resolution:	Dete	Пime:	
Person Contacted: Comments/ Resolution:			
	-		
Project Manager Review:		and the second secon	Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical	Document Name: Bottle Identification Form (BIF) Document No.: F-CAR-CS-043-Rev.00	Document Issued: March 14, 2019 Page 1 of 1 Issuing Authority: Pace Carolinas Quality Office
Checky mark top half of box if pH and verticed and within the acceptance rar symples. Ecceptions: VOA, Coliform, TOC, Oil and Grease, I ecceptions: VOA, Coliform, TOC, Oil and Grease, I	or dechlorination is ige for preservation DRO/8015 (water) DOC, LLHg r of bottle	MOH · JL · Due Date: 09/04/20 PM: KLH1 Due Date: 09/04/20 CLIENT: GA-GA Power
ABottom traff of box 13 to list manue	BP44C-125 ml. Plastic NaCh (pla+ > 12) (Cl-) BP44C-125 ml. Plastic NaCh (pla+ > 12) (Cl-) BP44C-125 ml. Plastic NaCh (pla+ > 12) (Cl-) MCGFU-Wide-mouthed Glass Jar Unpreserved (N/A) (Cl-) AG11-1 liter Amber H2504 (pla < 2) AG11-1 liter Amber H2504 (pla < 2) AG11-1 liter Amber H2504 (pla < 2) AG11-1 liter Amber H2504 (pla < 2)	Deserved valit (NA) Normalized Vicerie Deserved valit (NA) Nork (6 valits per kth)-vpH/Gs4 ktr (N/A) Vicerie Vicerie Passerved valit (N/A) SpST-125 mL Sterile Passerved valit (N/A) SpST-250 mL vol. 100 mL vol. 1
		conv of this form will be sent to the North Carolina DEHNR Certifica
Note: Whenever there is a discrepan Out of hold, incorrect preservative, c	ncy affecting North Carolina compliance samples, a court of temp/Encorrect containers.	

rage 15 01 10	Page	15	of	16
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3	CHAIN-OF	CUSTODY Analytica	l Request Document		LAB USE ON	LY- Affix Workorder/Login MTJL Log	ı Label Here or List Pace Workorder Numt g-in Number Here	ser or
Pace Analytical	Chain-of-C	ustody is a LEGAL DOCUMENT	Complete all relevent fields					
Company: Georgia Power - Coal Combust	tion Residuals	Billing Information:		a		ALL SHADED AREA	AS are for LAB USE ONLY	
Address: 2480 Maner Road		Å			Container	Preservative Type **	Lab Project Manager:	
Report To: Joju Abraham		Email To: scs nvoices@southe	rnco.com	•• Presen	vative Types: (1) nitric acid	1, (2) suffuric acid. (3) hydrochl	loric acid, (4) sodium hydroxide, (5) zinc acetate,	
Copy To: Golder		Site Collection Info/Address: F	Mant Branch	(6) metha	nnol, (7) sodium bisulfate, onium hydroxide, (0) TSP, ((8) sodium thiosultate, (9) nex. (J) Unpreserved, (0) Other 	ane, (A) ascorbic acid, (b) ammunium somes,	
						Analyses	Lab Profile/Line:	
phone: (404) 506-7239 Email: jabraham@southernco.com		State: Georgia City: Milledge	IMT ()CT (X JET				Lab Sample Receipt Checkli Custody Seals Present/Intac	A Y N NA
Phone: (404) S06-7239 Fmail: iabraham@southernco.com	Project Name: Plant Bran Project # CCR	nch BCD Assessment	Pace Profile#				Custody Signatures Present Collector Signature Present	YNNA
Collected By (print): Travis Martinez,	Purchase Order #		Pace Project Manager.				Correct Bottles YN	ş
Andrea McClure	Quote #	Þ.	Immediately Packed on Ice:				Sufficient Volume Y P	YNNA
Collected By (signature):	Initial para base hedan		[X]Yes []No	L			VOA - Headspace Acceptab	IC YNNA
Under and	Rush:		Field Filtered (if applicable):		nts		USDA Regulated Solis 1 Samples in Holding Time	YNNA
	[]Same Da	y [] Next Day	Yes No		mer		Residual Chlorine Present	YNNA
	[] 2 Day [] 3 Day (Expedite C	4 Day 5 Day harges Apply;	Analysis:		comr		CI Strips: Sample pH Acceptable	YNNA
* Matrix Codes (Insert in Matrix box be) Product (P), Soil/Solid (SL), Oil (OL), W	ow): Drinking Water (DW), Fipe (WP), Air (AR), Tissue (Ground Water (GW), Wastewai TS), Bioassay (B), Water (WT), O	ter (WW). ther (OT)		p IV - see	26.228	PH Strips: Y N Suffide Present Y N Lead Acetate Strips	≱
	Comp	/ Collected (or Composite	Composite End	H # of Ctns	tals A	lium 3 rcury	Lab Sample # / Comments:	2.16.1
Customer sample in		Date Time	Date Time		Me Flu	Rac		TCHIND!
62-215	1 ml	8-20-2020 1330	6	h Si	Y. X	×		
10 210		2742221145	л	57 H	×××××××××××××××××××××××××××××××××××××××	××		
Pz-511	6 20 0	CL11 0201-07- X						
And Westerlie to be the fol for	To He Ph Li Mo Se TI	Tune of Ire Iked: We	Blue Dry None		SHORT HOLDS PRESE	NT (<72 hours): Y N	N/A UAB Sample Tem	perature Info:
And the survey of the state of	9	Packing Material Used:			Lab Tracking #:		Therm ID#	n Record Coc
		Radchem sample(s) screene	2d (<500 cpm): Y N NA		Samples received via FEDEX UPS	Cient Courier Pace Co	Cooler 1 Therm Co Cooler 1 Corrected	Temporto oc
Relinquished by/Ccmpany: (Signature		Date/Time:	Recoved by/Company: (Signal	ure)	Date/Time:	///) Table #:	SE ONLY	
Relinquished by/Company: (Stanature) MCLINE (Unit of C		Received by/Company: 1518na	ure) une	Date/Time	Acctnum: Template: Prelogin:	Trip Blank HCL N	r Received: Y N NA AeOH TSP Other
Relinquished by/Company: (Signature	e)	Date/Time:	Received by/Company: (Signa	ture)	Date/Time:	PM: PB:	Von Contorma YES / N	iO of: 1



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

September 30, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH BCD NETWORK Pace Project No.: 92495653

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 16, 2020 and September 18, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Charlotte
- Pace Analytical Services Peachtree Corners, GA

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Sharry

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

SAMPLE SUMMARY

BRANCH BCD NETWORK Project:

Pace Project No.: 92495653

BRAI	NCH	BCD	INE I	VVC

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495653001	BRGWA-12S	Water	09/15/20 13:15	09/16/20 09:45
92495653002	BRGWA-12I	Water	09/15/20 11:13	09/16/20 09:45
92495653003	BRGWA-23S	Water	09/15/20 16:10	09/16/20 09:45
92495653004	BRGWC-25I	Water	09/15/20 17:20	09/16/20 09:45
92495653005	BRGWC-29I	Water	09/15/20 17:41	09/16/20 09:45
92495653006	BRGWC-32S	Water	09/16/20 09:16	09/17/20 10:00
92495653007	BRGWC-30I	Water	09/16/20 10:16	09/17/20 10:00
92495653008	BRGWC-47	Water	09/16/20 11:39	09/17/20 10:00
92495653009	BRGWC-45	Water	09/16/20 13:07	09/17/20 10:00
92495653010	BRGWC-27I	Water	09/16/20 14:35	09/17/20 10:00
92495653011	DUP-1	Water	09/16/20 00:00	09/17/20 10:00
92495653012	EB-1	Water	09/16/20 15:11	09/17/20 10:00
92495653013	BRGWC-50	Water	09/17/20 10:24	09/18/20 10:15
92495653014	BRGWC-52I	Water	09/17/20 10:07	09/18/20 10:15
92495653015	FB-2	Water	09/17/20 10:20	09/18/20 10:15



SAMPLE ANALYTE COUNT

Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495653001	BRGWA-12S	EPA 6010D	— <u>— кн</u>	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495653002	BRGWA-12I	EPA 6010D	КН	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495653003	BRGWA-23S	EPA 6010D	КН	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495653004 BRGWC-25I	BRGWC-25I	EPA 6010D	КН	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495653005	BRGWC-29I	EPA 6010D	КН	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495653006	BRGWC-32S	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495653007	BRGWC-30I	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495653008	BRGWC-47	EPA 6010D	DRB	1
		EPA 6020B	CW1	13



SAMPLE ANALYTE COUNT

Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 7470A		1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495653009	BRGWC-45	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495653010	BRGWC-27I	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495653011	DUP-1	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495653012	EB-1	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495653013	BRGWC-50	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	FFP	1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495653014	BRGWC-52I	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	FFP	1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495653015	FB-2	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	FFP	1
		SM 2450C-2011	ALW	1



SAMPLE ANALYTE COUNT

Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 300.0 Rev 2.1 1993	BRJ	3

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495653001	BRGWA-12S					
	рН	6.00	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	5.7	mg/L	1.0	09/17/20 17:55	
EPA 6020B	Barium	0.058	mg/L	0.010	09/21/20 15:38	
EPA 6020B	Chromium	0.0025J	ma/L	0.010	09/21/20 15:38	
SM 2450C-2011	Total Dissolved Solids	60.0	ma/l	10.0	09/16/20 14:22	
EPA 300.0 Rev 2.1 1993	Chloride	3.5	mg/L	1.0	09/18/20 20:02	
92495653002	BRGWA-12I					
	рН	6.01	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	14.5	mg/L	1.0	09/17/20 18:21	
EPA 6020B	Antimony	0.010	mg/L	0.0030	09/21/20 16:01	
EPA 6020B	Barium	0.059	mg/L	0.010	09/21/20 16:01	
EPA 6020B	Boron	0.0071J	ma/L	0.10	09/21/20 16:01	
EPA 6020B	Chromium	0.00096J	ma/L	0.010	09/21/20 16:01	
EPA 6020B	Lithium	0.0037.1	mg/l	0.030	09/21/20 16:01	
SM 2450C-2011	Total Dissolved Solids	95.0	mg/L	10.0	09/16/20 14:22	
EPA 300 0 Rev 2 1 1993	Chloride	2.4	mg/L	1.0	09/18/20 20:17	
EPA 300 0 Rev 2 1 1993	Fluoride	0.0621	mg/L	0.10	09/18/20 20:17	
EPA 300.0 Rev 2.1 1993	Sulfate	1.7	mg/L	1.0	09/18/20 20:17	
92495653003	BRGWA-23S		3			
	нα	5.72	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	10.7	ma/l	1.0	09/17/20 18:25	
EPA 6020B	Antimony	0.00033.1	mg/l	0.0030	09/21/20 16:06	
EPA 6020B	Barium	0.000000	mg/L	0.010	09/21/20 16:06	
EPA 6020B	Boron	0.000	mg/L	0.010	09/21/20 16:06	
EPA 6020B	Chromium	0.0000	mg/L	0.10	00/21/20 16:06	
	Cabalt	0.00133	mg/L	0.010	09/21/20 10:00	
		0.00076J	mg/L	0.0050	09/21/20 10.00	
EPA 6020B	Litnium	0.011J	mg/L	0.030	09/21/20 16:06	
EPA 6020B	Selenium	0.0028J	mg/L	0.010	09/21/20 16:06	
SM 2450C-2011	Iotal Dissolved Solids	109	mg/L	10.0	09/16/20 14:23	
EPA 300.0 Rev 2.1 1993	Chloride	3.1	mg/L	1.0	09/23/20 23:18	
EPA 300.0 Rev 2.1 1993	Sulfate	41.5	mg/L	1.0	09/23/20 23:18	
92495653004	BRGWC-25I					
	pH	6.00	Std. Units	1.0	09/22/20 12:29	
EPA 6010D		40.1	mg/L	1.0	09/17/20 18:29	
EPA 6020B	Barium	0.024	mg/L	0.010	09/21/20 16:12	
EPA 6020B	Boron	1.2	mg/L	0.10	09/21/20 16:12	
EPA 6020B	Cobalt	0.0035J	mg/L	0.0050	09/21/20 16:12	
EPA 6020B	Molybdenum	0.00080J	mg/L	0.010	09/21/20 16:12	
SM 2450C-2011	Total Dissolved Solids	272	mg/L	10.0	09/16/20 14:23	
EPA 300.0 Rev 2.1 1993	Chloride	4.9	mg/L	1.0	09/18/20 20:32	
EPA 300.0 Rev 2.1 1993	Fluoride	0.15	mg/L	0.10	09/18/20 20:32	
EPA 300.0 Rev 2.1 1993	Sulfate	126	mg/L	3.0	09/19/20 08:42	
92495653005	BRGWC-29I					
	рН	4.53	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	55.1	mg/L	1.0	09/17/20 18:34	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495653005	BRGWC-29I				·	
EPA 6020B	Barium	0.017	mg/L	0.010	09/21/20 16:18	
EPA 6020B	Beryllium	0.00071J	mg/L	0.0030	09/21/20 16:18	
EPA 6020B	Boron	1.1	mg/L	0.10	09/21/20 16:18	
EPA 6020B	Cobalt	0.0064	mg/L	0.0050	09/21/20 16:18	
EPA 6020B	Lead	0.00029J	ma/L	0.0050	09/21/20 16:18	
EPA 6020B	Lithium	0.0030J	ma/L	0.030	09/21/20 16:18	
EPA 6020B	Thallium	0.00016J	ma/L	0.0010	09/21/20 16:18	
SM 2450C-2011	Total Dissolved Solids	281	ma/L	10.0	09/16/20 14:23	
EPA 300.0 Rev 2.1 1993	Chloride	5.5	ma/l	1.0	09/18/20 20:46	M1
EPA 300 0 Rev 2 1 1993	Fluoride	0.057.1	mg/L	0.10	09/18/20 20:46	M1
EPA 300.0 Rev 2.1 1993	Sulfate	241	ma/L	5.0	09/19/20 08:56	
92495653006	BRGWC-32S		g/ =	0.0	00,10,20 00.00	
	pH	5.79	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	43.1	mg/L	1.0	09/22/20 20:40	M1
EPA 6020B	Barium	0.024	mg/L	0.010	09/22/20 17:02	
EPA 6020B	Boron	1.4	mg/L	0.10	09/22/20 17:02	
EPA 6020B	Chromium	0.0025J	mg/L	0.010	09/22/20 17:02	
EPA 6020B	Lithium	0.0022J	mg/L	0.030	09/22/20 17:02	
EPA 6020B	Selenium	0.12	mg/L	0.010	09/22/20 17:02	
SM 2450C-2011	Total Dissolved Solids	428	ma/L	10.0	09/17/20 15:20	
EPA 300.0 Rev 2.1 1993	Chloride	5.6	ma/L	1.0	09/19/20 00:00	
EPA 300.0 Rev 2.1 1993	Sulfate	255	mg/L	5.0	09/19/20 09:55	
92495653007	BRGWC-30I		0			
	Ηα	6.29	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	106	ma/l	1.0	09/22/20 20:57	
EPA 6020B	Barium	0.022	mg/L	0.010	09/22/20 17:08	
EPA 6020B	Boron	1 7	mg/L	0.10	09/22/20 17:08	
EPA 6020B	Chromium	0.014	mg/L	0.10	09/22/20 17:08	
EPA 6020B	Cobalt	0.00080.1	mg/L	0.0050	09/22/20 17:08	
EPA 6020B	Lead	0.00011.1	mg/L	0.0050	09/22/20 17:08	
EPA 6020B	Lithium	0.000110	mg/L	0.0000	09/22/20 17:08	
EPA 6020B	Molybdenum	0.00221	mg/L	0.000	09/22/20 17:08	
SM 2450C-2011	Total Dissolved Solids	634	mg/L	10.0	09/17/20 15:20	
EPA 300 0 Rev 2 1 1993	Chloride	004 4 4	mg/L	10.0	09/17/20 15:20	
EPA 300.0 Rev 2.1 1993	Eluoride	4.4	mg/L	0.10	09/19/20 15:53	
EPA 300.0 Rev 2.1 1993	Sulfate	334	mg/L	7.0	09/19/20 13:33	M6
02/05653008	BRGWC-47	504	ilig/L	7.0	03/20/20 02:34	MO
92493033008	nH	5 76	Std Units		09/22/20 12:29	
	Calcium	309	ma/l	10.0	09/22/20 12:20	
EPA 6020B	Antimony	0.00035.1	mg/L	0.0030	09/22/20 12:13	в
EPA 6020B	Barium	0.000000	mg/L	0.0000	09/22/20 17:13	2
EPA 6020B	Boron	0.020	mg/L	0.010	00/22/20 17.13	
EPA 6020B	Cobalt	0.47	mg/L	0.10	00/22/20 17.13	
		0.00053J	mg/L	0.0050	00/22/20 17.13	
			mg/L	0000.0	00/22/20 17:13	
	Solonium	0.039	mg/L	0.030	00/22/20 17:13	
EFA 0UZUD	Selenium	0.0020J	mg/L	0.010	09/22/20 17:13	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495653008	BRGWC-47			_		
SM 2450C-2011	Total Dissolved Solids	2090	mg/L	20.0	09/21/20 16:27	
EPA 300.0 Rev 2.1 1993	Chloride	4.1	mg/L	1.0	09/19/20 16:38	
EPA 300.0 Rev 2.1 1993	Sulfate	1360	mg/L	27.0	09/20/20 03:48	
92495653009	BRGWC-45					
	рН	5.27	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	39.7	mg/L	1.0	09/22/20 21:06	
EPA 6020B	Antimony	0.0012J	mg/L	0.0030	09/22/20 17:19	В
EPA 6020B	Barium	0.085	mg/L	0.010	09/22/20 17:19	
EPA 6020B	Boron	0.028J	mg/L	0.10	09/22/20 17:19	
EPA 6020B	Chromium	0.0014J	mg/L	0.010	09/22/20 17:19	
EPA 6020B	Cobalt	0.0049J	mg/L	0.0050	09/22/20 17:19	
EPA 6020B	Lead	0.000053J	mg/L	0.0050	09/22/20 17:19	
EPA 6020B	Lithium	0.0036J	mg/L	0.030	09/22/20 17:19	
SM 2450C-2011	Total Dissolved Solids	275	mg/L	10.0	09/17/20 15:20	
EPA 300.0 Rev 2.1 1993	Chloride	54.9	mg/L	1.0	09/19/20 16:53	
EPA 300.0 Rev 2.1 1993	Fluoride	0.052J	mg/L	0.10	09/19/20 16:53	
EPA 300.0 Rev 2.1 1993	Sulfate	103	mg/L	2.0	09/20/20 04:03	
92495653010	BRGWC-27I					
	рН	5.81	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	62.5	mg/L	1.0	09/22/20 21:10	
EPA 6020B	Barium	0.016	mg/L	0.010	09/22/20 17:25	
EPA 6020B	Beryllium	0.00011J	mg/L	0.0030	09/22/20 17:25	
EPA 6020B	Boron	1.2	mg/L	0.10	09/22/20 17:25	
EPA 6020B	Cobalt	0.0080	mg/L	0.0050	09/22/20 17:25	
EPA 6020B	Lithium	0.0014J	mg/L	0.030	09/22/20 17:25	
EPA 6020B	Selenium	0.0042J	mg/L	0.010	09/22/20 17:25	
SM 2450C-2011	Total Dissolved Solids	301	mg/L	10.0	09/17/20 15:20	
EPA 300.0 Rev 2.1 1993	Chloride	5.4	mg/L	1.0	09/19/20 17:08	
EPA 300.0 Rev 2.1 1993	Fluoride	0.15	mg/L	0.10	09/19/20 17:08	
EPA 300.0 Rev 2.1 1993	Sulfate	190	mg/L	4.0	09/20/20 04:17	
92495653011	DUP-1					
EPA 6010D	Calcium	108	mg/L	1.0	09/22/20 21:23	
EPA 6020B	Barium	0.022	mg/L	0.010	09/22/20 17:31	
EPA 6020B	Boron	1.7	mg/L	0.10	09/22/20 17:31	
EPA 6020B	Cobalt	0.00065J	mg/L	0.0050	09/22/20 17:31	
EPA 6020B	Lithium	0.016J	mg/L	0.030	09/22/20 17:31	
EPA 6020B	Molybdenum	0.00076J	mg/L	0.010	09/22/20 17:31	
SM 2450C-2011	Total Dissolved Solids	622	mg/L	10.0	09/18/20 09:58	
EPA 300.0 Rev 2.1 1993	Chloride	4.4	mg/L	1.0	09/19/20 17:23	
EPA 300.0 Rev 2.1 1993	Fluoride	0.13	mg/L	0.10	09/19/20 17:23	
EPA 300.0 Rev 2.1 1993	Sulfate	343	mg/L	7.0	09/20/20 04:32	
92495653012	EB-1					
EPA 6020B	Boron	0.0066J	mg/L	0.10	09/22/20 17:36	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495653013	BRGWC-50					
	рН	4.41	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	206	mg/L	1.0	09/22/20 22:02	
EPA 6020B	Antimony	0.00041J	mg/L	0.0030	09/23/20 20:05	
EPA 6020B	Barium	0.020	mg/L	0.010	09/23/20 20:05	
EPA 6020B	Beryllium	0.0065	mg/L	0.0030	09/24/20 17:33	
EPA 6020B	Boron	0.36	mg/L	0.10	09/24/20 17:33	
EPA 6020B	Cadmium	0.021	mg/L	0.0025	09/23/20 20:05	
EPA 6020B	Chromium	0.00098J	mg/L	0.010	09/23/20 20:05	
EPA 6020B	Cobalt	1.4	mg/L	0.050	09/24/20 17:07	
EPA 6020B	Lead	0.00015J	mg/L	0.0050	09/23/20 20:05	
EPA 6020B	Lithium	0.052	mg/L	0.030	09/24/20 17:33	
SM 2450C-2011	Total Dissolved Solids	1910	mg/L	50.0	09/24/20 11:49	D6,H1
EPA 300.0 Rev 2.1 1993	Chloride	20.1	mg/L	1.0	09/22/20 01:20	
EPA 300.0 Rev 2.1 1993	Fluoride	0.46	mg/L	0.10	09/22/20 01:20	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	26.0	09/22/20 14:58	
92495653014	BRGWC-52I					
	рН	6.12	Std. Units		09/22/20 12:29	
EPA 6010D	Calcium	35.4	mg/L	1.0	09/22/20 22:15	
EPA 6020B	Barium	0.020	mg/L	0.010	09/23/20 20:10	
EPA 6020B	Boron	1.9	mg/L	0.10	09/24/20 14:08	
EPA 6020B	Cobalt	0.00046J	mg/L	0.0050	09/23/20 20:10	
EPA 6020B	Lithium	0.0058J	mg/L	0.030	09/24/20 14:08	
EPA 6020B	Molybdenum	0.00070J	mg/L	0.010	09/23/20 20:10	
SM 2450C-2011	Total Dissolved Solids	329	mg/L	10.0	09/21/20 16:30	
EPA 300.0 Rev 2.1 1993	Chloride	6.3	mg/L	1.0	09/22/20 02:04	
EPA 300.0 Rev 2.1 1993	Fluoride	0.074J	mg/L	0.10	09/22/20 02:04	
EPA 300.0 Rev 2.1 1993	Sulfate	165	mg/L	4.0	09/22/20 15:13	
92495653015	FB-2					
EPA 6020B	Boron	0.0097J	mg/L	0.10	09/24/20 14:14	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: BRGWA-12S Lab ID: 92495653001 Collected: 09/15/20 13:15 Received: 09/16/20 09:45 Matrix: Water Report Units MDL DF Parameters Results Limit Prepared CAS No. Analyzed Qual Analytical Method: Field Data Pace Analytical Services - Charlotte 6.00 Std. Units 09/22/20 12:29 pН 1 6010D ATL ICP Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA Calcium 5.7 mg/L 1.0 0.070 1 09/16/20 15:14 09/17/20 17:55 7440-70-2 Analytical Method: EPA 6020B Preparation Method: EPA 3005A 6020 MET ICPMS Pace Analytical Services - Peachtree Corners, GA Antimony ND mg/L 0.0030 0.00028 1 09/16/20 18:16 09/21/20 15:38 7440-36-0 Arsenic ND mg/L 0.0050 0.00078 09/16/20 18:16 09/21/20 15:38 7440-38-2 1 Barium 0.058 0.010 0.00071 09/16/20 18:16 09/21/20 15:38 7440-39-3 mg/L 1 Beryllium ND mg/L 0.0030 0.000046 09/16/20 18:16 09/21/20 15:38 7440-41-7 1 Boron ND mg/L 0.10 0.0052 1 09/16/20 18:16 09/21/20 15:38 7440-42-8 Cadmium ND mg/L 0.0025 0.00012 09/16/20 18:16 09/21/20 15:38 7440-43-9 1 Chromium 0.0025J mg/L 0.010 0.00055 09/16/20 18:16 09/21/20 15:38 7440-47-3 1 Cobalt ND 0.0050 mg/L 0.00038 09/16/20 18:16 09/21/20 15:38 7440-48-4 1 ND Lead mg/L 0.0050 0.000036 1 09/16/20 18:16 09/21/20 15:38 7439-92-1 ND mg/L Lithium 0.030 0.00081 1 09/16/20 18:16 09/21/20 15:38 7439-93-2 Molybdenum ND mg/L 0.010 0.00069 1 09/16/20 18:16 09/21/20 15:38 7439-98-7 Selenium ND mg/L 0.010 0.0016 1 09/16/20 18:16 09/21/20 15:38 7782-49-2 Thallium ND mg/L 0.0010 0.00014 1 09/16/20 18:16 09/21/20 15:38 7440-28-0 Analytical Method: EPA 7470A Preparation Method: EPA 7470A 7470 Mercury Pace Analytical Services - Peachtree Corners, GA Mercury ND mg/L 0.00050 0.000078 1 09/18/20 08:30 09/18/20 14:07 7439-97-6 Analytical Method: SM 2450C-2011 2540C Total Dissolved Solids Pace Analytical Services - Peachtree Corners, GA **Total Dissolved Solids** 60.0 mg/L 10.0 10.0 1 09/16/20 14:22 Analytical Method: EPA 300.0 Rev 2.1 1993 300.0 IC Anions 28 Days Pace Analytical Services - Asheville Chloride 3.5 mg/L 0.60 09/18/20 20:02 16887-00-6 1.0 1 0.050 Fluoride ND mg/L 0.10 1 09/18/20 20:02 16984-48-8 Sulfate ND mg/L 1.0 0.50 1 09/18/20 20:02 14808-79-8



Project: BRANCH BCD NETWORK

Pace Project No.:

lo.: 92495653

Sample: BRGWA-12I	Lab ID:	92495653002	2 Collecte	ed: 09/15/20) 11:13	Received: 09/	/16/20 09:45 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica Pace Ana	l Method: alytical Service:	s - Charlotte	9					
рН	6.01	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytica Pace Ana	l Method: EPA alytical Service	6010D Pre s - Peachtre	paration Met e Corners, C	hod: E	PA 3010A			
Calcium	14.5	mg/L	1.0	0.070	1	09/16/20 15:14	09/17/20 18:21	7440-70-2	
6020 MET ICPMS	Analytica Pace Ana	l Method: EPA alytical Service	6020B Pre s - Peachtre	paration Met e Corners, C	hod: E GA	PA 3005A			
Antimony	0.010	mg/L	0.0030	0.00028	1	09/16/20 18:16	09/21/20 16:01	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/16/20 18:16	09/21/20 16:01	7440-38-2	
Barium	0.059	mg/L	0.010	0.00071	1	09/16/20 18:16	09/21/20 16:01	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/16/20 18:16	09/21/20 16:01	7440-41-7	
Boron	0.0071J	mg/L	0.10	0.0052	1	09/16/20 18:16	09/21/20 16:01	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/16/20 18:16	09/21/20 16:01	7440-43-9	
Chromium	0.00096J	mg/L	0.010	0.00055	1	09/16/20 18:16	09/21/20 16:01	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/16/20 18:16	09/21/20 16:01	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/16/20 18:16	09/21/20 16:01	7439-92-1	
Lithium	0.0037J	mg/L	0.030	0.00081	1	09/16/20 18:16	09/21/20 16:01	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/16/20 18:16	09/21/20 16:01	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/16/20 18:16	09/21/20 16:01	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/16/20 18:16	09/21/20 16:01	7440-28-0	
7470 Mercury	Analytica Pace Ana	l Method: EPA alytical Service	7470A Pre s - Peachtre	paration Met ee Corners, C	hod: E ∋A	PA 7470A			
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:09	7439-97-6	
2540C Total Dissolved Solids	Analytica Pace Ana	I Method: SM 2 alytical Service	2450C-2011 s - Peachtre	e Corners, C	θA				
Total Dissolved Solids	95.0	mg/L	10.0	10.0	1		09/16/20 14:22		
300.0 IC Anions 28 Days	Analytica Pace Ana	l Method: EPA	300.0 Rev 2 s - Asheville	2.1 1993					
Chloride	2.4	ma/L	1.0	0.60	1		09/18/20 20:17	16887-00-6	
Fluoride	0.062.J	ma/L	0.10	0.050	1		09/18/20 20:17	16984-48-8	
Sulfate	1.7	mg/L	1.0	0.50	1		09/18/20 20:17	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: BRGWA-23S	Lab ID:	92495653003	B Collecte	ed: 09/15/20	0 16:10	Received: 09/	16/20 09:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	s - Charlotte	e					
рН	5.72	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytical	Method: FPA	6010D Pre	paration Me	thod: FI	PA 3010A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, (GA				
Calcium	10.7	mg/L	1.0	0.070	1	09/16/20 15:14	09/17/20 18:25	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	thod: Ef	PA 3005A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, C	GA				
Antimony	0.00033J	mg/L	0.0030	0.00028	1	09/16/20 18:16	09/21/20 16:06	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/16/20 18:16	09/21/20 16:06	7440-38-2	
Barium	0.086	mg/L	0.010	0.00071	1	09/16/20 18:16	09/21/20 16:06	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/16/20 18:16	09/21/20 16:06	7440-41-7	
Boron	0.033J	mg/L	0.10	0.0052	1	09/16/20 18:16	09/21/20 16:06	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/16/20 18:16	09/21/20 16:06	7440-43-9	
Chromium	0.0019J	mg/L	0.010	0.00055	1	09/16/20 18:16	09/21/20 16:06	7440-47-3	
Cobalt	0.00076J	mg/L	0.0050	0.00038	1	09/16/20 18:16	09/21/20 16:06	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/16/20 18:16	09/21/20 16:06	7439-92-1	
Lithium	0.011J	mg/L	0.030	0.00081	1	09/16/20 18:16	09/21/20 16:06	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/16/20 18:16	09/21/20 16:06	7439-98-7	
Selenium	0.0028J	mg/L	0.010	0.0016	1	09/16/20 18:16	09/21/20 16:06	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/16/20 18:16	09/21/20 16:06	7440-28-0	
7470 Mercury	Analytical	Method: EPA	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, O	GΑ				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:23	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	s - Peachtre	e Corners, C	ЗA				
Total Dissolved Solids	109	mg/L	10.0	10.0	1		09/16/20 14:23		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	s - Asheville)					
Chloride	3.1	mg/L	1.0	0.60	1		09/23/20 23:18	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/23/20 23:18	16984-48-8	
Sulfate	41.5	ma/L	1.0	0.50	1		09/23/20 23:18	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: BRGWC-25I	Lab ID:	92495653004	Collecte	ed: 09/15/2	0 17:20	Received: 09/	/16/20 09:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	s - Charlotte	9					
рН	6.00	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytical	Method: FPA	6010D Pre	paration Me	thod: FF	PA 3010A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, (GA				
Calcium	40.1	mg/L	1.0	0.070	1	09/16/20 15:14	09/17/20 18:29	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Me	thod: EF	PA 3005A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, (GA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/16/20 18:16	09/21/20 16:12	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/16/20 18:16	09/21/20 16:12	7440-38-2	
Barium	0.024	mg/L	0.010	0.00071	1	09/16/20 18:16	09/21/20 16:12	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/16/20 18:16	09/21/20 16:12	7440-41-7	
Boron	1.2	mg/L	0.10	0.0052	1	09/16/20 18:16	09/21/20 16:12	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/16/20 18:16	09/21/20 16:12	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/16/20 18:16	09/21/20 16:12	7440-47-3	
Cobalt	0.0035J	mg/L	0.0050	0.00038	1	09/16/20 18:16	09/21/20 16:12	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/16/20 18:16	09/21/20 16:12	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/16/20 18:16	09/21/20 16:12	7439-93-2	
Molybdenum	0.00080J	mg/L	0.010	0.00069	1	09/16/20 18:16	09/21/20 16:12	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/16/20 18:16	09/21/20 16:12	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/16/20 18:16	09/21/20 16:12	7440-28-0	
7470 Mercury	Analytical	Method: EPA	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, (GΑ				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:26	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	s - Peachtre	e Corners, (GA				
Total Dissolved Solids	272	mg/L	10.0	10.0	1		09/16/20 14:23		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
-	Pace Ana	lytical Services	s - Asheville)					
Chloride	4.9	mg/L	1.0	0.60	1		09/18/20 20:32	16887-00-6	
Fluoride	0.15	mg/L	0.10	0.050	1		09/18/20 20:32	16984-48-8	
Sulfate	126	ma/L	3.0	1.5	3		09/19/20 08:42	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: BRGWC-29I	Lab ID:	92495653005	Collecte	ed: 09/15/20) 17:41	Received: 09/	16/20 09:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	9					
рН	4.53	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Met	thod: El	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЗA				
Calcium	55.1	mg/L	1.0	0.070	1	09/16/20 15:14	09/17/20 18:34	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: Ef	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЗA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/16/20 18:16	09/21/20 16:18	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/16/20 18:16	09/21/20 16:18	7440-38-2	
Barium	0.017	mg/L	0.010	0.00071	1	09/16/20 18:16	09/21/20 16:18	7440-39-3	
Beryllium	0.00071J	mg/L	0.0030	0.000046	1	09/16/20 18:16	09/21/20 16:18	7440-41-7	
Boron	1.1	mg/L	0.10	0.0052	1	09/16/20 18:16	09/21/20 16:18	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/16/20 18:16	09/21/20 16:18	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/16/20 18:16	09/21/20 16:18	7440-47-3	
Cobalt	0.0064	mg/L	0.0050	0.00038	1	09/16/20 18:16	09/21/20 16:18	7440-48-4	
Lead	0.00029J	mg/L	0.0050	0.000036	1	09/16/20 18:16	09/21/20 16:18	7439-92-1	
Lithium	0.0030J	mg/L	0.030	0.00081	1	09/16/20 18:16	09/21/20 16:18	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/16/20 18:16	09/21/20 16:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/16/20 18:16	09/21/20 16:18	7782-49-2	
Thallium	0.00016J	mg/L	0.0010	0.00014	1	09/16/20 18:16	09/21/20 16:18	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЗA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:28	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, C	GΑ				
Total Dissolved Solids	281	mg/L	10.0	10.0	1		09/16/20 14:23		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville)					
Chloride	5.5	mg/L	1.0	0.60	1		09/18/20 20:46	16887-00-6	M1
Fluoride	0.057J	mg/L	0.10	0.050	1		09/18/20 20:46	16984-48-8	M1
Sulfate	241	ma/L	5.0	2.5	5		09/19/20 08:56	14808-79-8	



Project: BRANCH BCD NETWORK

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Pace Project No.: 92495653

Sample: BRGWC-32S	Lab ID:	92495653006	6 Collecte	ed: 09/16/2	0 09:16	Received: 09/	/17/20 10:00 Ma	atrix: Water	
_			Report						
Parameters	Results	Units	Limit	MDL		Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica	I Method:							
	Pace Ana	alytical Services	s - Charlotte	9					
рН	5.79	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytica	I Method: EPA	6010D Pre	paration Me	thod: E	PA 3010A			
	Pace Ana	alytical Services	s - Peachtre	e Corners, (GA				
Calcium	43.1	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 20:40	7440-70-2	M1
6020 MET ICPMS	Analytica	I Method: EPA	6020B Pre	paration Me	thod: E	PA 3005A			
	Pace Ana	alytical Services	s - Peachtre	e Corners, (ЗA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:02	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:02	7440-38-2	
Barium	0.024	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:02	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:02	7440-41-7	
Boron	1.4	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:02	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:02	7440-43-9	
Chromium	0.0025J	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:02	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:02	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:02	7439-92-1	
Lithium	0.0022J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:02	7439-98-7	
Selenium	0.12	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:02	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:02	7440-28-0	
7470 Mercury	Analytica	I Method: EPA	7470A Pre	paration Met	thod: El	PA 7470A			
	Pace Ana	alytical Services	s - Peachtre	, ee Corners, (GA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:30	7439-97-6	
2540C Total Dissolved Solids	Analytica	I Method: SM 2	2450C-2011						
	Pace Ana	alytical Services	s - Peachtre	e Corners, (GA				
Total Dissolved Solids	428	mg/L	10.0	10.0	1		09/17/20 15:20		
300.0 IC Anions 28 Days	Analytica	I Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	alytical Services	s - Asheville)					
Chloride	5.6	mg/L	1.0	0.60	1		09/19/20 00:00	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/20 00:00	16984-48-8	
Sulfate	255	ma/l	5.0	2.5	5		09/19/20 09:55	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: BRGWC-30I	Lab ID:	92495653007	Collecte	ed: 09/16/20	0 10:16	Received: 09/	/17/20 10:00 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	9					
рН	6.29	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytical	Method: EPA	6010D Pre	paration Me	thod: El	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	GΑ				
Calcium	106	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 20:57	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	thod: Ef	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	GA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:08	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:08	7440-38-2	
Barium	0.022	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:08	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:08	7440-41-7	
Boron	1.7	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:08	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:08	7440-43-9	
Chromium	0.014	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:08	7440-47-3	
Cobalt	0.00080J	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:08	7440-48-4	
Lead	0.00011J	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:08	7439-92-1	
Lithium	0.016J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:08	7439-93-2	
Molybdenum	0.0022J	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:08	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:08	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:08	7440-28-0	
7470 Mercury	Analytical	Method: EPA	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	GΑ				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:33	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, C	GΑ				
Total Dissolved Solids	634	mg/L	10.0	10.0	1		09/17/20 15:20		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
-	Pace Ana	lytical Services	- Asheville	•					
Chloride	4.4	mg/L	1.0	0.60	1		09/19/20 15:53	16887-00-6	
Fluoride	0.13	mg/L	0.10	0.050	1		09/19/20 15:53	16984-48-8	
Sulfate	334	mg/L	7.0	3.5	7		09/20/20 02:34	14808-79-8	M6



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: BRGWC-47	Lab ID:	92495653008	Collecte	ed: 09/16/20) 11:39	Received: 09/	17/20 10:00 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	e					
рН	5.76	Std. Units			1		09/22/20 12:29		
	Analytical	Method: EPA 6	010D Pro	naration Me	hod E	24 30104			
	Pace Ana	lytical Services	- Peachtre	e Corners (34 24	10010/1			
	T doc And	"	T Cachine			/ _ /			
Calcium	309	mg/L	10.0	0.70	10	09/22/20 14:15	09/23/20 12:15	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	ee Corners, (GΑ				
Antimony	0.00035J	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:13	7440-36-0	В
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:13	7440-38-2	
Barium	0.028	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:13	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:13	7440-41-7	
Boron	0.47	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:13	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:13	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:13	7440-47-3	
Cobalt	0.00053J	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:13	7440-48-4	
Lead	0.000066J	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:13	7439-92-1	
Lithium	0.039	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:13	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:13	7439-98-7	
Selenium	0.0020J	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:13	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЭA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:35	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	βA				
Total Dissolved Solids	2090	mg/L	20.0	20.0	1		09/21/20 16:27		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
-	Pace Ana	lytical Services	- Asheville	9					
Chloride	4.1	mg/L	1.0	0.60	1		09/19/20 16:38	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/20 16:38	16984-48-8	
Sulfate	1360	mg/L	27.0	13.5	27		09/20/20 03:48	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: BRGWC-45	Lab ID:	92495653009	Collect	ed: 09/16/20	0 13:07	Received: 09/	/17/20 10:00 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	s - Charlotte	e					
рН	5.27	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytical	Method: FPA	6010D Pre	paration Me	thod: Fl	PA 3010A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, 0	GA				
Calcium	39.7	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:06	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	thod: El	PA 3005A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, 0	GΑ				
Antimony	0.0012J	ma/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:19	7440-36-0	В
Arsenic	ND	ma/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:19	7440-38-2	
Barium	0.085	ma/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:19	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:19	7440-41-7	
Boron	0.028J	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:19	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:19	7440-43-9	
Chromium	0.0014J	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:19	7440-47-3	
Cobalt	0.0049J	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:19	7440-48-4	
Lead	0.000053J	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:19	7439-92-1	
Lithium	0.0036J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:19	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:19	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:19	7440-28-0	
7470 Mercury	Analytical	Method: EPA	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	s - Peachtre	ee Corners, 0	GΑ				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:37	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	2450C-2011						
	Pace Ana	lytical Services	s - Peachtre	ee Corners, O	GΑ				
Total Dissolved Solids	275	mg/L	10.0	10.0	1		09/17/20 15:20		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
-	Pace Ana	lytical Services	s - Asheville	9					
Chloride	54.9	mg/L	1.0	0.60	1		09/19/20 16:53	16887-00-6	
Fluoride	0.052J	mg/L	0.10	0.050	1		09/19/20 16:53	16984-48-8	
Sulfate	103	ma/L	2.0	1.0	2		09/20/20 04:03	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.:

o.: 92495653

Sample: BRGWC-27I	Lab ID:	9249565301	0 Collecte	ed: 09/16/20) 14:35	6 Received: 09	/17/20 10:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica Pace Ana	l Method: alytical Service	s - Charlotte	9					
рН	5.81	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytica Pace Ana	l Method: EPA alytical Service	6010D Pre s - Peachtre	paration Met e Corners, G	hod: E	PA 3010A			
Calcium	62.5	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:10	7440-70-2	
6020 MET ICPMS	Analytica Pace Ana	l Method: EPA alytical Service	6020B Pre s - Peachtre	paration Met e Corners, G	hod: E GA	PA 3005A			
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:25	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:25	7440-38-2	
Barium	0.016	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:25	7440-39-3	
Beryllium	0.00011J	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:25	7440-41-7	
Boron	1.2	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:25	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:25	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:25	7440-47-3	
Cobalt	0.0080	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:25	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:25	7439-92-1	
Lithium	0.0014J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:25	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:25	7439-98-7	
Selenium	0.0042J	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:25	7440-28-0	
7470 Mercury	Analytica Pace Ana	l Method: EPA alytical Service	7470A Pre s - Peachtre	paration Met ee Corners, G	hod: E ∋A	PA 7470A			
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:40	7439-97-6	
2540C Total Dissolved Solids	Analytica Pace Ana	l Method: SM 2 alytical Service	2450C-2011 s - Peachtre	e Corners, G	θA				
Total Dissolved Solids	301	mg/L	10.0	10.0	1		09/17/20 15:20		
300.0 IC Anions 28 Days	Analytica Pace Ana	l Method: EPA alytical Service	300.0 Rev 2 s - Asheville	2.1 1993 9					
Chloride	5.4	ma/L	1.0	0.60	1		09/19/20 17:08	16887-00-6	
Fluoride	0.15	ma/L	0.10	0.050	1		09/19/20 17:08	16984-48-8	
Sulfate	190	ma/L	4.0	2.0	4		09/20/20 04:17	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: DUP-1	Lab ID:	92495653011	Collecte	ed: 09/16/20	00:00	Received: 09/	17/20 10:00 Ma	atrix: Water	
Deremetere	Deculto	Linita	Report	MDI		Droporod	Analyzad		Qual
Parameters	Results		Limit			Prepared	Analyzed	CAS NO.	Quai
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Me	thod: EF	A 3010A			
	Pace Anal	ytical Services	- Peachtre	e Corners, 0	GΑ				
Calcium	108	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:23	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prej	paration Met	thod: EP	A 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, 0	GΑ				
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:31	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:31	7440-38-2	
Barium	0.022	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:31	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:31	7440-41-7	
Boron	1.7	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:31	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:31	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:31	7440-47-3	
Cobalt	0.00065J	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:31	7439-92-1	
Lithium	0.016J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:31	7439-93-2	
Molybdenum	0.00076J	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:31	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:31	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Prep	paration Met	hod: EP	A 7470A			
-	Pace Anal	ytical Services	- Peachtre	e Corners, C	GA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:47	7439-97-6	
2540C Total Dissolved Solids	Analytical Pace Anal	Method: SM 24	150C-2011 - Peachtre	e Corners (7 A				
Total Dissolved Solids	622		10.0	10.0	1		09/18/20 09:58		
	022	iiig/L	10.0	10.0			03/10/20 03:30		
300.0 IC Anions 28 Days	Analytical Pace Anal	Method: EPA 3 ytical Services	00.0 Rev 2 - Asheville	2.1 1993					
Chloride	4.4	mg/L	1.0	0.60	1		09/19/20 17:23	16887-00-6	
Fluoride	0.13	mg/L	0.10	0.050	1		09/19/20 17:23	16984-48-8	
Sulfate	343	mg/L	7.0	3.5	7		09/20/20 04:32	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: EB-1	Lab ID:	92495653012	Collecte	ed: 09/16/2	0 15:11	Received: 09/	17/20 10:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Me	thod: EF	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Calcium	ND	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:27	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Me	thod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (ЗA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:36	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:36	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:36	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:36	7440-41-7	
Boron	0.0066J	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:36	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:36	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:36	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:36	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:36	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:36	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:36	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:36	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:36	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	thod: EF	A 7470A			
·	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:49	7439-97-6	
2540C Total Dissolved Solids	Analytical Pace Ana	Method: SM 24 lytical Services	150C-2011 - Peachtre	e Corners, (GA				
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		09/18/20 09:58		
300.0 IC Anions 28 Days	Analytical Pace Ana	Method: EPA 3 lytical Services	00.0 Rev 2 - Asheville	2.1 1993					
Chloride	ND	mg/L	1.0	0.60	1		09/19/20 17:37	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/20 17:37	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/19/20 17:37	14808-79-8	
		Ŭ							



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: BRGWC-50	Lab ID:	92495653013	Collecte	ed: 09/17/20	0 10:24	Received: 09/	(18/20 10:15 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	9					
рН	4.41	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Me	thod: EF	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	ЗA				
Calcium	206	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 22:02	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	GΑ				
Antimony	0.00041J	mg/L	0.0030	0.00028	1	09/23/20 13:53	09/23/20 20:05	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/23/20 13:53	09/23/20 20:05	7440-38-2	
Barium	0.020	mg/L	0.010	0.00071	1	09/23/20 13:53	09/23/20 20:05	7440-39-3	
Beryllium	0.0065	mg/L	0.0030	0.000046	1	09/23/20 13:53	09/24/20 17:33	7440-41-7	
Boron	0.36	mg/L	0.10	0.0052	1	09/23/20 13:53	09/24/20 17:33	7440-42-8	
Cadmium	0.021	mg/L	0.0025	0.00012	1	09/23/20 13:53	09/23/20 20:05	7440-43-9	
Chromium	0.00098J	mg/L	0.010	0.00055	1	09/23/20 13:53	09/23/20 20:05	7440-47-3	
Cobalt	1.4	mg/L	0.050	0.0038	10	09/23/20 13:53	09/24/20 17:07	7440-48-4	
Lead	0.00015J	mg/L	0.0050	0.000036	1	09/23/20 13:53	09/23/20 20:05	7439-92-1	
Lithium	0.052	mg/L	0.030	0.00081	1	09/23/20 13:53	09/24/20 17:33	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/23/20 13:53	09/23/20 20:05	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/23/20 13:53	09/23/20 20:05	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/23/20 13:53	09/23/20 20:05	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ЗA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/22/20 11:15	09/23/20 09:25	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, C	ΒA				
Total Dissolved Solids	1910	mg/L	50.0	50.0	1		09/24/20 11:49		D6,H1
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville	•					
Chloride	20.1	mg/L	1.0	0.60	1		09/22/20 01:20	16887-00-6	
Fluoride	0.46	mg/L	0.10	0.050	1		09/22/20 01:20	16984-48-8	
Sulfate	1330	mg/L	26.0	13.0	26		09/22/20 14:58	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: BRGWC-52I	Lab ID:	9249565301	4 Collecte	ed: 09/17/20	0 10:07	Received: 09/	/18/20 10:15 Ma	atrix: Water	
Parameters	Results	Linits	Report	MDI	DF	Prenared	Analyzed	CAS No	Qual
Field Data	Analytica	I Method:							
	Pace Ana	alytical Service	s - Charlotte	9					
рН	6.12	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytica	l Method: EPA	6010D Pre	paration Met	thod: E	PA 3010A			
	Pace Ana	alytical Service	s - Peachtre	e Corners, C	ΞA				
Calcium	35.4	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 22:15	7440-70-2	
6020 MET ICPMS	Analytica	l Method: FPA	6020B Pre	paration Met	hod: El	PA 3005A			
	Pace Ana	alvtical Service	s - Peachtre	e Corners. (GA				
Antimony		ma/l	0.0030	0 00028	1	00/23/20 12.52	00/23/20 20.40	7440-26 0	
Arconic		mg/L	0.0030	0.00020	1	09/23/20 13:53	09/23/20 20.10	7440-30-0	
Barium	0.020	mg/L	0.0050	0.00078	1	09/23/20 13:53	09/23/20 20:10	7440-30-2	
Bendlium		mg/L	0.010	0.00011	1	09/23/20 13:53	09/23/20 20.10	7440-39-3	
Boron	10	mg/L	0.0030	0.000040	1	09/23/20 13:53	09/24/20 14:08	7440-41-7	
Cadmium	1.3 ND	mg/L	0.10	0.0032	1	09/23/20 13:53	09/23/20 20:10	7440-42-0	
Chromium		mg/L	0.0025	0.00012	1	09/23/20 13:53	09/23/20 20:10	7440-43-9	
Cobalt	0.000461	mg/L	0.010	0.00033	1	09/23/20 13:53	09/23/20 20:10	7440-47-3	
Lood	0.000403	mg/∟	0.0050	0.00038	1	09/23/20 13.55	09/23/20 20.10	7440-40-4	
Leau	0.0059.1	mg/L	0.0050	0.000036	1	09/23/20 13:53	09/23/20 20.10	7439-92-1	
Melybdonum	0.0056J	mg/L	0.030	0.00061	1	09/23/20 13:53	09/24/20 14.00	7439-93-2	
Solonium		mg/∟	0.010	0.00009	1	09/23/20 13.55	09/23/20 20.10	7439-90-7	
Thellium		mg/L	0.010	0.0016	1	09/23/20 13:53	09/23/20 20.10	7740 29 0	
manum	ND	mg/∟	0.0010	0.00014	I	09/23/20 13.33	09/23/20 20.10	7440-20-0	
7470 Mercury	Analytica	I Method: EPA	7470A Pre	paration Met	hod: El	PA 7470A			
	Pace Ana	alytical Service	s - Peachtre	e Corners, C	GΑ				
Mercury	ND	mg/L	0.00050	0.000078	1	09/22/20 11:15	09/23/20 09:27	7439-97-6	
2540C Total Dissolved Solids	Analytica	I Method: SM 2	2450C-2011						
	Pace Ana	alytical Service	s - Peachtre	e Corners, C	ΞA				
Total Dissolved Solids	329	mg/L	10.0	10.0	1		09/21/20 16:30		
300.0 IC Anions 28 Days	Analytica	l Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	alytical Service	s - Asheville	• • • • •					
Chloride	6.3	mg/L	1.0	0.60	1		09/22/20 02:04	16887-00-6	
Fluoride	0.074J	mg/L	0.10	0.050	1		09/22/20 02:04	16984-48-8	
Sulfate	165	ma/L	4.0	2.0	4		09/22/20 15:13	14808-79-8	



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Sample: FB-2	Lab ID: 9249565301		Collected: 09/17/20 10:20		Received: 09/18/20 10:15 Matrix: Water		atrix: Water		
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Me	thod: EF	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	ЗA				
Calcium	ND	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 22:20	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Me	thod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/23/20 13:53	09/23/20 20:16	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/23/20 13:53	09/23/20 20:16	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	09/23/20 13:53	09/23/20 20:16	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/23/20 13:53	09/24/20 14:14	7440-41-7	
Boron	0.0097J	mg/L	0.10	0.0052	1	09/23/20 13:53	09/24/20 14:14	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/23/20 13:53	09/23/20 20:16	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/23/20 13:53	09/23/20 20:16	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/23/20 13:53	09/23/20 20:16	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/23/20 13:53	09/23/20 20:16	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/23/20 13:53	09/24/20 14:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/23/20 13:53	09/23/20 20:16	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/23/20 13:53	09/23/20 20:16	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/23/20 13:53	09/23/20 20:16	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/22/20 11:15	09/23/20 09:30	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011								
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		09/21/20 16:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
	Pace Ana	lytical Services	- Asheville	!					
Chloride	ND	mg/L	1.0	0.60	1		09/22/20 02:19	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 02:19	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/22/20 02:19	14808-79-8	
		0							


Pace Project No.: 92495653 QC Batch: 566871 Analysis Method: EPA 6010D QC Batch Method: EPA 3010A Analysis Description: 6010D ATL Laboratory: Pace Analytical Services - Peachtree Corners, GA Associated Lab Samples: 92495653002, 92495653003, 92495653004, 92495653005 METHOD BLANK: 3003868 Matrix: Water Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005 METHOD BLANK: 3003868 Matrix: Water Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653005 Blank Reporting Result Limit MDL Analyzed Qualifiers Calcium mg/L ND 1.0 0.070 09/17/20 17:42 Qualifiers LABORATORY CONTROL SAMPLE: 3003869 Spike LCS % Rec Limits Qualifiers Calcium mg/L 1 0.93J 93 80-120 Parameter	Pace Project No .:	02405652												
QC Batch: 566871 Analysis Method: EPA 6010D QC Batch: EPA 3010A Analysis Description: 6010D ATL Laboratory: Pace Analytical Services - Peachtree Corners, GA Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005 METHOD BLANK: 3003868 Matrix: Water Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005 Blank Reporting Parameter Units Result Limit MDL Analyzed Qualifiers Calcium mg/L ND 1.0 0.070 09/17/20 17:42		92490000												
QC Batch Method: EPA 3010A Analysis Description: 6010D ATL Laboratory: Pace Analytical Services - Peachtree Corners, GA Associated Lab Samples: 92495653002, 92495653003, 92495653004, 92495653005 METHOD BLANK: 3003868 Matrix: Associated Lab Samples: 92495653002, 92495653003, 92495653004, 92495653005 Blank Reporting Parameter Units Result Limit MDL Analyzed Qualifiers Calcium mg/L ND 1.0 0.070 09/17/20 17:42	QC Batch:	566871		Anal	ysis Metho	od:	EPA	A 6010D)					
Laboratory: Pace Analytical Services - Peachtree Corners, GAAssociated Lab Samples:92495653001, 92495653002, 92495653003, 92495653004, 92495653005METHOD BLANK:3003868Matrix:WaterAssociated Lab Samples:92495653001, 92495653002, 92495653003, 92495653004, 92495653005BlankReportingParameterUnitsMg/LND1.00.07009/17/2017:42LABORATORY CONTROL SAMPLE:3003869SpikeLCSLCS% RecParameterUnitsOracionmg/L10.93J9380-120	QC Batch Method:	EPA 3010A		Anal	ysis Descr	iption:	601	0D ATL						
Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005 METHOD BLANK: 3003868 Matrix: Water Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005 Matrix: Water Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005 Matrix: MDL Analyzed Qualifiers Calcium mg/L ND 1.0 0.070 09/17/20 17:42 Qualifiers LABORATORY CONTROL SAMPLE: 3003869 Spike LCS LCS % Rec Qualifiers Calcium mg/L 1 0.93J 93 80-120 Qualifiers				Labo	oratory:		Pac	e Analy	tical Serv	vices - Peach	ntree Corne	rs, GA		
METHOD BLANK: 3003868 Matrix: Water Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005 Blank Reporting Parameter Units Result Limit MDL Analyzed Qualifiers Calcium mg/L ND 1.0 0.070 09/17/20 17:42 Qualifiers LABORATORY CONTROL SAMPLE: 3003869 Spike LCS LCS % Rec Qualifiers Calcium mg/L 1 0.93J 93 80-120 Qualifiers	Associated Lab Sam	ples: 924956530	001, 9249565300	2, 924956	53003, 924	49565300	4, 924	1956530	05					
Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005 Parameter Units Result Limit MDL Analyzed Qualifiers Calcium mg/L ND 1.0 0.070 09/17/20 17:42 Qualifiers LABORATORY CONTROL SAMPLE: 3003869 Spike LCS LCS % Rec Qualifiers Calcium mg/L 1 0.93J 93 80-120 Qualifiers	METHOD BLANK:	3003868			Matrix: V	Vater								
ParameterUnitsBlank ResultReporting LimitMDLAnalyzedQualifiersCalciummg/LND1.00.07009/17/20 17:42QualifiersLABORATORY CONTROL SAMPLE:3003869ParameterUnitsConc.Result% Rec KecQualifiersCalciummg/L10.93J9380-120	Associated Lab Sam	ples: 924956530	01, 9249565300	2, 924956	53003, 924	49565300	4, 924	1956530	05					
ParameterUnitsResultLimitMDLAnalyzedQualifiersCalciummg/LND1.00.07009/17/20 17:42Image: Constrained by the second secon				Bla	nk	Reporting	g							
Calciummg/LND1.00.07009/17/20 17:42LABORATORY CONTROL SAMPLE:3003869ParameterUnitsSpikeLCSLCS% RecCalciummg/L10.93J9380-120	Param	neter	Units	Res	ult	Limit		MD	L	Analyzec	d Qi	ualifiers		
LABORATORY CONTROL SAMPLE:3003869ParameterUnitsConc.LCSLCS% RecCalciummg/L10.93J9380-120	Calcium		mg/L		ND		1.0		0.070	09/17/20 17	:42			
LABORATORY CONTROL SAMPLE:3003869ParameterUnitsConc.LCSLCS% RecCalciummg/L10.93J9380-120														
ParameterUnitsSpike Conc.LCS Result% Rec % RecQualifiersCalciummg/L10.93J9380-120	LABORATORY CON	ITROL SAMPLE:	3003869											
ParameterUnitsConc.Result% RecLimitsQualifiersCalciummg/L10.93J9380-120				Spike	L	CS	L	CS	%	Rec				
Calcium mg/L 1 0.93J 93 80-120	Param	neter	Units	Conc.	Re	sult	%	Rec	Lii	mits	Qualifiers			
	Calcium		mg/L		1	0.93J		9	3	80-120				
MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3003870 3003871	MATRIX SPIKE & M	ATRIX SPIKE DUP	LICATE: 3003	870		30038	371							
MS MSD				MS	MSD									
92495653001 Spike Spike MS MSD MS MSD % Rec. Max			92495653001	Spike	Spike	MS	ľ	MSD	MS	MSD	% Rec		Max	
	Parameter	Units	Result	Conc.	Conc.	Result	R	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qua	Calcium	mg/L	5.7	1	1	6	.6	6.6	8	89 87	7 75-125	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRAN	CH BCD NE	TWORK											
Pace Project No.:	924956	653												
QC Batch:	5681	00		Ana	alysis Me	thod:	EPA	A 6010D						
QC Batch Method:	EPA :	3010A		Ana	alysis De	scription:	601	IOD ATL						
				Lab	oratory:		Pad	ce Analyt	ical Ser	vices - Peach	ntree Corne	ers, GA		
Associated Lab Sa	mples:	924956530 924956530	006, 9249565300 013, 9249565301	924956 4, 924956	653008, 9 653015	9249565300	9, 924	4956530	10, 9249	95653011, 92	2495653012	2,		
METHOD BLANK:	301023	30			Matrix	Water								
Associated Lab Sa	mples:	924956530 924956530)06, 9249565300)13, 9249565301	924956 4, 924956	653008, 9 653015	9249565300	9, 924	4956530	10, 9249	95653011, 92	2495653012	2,		
				Bla	ank	Reporting	g							
Para	meter		Units	Re	sult	Limit		MDI	-	Analyzed	l Q	ualifiers	;	
Calcium			mg/L		ND		1.0		0.070	09/22/20 20	:31			
LABORATORY CO	NTROL	SAMPLE:	3010231											
				Spike	е	LCS	L	LCS	%	Rec				
Para	meter		Units	Conc).	Result	%	Rec	L	imits	Qualifiers			
Calcium			mg/L		1	0.92J		92	2	80-120				
MATRIX SPIKE & M	MATRIX	SPIKE DUP	LICATE: 3010	232		30102	233							
				MS	MSD		-							
Doromoto		Linita	92495653006	Spike	Spike	e MS		MSD	MS Ø/ Boo	MSD	% Rec	חחם	Max	Qual
Paramete	1			Conc.			۲ — —	kesult	% Rec	; % Rec		RPD	KPD	Qual
Calcium		mg/L	43.1	1		1 44	.0	43.4	1	83 22	2 75-125	1	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

QC Batch:	566966		Analysis Met	thod:	EPA 6020B	
QC Batch Method:	EPA 3005A		Analysis Des	scription:	6020 MET	
			Laboratory:		Pace Analytical Services - Peachtree Corners, GA	
Associated Lab Com	02405652004	02405652002	02405652002 0	0405650004	00405650005	

Matrix: Water

Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005

METHOD BLANK: 3004543

Associated Lab Samples: 92495653001, 92495653002, 92495653003, 92495653004, 92495653005

		Blank	Reporting			
Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	09/21/20 15:26	
Arsenic	mg/L	ND	0.0050	0.00078	09/21/20 15:26	
Barium	mg/L	ND	0.010	0.00071	09/21/20 15:26	
Beryllium	mg/L	ND	0.0030	0.000046	09/21/20 15:26	
Boron	mg/L	ND	0.10	0.0052	09/21/20 15:26	
Cadmium	mg/L	ND	0.0025	0.00012	09/21/20 15:26	
Chromium	mg/L	ND	0.010	0.00055	09/21/20 15:26	
Cobalt	mg/L	ND	0.0050	0.00038	09/21/20 15:26	
Lead	mg/L	ND	0.0050	0.000036	09/21/20 15:26	
Lithium	mg/L	ND	0.030	0.00081	09/21/20 15:26	
Molybdenum	mg/L	ND	0.010	0.00069	09/21/20 15:26	
Selenium	mg/L	ND	0.010	0.0016	09/21/20 15:26	
Thallium	mg/L	ND	0.0010	0.00014	09/21/20 15:26	

LABORATORY CONTROL SAMPLE: 3004544

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.099	99	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.10	105	80-120	
Boron	mg/L	1	1.1	109	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.10	105	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.11	107	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPI	IKE DUPL	ICATE: 3004	545		3004546							
		92495653001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Мах	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony Arsenic	mg/L mg/L	ND ND	0.1 0.1	0.1 0.1	0.10 0.10	0.097 0.096	100 101	97 96	75-125 75-125	2 5	20 20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

MATRIX SPIKE & MATRIX SPI	E DUPI	LICATE: 3004	545 MS	MSD	3004546							
		92495653001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	mg/L	0.058	0.1	0.1	0.16	0.15	99	95	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.096	102	96	75-125	6	20	
Boron	mg/L	ND	1	1	1.0	0.98	103	97	75-125	5	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.096	100	96	75-125	4	20	
Chromium	mg/L	0.0025J	0.1	0.1	0.11	0.099	103	96	75-125	7	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.097	100	97	75-125	2	20	
Lead	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	3	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	104	100	75-125	4	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.097	100	97	75-125	3	20	
Selenium	mg/L	ND	0.1	0.1	0.098	0.10	98	99	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.094	97	94	75-125	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

QC Batch:	567397		Analysis Meth	iod: EPA	EPA 6020B						
QC Batch Method:	EPA 3005A		Analysis Desc	ription: 602	0 MET						
			Laboratory:	Pac	e Analytical Sei	vices - Peachtree	Corners, GA				
Associated Lab San	nples: 92495	653006, 924956530	07, 92495653008, 92	2495653009, 924	95653010, 924	95653011, 924956	53012				
METHOD BLANK:	3006748		Matrix:	Water							
Associated Lab San	nples: 92495	653006, 924956530	07, 92495653008, 92	495653009, 924	95653010, 924	95653011, 924956	53012				
			Blank	Reporting							
Paran	neter	Units	Result	Limit	MDL	Analyzed	Qualifiers				
Antimony		mg/L		0.0030	0.00028	09/22/20 15:42					
Arsenic		ma/l	ND	0.0050	0 00078	09/22/20 15:42					

Arsenic	mg/L	ND	0.0050	0.00078	09/22/20 15:42	
Barium	mg/L	ND	0.010	0.00071	09/22/20 15:42	
Beryllium	mg/L	ND	0.0030	0.000046	09/22/20 15:42	
Boron	mg/L	ND	0.10	0.0052	09/22/20 15:42	
Cadmium	mg/L	ND	0.0025	0.00012	09/22/20 15:42	
Chromium	mg/L	ND	0.010	0.00055	09/22/20 15:42	
Cobalt	mg/L	ND	0.0050	0.00038	09/22/20 15:42	
Lead	mg/L	ND	0.0050	0.000036	09/22/20 15:42	
Lithium	mg/L	ND	0.030	0.00081	09/22/20 15:42	
Molybdenum	mg/L	ND	0.010	0.00069	09/22/20 15:42	
Selenium	mg/L	ND	0.010	0.0016	09/22/20 15:42	
Thallium	mg/L	ND	0.0010	0.00014	09/22/20 15:42	

LABORATORY CONTROL SAMPLE: 3006749

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.11	106	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.11	106	80-120	
Boron	mg/L	1	1.1	112	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Chromium	mg/L	0.1	0.10	103	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.10	105	80-120	
Molybdenum	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.10	101	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SP	IKE DUPL	ICATE: 3006	750		3006751							
		92495870002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony Arsenic	mg/L mg/L	ND ND	0.1 0.1	0.1 0.1	0.10 0.098	0.11 0.098	104 98	106 98	75-125 75-125	2 0	20 20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

MATRIX SPIKE & MATRIX SPIK	E DUPI	LICATE: 3006	750 MS	MSD	3006751							
		92495870002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	mg/L	0.019	0.1	0.1	0.12	0.12	97	99	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	101	101	75-125	0	20	
Boron	mg/L	0.0053J	1	1	1.0	1.0	100	101	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.098	0.096	98	96	75-125	1	20	
Chromium	mg/L	0.00086J	0.1	0.1	0.10	0.10	103	104	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.096	0.096	95	96	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

QC Batch:	568417	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samp	bles: 92495653013, 92495653014, 92	495653015	

METHOD BLANK: 30116	04	Matrix:	Water			
Associated Lab Samples:	92495653013, 92495653014, 92	2495653015				
		Blank	Reporting			
Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	09/23/20 18:33	
Arsenic	mg/L	ND	0.0050	0.00078	09/23/20 18:33	
Barium	mg/L	ND	0.010	0.00071	09/23/20 18:33	
Beryllium	mg/L	ND	0.0030	0.000046	09/23/20 18:33	
Boron	mg/L	ND	0.10	0.0052	09/23/20 18:33	
Cadmium	mg/L	ND	0.0025	0.00012	09/23/20 18:33	
Chromium	mg/L	ND	0.010	0.00055	09/23/20 18:33	
Cobalt	mg/L	ND	0.0050	0.00038	09/23/20 18:33	
Lead	mg/L	ND	0.0050	0.000036	09/23/20 18:33	
Lithium	mg/L	ND	0.030	0.00081	09/23/20 18:33	
Molybdenum	mg/L	ND	0.010	0.00069	09/23/20 18:33	
Selenium	mg/L	ND	0.010	0.0016	09/23/20 18:33	
Thallium	mg/L	ND	0.0010	0.00014	09/23/20 18:33	

LABORATORY CONTROL SAMPLE: 3011605

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.10	105	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.10	102	80-120	
Boron	mg/L	1	1.0	104	80-120	
Cadmium	mg/L	0.1	0.10	101	80-120	
Chromium	mg/L	0.1	0.10	105	80-120	
Cobalt	mg/L	0.1	0.10	105	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.11	106	80-120	
Molybdenum	mg/L	0.1	0.10	103	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SP	IKE DUPL	ICATE: 3011	606		3011607							
		92495876001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony Arsenic	mg/L mg/L	ND ND	0.1 0.1	0.1 0.1	0.10 0.097	0.099 0.095	101 97	99 95	75-125 75-125	2	20 20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

MATRIX SPIKE & MATRIX SPIK	E DUPI	LICATE: 30110	606 MS	MSD	3011607							
		92495876001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	mg/L	0.030	0.1	0.1	0.13	0.13	96	95	75-125	1	20	
Beryllium	mg/L	0.00012J	0.1	0.1	0.098	0.095	98	95	75-125	2	20	
Boron	mg/L	0.0065J	1	1	1.0	0.98	100	97	75-125	3	20	
Cadmium	mg/L	0.00016J	0.1	0.1	0.10	0.098	100	98	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	103	103	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	101	101	75-125	1	20	
Lead	mg/L	0.00065J	0.1	0.1	0.098	0.099	97	99	75-125	2	20	
Lithium	mg/L	0.0014J	0.1	0.1	0.10	0.10	101	100	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.097	0.096	96	95	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANC	CH BCD NE	TWORK										
Pace Project No.:	924956	53											
QC Batch:	56737	75		Analy	/sis Meth	od:	EPA 7470A	A					
QC Batch Method:	EPA 7	470A		Analy	/sis Desc	ription:	7470 Merc	ury					
				Labo	ratory:		Pace Analy	/tical Ser	vices - Peach	tree Corne	rs, GA		
Associated Lab Sar	nples:	924956530 924956530	001, 92495653002 008, 92495653009	2, 9249565 9, 9249565	3003, 92 3010, 92	495653004, 495653011,	924956530 924956530	005, 9249 012	95653006, 92 [,]	495653007	7,		
METHOD BLANK:	300661	5			Matrix: \	Nater							
Associated Lab Sar	nples:	924956530 924956530	001, 92495653002 008, 92495653009	, 9249565 , 9249565	3003, 92 3010, 92	495653004, 495653011,	, 924956530 924956530	005, 9249 012	95653006, 92 [,]	495653007	7,		
				Blar	nk	Reporting							
Paran	neter		Units	Res	ult	Limit	M	DL	Analyzed	Qı	ualifiers		
Mercury			mg/L		ND	0.000	50 0.0	000078	09/18/20 14:	02			
LABORATORY COI	NTROLS	SAMPLE:	3006616										
				Spike	L	CS	LCS	%	Rec				
Parar	neter		Units	Conc.	Re	esult	% Rec	L	imits (Qualifiers			
Mercury			mg/L	0.002	25	0.0024	Ş	96	80-120				
MATRIX SPIKE & M	IATRIX S	SPIKE DUP	LICATE: 30066	17		300661	8						
				MS	MSD								
Parameter	r	Units	92495653002 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Red	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury		mg/L		0.0025	0.0025	0.0025	0.0026	1	00 103	75-125	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD NE	TWORK										
Pace Project No.:	92495653											
QC Batch:	568004		Analy	sis Metho	d:	EPA 7470A						
QC Batch Method:	EPA 7470A		Analy	sis Descri	ption:	7470 Mercu	ry					
			Labor	atory:		Pace Analyt	ical Servic	es - Peach	tree Corne	rs, GA		
Associated Lab Sar	nples: 92495653	013, 9249565301	4, 9249565	3015								
METHOD BLANK:	3009596			Matrix: W	ater							
Associated Lab Sar	nples: 92495653	013, 9249565301	4, 9249565	3015								
			Blan	k	Reporting							
Paran	neter	Units	Resu	ılt	Limit	MD	L	Analyzed	Qu	ualifiers		
Mercury		mg/L		ND	0.0005	0.0	00078 09	9/23/20 08:	40			
LABORATORY COI	NTROL SAMPLE:	3009597										
			Spike	LC	S	LCS	% R	ec				
Paran	neter	Units	Conc.	Res	sult	% Rec	Limi	its	Qualifiers			
Mercury		mg/L	0.002	5	0.0025	9	9 8	80-120		_		
MATRIX SPIKE & M	ATRIX SPIKE DUP	LICATE: 3009	598		3009599)						
			MS	MSD								
		92496275006	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	r Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD N	IETWORK							
Pace Project No.:	92495653								
QC Batch:	566772		Analysis N	/lethod:	SM 2450)C-2011			
QC Batch Method:	SM 2450C-201	1	Analysis E	Description:	2540C T	otal Disso	lved Solids		
			Laborator	y:	Pace An	alytical S	ervices - Pea	achtree	Corners, GA
Associated Lab Sar	nples: 9249565	3001, 924956530	02, 92495653003	3, 924956530	04, 9249565	53005			
METHOD BLANK:	3003519		Matr	ix: Water					
Associated Lab Sar	nples: 9249565	3001, 924956530	02, 92495653003	8, 924956530	04, 9249565	53005			
			Blank	Reporti	ng				
Parar	neter	Units	Result	Limit	I	MDL	Analyz	zed	Qualifiers
Total Dissolved Soli	ds	mg/L	N	D	10.0	10.0	09/16/20	14:20	
LABORATORY CO	NTROL SAMPLE:	3003520							
			Spike	LCS	LCS		% Rec		
Paran	neter	Units	Conc.	Result	% Rec		Limits	Qua	lifiers
Total Dissolved Soli	ds	mg/L	400	392		98	84-108		
SAMPLE DUPLICA	TE: 3003521								
			9249505400	2 Dup			Max		
Paran	neter	Units	Result	Resu	t F	RPD	RPD		Qualifiers
Total Dissolved Soli	ds	mg/L	90	.0	94.0	4		10	
SAMPLE DUPLICA	TE: 3003522								
			9249504701	2 Dup			Max		
Parar	neter	Units	Result	Resu	t F	RPD	RPD		Qualifiers
Total Dissolved Soli	ds	mg/L	N	D	ND			10	

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REPORT OF LABORATORY ANALYSIS



Project:	BRANCH BCD N	IETWORK						
Pace Project No.:	92495653							
QC Batch:	567147		Analysis Me	ethod:	SM 2450C-201	1		
QC Batch Method:	SM 2450C-201	1	Analysis De	scription:	2540C Total Dis	ssolved Solids		
			Laboratory:		Pace Analytical	Services - Pe	achtree	Corners, GA
Associated Lab San	nples: 9249565	3006, 924956530	07, 92495653009,	92495653010				
METHOD BLANK:	3005362		Matrix	: Water				
Associated Lab San	nples: 9249565	3006, 924956530	07, 92495653009,	92495653010				
			Blank	Reporting				
Paran	neter	Units	Result	Limit	MDL	Analy	zed	Qualifiers
Total Dissolved Solid	ds	mg/L	ND	10	.0 1	0.0 09/17/20	15:18	
LABORATORY COM	ITROL SAMPLE:	3005363						
			Spike	LCS	LCS	% Rec		
Paran	neter	Units	Conc.	Result	% Rec	Limits	Qual	ifiers
Total Dissolved Solid	ds	mg/L	400	384	96	84-108		
SAMPLE DUPLICAT	FE: 3005364							
			92495870005	Dup		Max		
Paran	neter	Units	Result	Result	RPD	RPD		Qualifiers
Total Dissolved Solid	ds	mg/L	ND	N	D		10	
SAMPLE DUPLICA	TE: 3005365							
			92495900007	Dup		Max		
Paran	neter	Units	Result	Result	RPD	RPD		Qualifiers
Total Dissolved Solid	ds	mg/L	1890	186	60	2	10	

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REPORT OF LABORATORY ANALYSIS



Project:	BRANCH BCD N	ETWORK						
Pace Project No .:	92495653							
QC Batch:	567372		Analysis Me	ethod:	SM 2450C-20)11		
QC Batch Method:	SM 2450C-2011		Analysis De	escription:	2540C Total E	Dissolved Solids	5	
			Laboratory:		Pace Analytic	al Services - Pe	eachtree	e Corners, GA
Associated Lab Sam	ples: 92495653	3011, 92495653012						
METHOD BLANK:	3006601		Matrix	: Water				
Associated Lab Sam	ples: 92495653	8011, 92495653012						
			Blank	Reporting				
Param	neter	Units	Result	Limit	MDL	Analy	zed	Qualifiers
Total Dissolved Solid	ds	mg/L	ND	10	.0	10.0 09/18/20	0 09:58	
LABORATORY CON	ITROL SAMPLE:	3006602						
			Spike	LCS	LCS	% Rec		
Param	neter	Units	Conc.	Result	% Rec	Limits	Qua	alifiers
Total Dissolved Solid	ds	mg/L	400	387	97	84-108		
SAMPLE DUPLICAT	E: 3006603							
			92495653011	Dup		Max		
Param	neter	Units	Result	Result	RPD	RPD		Qualifiers
Total Dissolved Solid	ds	mg/L	622	65	54	5	10	
SAMPLE DUPLICAT	E: 3006604							
			92495900008	Dup		Max		
Param	neter	Units	Result	Result	RPD	RPD		Qualifiers
Total Dissolved Solid	ds	mg/L	1220	125	50	3	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



Project:	BRANCH BCD N	ETWORK							
Pace Project No .:	92495653								
QC Batch:	567882		Analysis Me	ethod:	SM 2450C-20	011			
QC Batch Method:	SM 2450C-2011		Analysis De	escription:	2540C Total [Dissolv	ved Solids		
			Laboratory:		Pace Analytic	al Ser	vices - Pea	achtree	Corners, GA
Associated Lab Sam	ples: 92495653	3008, 92495653014	, 92495653015						
METHOD BLANK:	3009251		Matrix	: Water					
Associated Lab Sam	ples: 92495653	3008, 92495653014	, 92495653015						
			Blank	Reporting					
Param	eter	Units	Result	Limit	MDL		Analyz	ed	Qualifiers
Total Dissolved Solid	ls	ma/L	ND	10	0.0	10.0	09/21/20	16:27	
		3							
LABORATORY CON	TROL SAMPLE:	3009252							
			Spike	LCS	LCS	%	6 Rec		
Param	eter	Units	Conc.	Result	% Rec	L	imits	Qua	lifiers
Total Dissolved Solid	ls	mg/L	400	412	103		84-108		
	E. 2000252								
SAMPLE DUPLICAT	L. 3009233		92495653008	Dup			Max		
Param	eter	Units	Result	Result	RPD		RPD		Qualifiers
Total Dissolved Solid	ls	mg/L	2090	21:	30	2		10	
SAMPLE DUPLICAT	E: 3009254								
			92495870011	Dup			Max		
Param	eter	Units	Result	Result	RPD		RPD		Qualifiers
Total Dissolved Solid	ls	mg/L	25.0	18	3.0	33		10 D	6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD NE	TWORK								
Pace Project No.:	92495653									
QC Batch:	569364		Analysis M	lethod:	SM 2450C-2	011				
QC Batch Method:	SM 2450C-2011		Analysis D	escription:	2540C Total	Dissolv	ved Solids			
			Laboratory	/:	Pace Analytic	cal Ser	vices - Pea	achtree	Corners, GA	
Associated Lab Sar	mples: 92495653	013								
METHOD BLANK:	3016819		Matr	ix: Water						
Associated Lab Sar	mples: 92495653	013								
			Blank	Reporting						
Parar	neter	Units	Result	Limit	MDL		Analyz	ed	Qualifiers	
Total Dissolved Sol	ds	mg/L	Ν	D 10	0.0	10.0	09/24/20	11:49		
LABORATORY CO	NTROL SAMPLE:	3016820								
			Spike	LCS	LCS	%	Rec			
Para	neter	Units	Conc.	Result	% Rec	L	imits	Qual	ifiers	
Total Dissolved Sol	ds	mg/L	400	388	97		84-108			
SAMPLE DUPLICA	TE: 3016821									
			92495653013	3 Dup			Max			
Para	neter	Units	Result	Result	RPD		RPD		Qualifiers	
Total Dissolved Sol	ds	mg/L	191	0 21	60	13		10 D6	5,H1	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD NE	TWORK										
Pace Project No.:	92495653											
QC Batch:	567529		Anal	ysis Metho	d:	EPA 300.0 F	Rev 2.1 19	93				
QC Batch Method:	EPA 300.0 Rev 2	2.1 1993	Anal	ysis Descri	otion:	300.0 IC Ani	ions					
			Labo	ratory:		Pace Analyti	ical Servic	ces - Ashevi	lle			
Associated Lab Sa	mples: 92495653	001, 9249565300	02, 9249565	53004, 924	95653005,	9249565300	06					
METHOD BLANK:	3007534			Matrix: W	ater							
Associated Lab Sa	mples: 92495653	001, 9249565300)2, 9249565	53004, 924	95653005,	9249565300	06					
			Blai	nk	Reporting							
Para	imeter	Units	Res	ult	Limit	MDL	-	Analyzed	Qı	alifiers		
Chloride		mg/L		ND	1.	0	0.60 0	9/18/20 16:	46			
Fluoride		mg/L		ND	0.1	0	0.050 0	9/18/20 16:	46			
Sulfate		mg/L		ND	1.	0	0.50 0	9/18/20 16:	46			
LABORATORY CC	ONTROL SAMPLE:	3007535										
-			Spike	LC	S	LCS	% F	Rec	o ""			
Para	imeter	Units	Conc.	Res	iult	% Rec	Lim	lits (Jualifiers	_		
Chloride		mg/L	5	50	52.2	104	1	90-110				
Fluoride		mg/L	2	.5	2.7	106	6	90-110				
Sulfate		mg/L	5	50	52.4	105)	90-110				
MATRIX SPIKE &	MATRIX SPIKE DUF	PLICATE: 3007	536		3007537	7						
			MS	MSD								
_		92496029001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	- ·
Paramete	er Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride	mg/L	13.6	50	50	68.1	69.2	109	111	90-110	2	10	M1
Fluoride	mg/L	0.10	2.5	2.5	2.8	2.9	109	112	90-110	3	10	M1
Sulfate	mg/L	7.4	50	50	62.2	63.3	110	112	90-110	2	10	M1
MATRIX SPIKE &	MATRIX SPIKE DUF	PLICATE: 3007	538		3007539)						
			MS	MSD								
		92495653005	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	er Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride	mg/L	5.5	50	50	58.5	62.8	106	115	90-110	7	10	M1
Fluoride	mg/L	0.057J	2.5	2.5	2.8	3.0	108	116	90-110	7	10	M1
Sulfate	mg/L	. 241	50	50	287	291	91	100	90-110	2	10	

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REPORT OF LABORATORY ANALYSIS



Project:	BRANC	H BCD NE	TWORK										
Pace Project No.:	924956	53											
QC Batch:	56760	07		Anal	ysis Metho	d: E	EPA 300.0 F	Rev 2.1 1	1993				
QC Batch Method:	EPA 3	00.0 Rev 2.	1 1993	Anal	ysis Descri	ption: 3	300.0 IC An	ions					
				Labo	oratory:	F	Pace Analyt	ical Serv	vices - Ashev	ville			
Associated Lab Sa	mples:	924956530	07, 9249565300	8, 9249565	53009, 924	95653010, 9	924956530	11, 9249	5653012				
METHOD BLANK:	300800	4			Matrix: W	/ater							
Associated Lab Sa	mples:	924956530	07, 9249565300	8, 9249565	53009, 924	95653010, 9	924956530	11, 9249	5653012				
				Bla	nk	Reporting							
Para	meter		Units	Res	ult	Limit	MDI	L	Analyzed	d Q	ualifiers		
Chloride			mg/L		ND	1.(0	0.60	09/19/20 15	5:23			
Fluoride			mg/L		ND	0.10	0	0.050	09/19/20 15	5:23			
Sulfate			mg/L		ND	1.0	D	0.50	09/19/20 15	5:23			
LABORATORY CO	NTROL S	SAMPLE:	3008005										
				Spike	LC	S	LCS	%	Rec				
Para	meter		Units	Conc.	Res	sult	% Rec	Li	mits	Qualifiers			
Chloride			mg/L	5	50	52.3	10	5	90-110				
Fluoride			mg/L	2	.5	2.7	100	6	90-110				
Sulfate			mg/L	Ę	50	52.5	10	5	90-110				
MATRIX SPIKE & I	MATRIX S		_ICATE: 3008	006		3008007							
				MS	MSD								
Damanata		11-21-	92495653007	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	0
Paramete	÷I	Units		Conc.	Conc.	Result	Result	% Rec	% Rec		KPD		Qual
Chloride		mg/L	4.4	50	50	57.4	58.2	10	06 100	8 90-110	1	10	
Fluoride		mg/L	0.13	2.5	2.5	2.8	2.8	10	07 10 14 40	9 90-110	1	10	MC
Sulfate		mg/L	334	50	50	389	385	11	11 10.	3 90-110) 1	10	IVI6
MATRIX SPIKE & I	MATRIX S		_ICATE: 3008	008		3008009							
				MS	MSD								
_			92495964005	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	er	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride		mg/L	7.9	50	50	61.3	62.0	10)7 10	8 90-110	1	10	
Fluoride		mg/L	ND	2.5	2.5	2.7	2.7	10	07 10	8 90-110	1	10	
Sulfate		mg/L	256	50	50	298	299	8	85 8 [°]	7 90-110	0	10	M6

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REPORT OF LABORATORY ANALYSIS



Proiect:	BRANCH BCD NE	TWORK										
Pace Project No.:	92495653											
QC Batch:	567942		Anal	vsis Metho	d: E	EPA 300.0 F	Rev 2.1 19	993				
QC Batch Method:	EPA 300.0 Rev 2	.1 1993	Anal	vsis Descri	ption: 3	300.0 IC Ani	ions					
			Labo	pratory:	F	Pace Analyt	ical Servi	ces - Ashevil	le			
Associated Lab Sar	mples: 924956530	013, 9249565301	4, 9249565	53015	·	uoo / maryt						
METHOD BLANK:	3009478			Matrix: W	/ater							
Associated Lab Sar	mples: 92495653	013. 9249565301	4. 9249565	53015								
		,	Bla	nk	Reporting							
Parar	meter	Units	Res	ult	Limit	MDI	_	Analyzed	Qu	ualifiers		
Chloride		mg/L		ND	1.(D	0.60 0)9/21/20 23:0	 05			
Fluoride		mg/L		ND	0.10	C	0.050 0)9/21/20 23:0	05			
Sulfate		mg/L		ND	1.(0	0.50 ()9/21/20 23:(05			
LABORATORY CO	NTROL SAMPLE:	3009479										
			Spike	LC	S	LCS	% F	Rec				
Parar	meter	Units	Conc.	Re	sult	% Rec	Lim	nits C	Qualifiers	_		
Chloride		mg/L	5	50	52.8	106	6	90-110				
Fluoride		mg/L	2	.5	2.7	108	3	90-110				
Sulfate		mg/L	5	50	52.8	106	5	90-110				
MATRIX SPIKE & N	MATRIX SPIKE DUP	LICATE: 3009	480		3009481							
			MS	MSD								
_		92495047013	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	r Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride	mg/L	1.7	50	50	53.8	53.6	104	104	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	104	103	90-110	0	10	
Sulfate	mg/L	8.6	50	50	60.9	60.8	105	5 104	90-110	0	10	
MATRIX SPIKE & N	MATRIX SPIKE DUP	LICATE: 3009	482		3009483							
			MS	MSD								
		92495870010	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	r Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride	mg/L	0.97J	50	50	53.1	53.5	104	105	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	104	105	90-110	2	10	
Sulfate	mg/L	ND	50	50	52.3	52.7	104	105	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS



Project:	BRAN	CH BCD NE	IWORK										
Pace Project No.	92495	653											
QC Batch:	5682	234		Anal	ysis Metho	d: E	EPA 300.0 F	Rev 2.1 19	993				
QC Batch Method	d: EPA	300.0 Rev 2.	.1 1993	Anal	ysis Descri	otion: 3	300.0 IC An	ions					
				Labo	ratory:	F	Pace Analyt	ical Servi	ces - Ashevil	le			
Associated Lab S	amples:	924956530)03				-						
METHOD BLANK	(: 30109	05			Matrix: W	ater							
Associated Lab S	amples:	924956530	003										
				Bla	nk	Reporting							
Pa	ameter		Units	Res	ult	Limit	MD	L	Analyzed	Qu	alifiers		
Chloride			mg/L		ND	1.0	0	0.60	9/23/20 17:0	04			
Fluoride			mg/L		ND	0.10	0	0.050 0	09/23/20 17:0	04			
Sulfate			mg/L		ND	1.0	0	0.50 ()9/23/20 17:(04			
			2010006										
LABORATORT	UNIKUL	SAIVIFLE.	3010900	Snike		S	LCS	% F	Rec				
Pa	ameter		Units	Conc.	Res	ult	% Rec	Lin	nits C	Qualifiers			
Chloride			ma/l		<u> </u>	53.0	10		90-110		_		
Fluoride			mg/L	2	.5	2.7	10	9	90-110				
Sulfate			mg/L	Ę	50	53.2	10	6	90-110				
MATRIX SPIKE 8	MATRIX			909		3010910							
		SPIKE DUPI	LICATE. SUIC		1400								
		SPIKE DUPI	02406720002	MS Spike	MSD Spike	MC	MOD	MS	MED	% Boo		Mox	
Parame	ter	Units	92496730002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Parame	ter		92496730002 	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Parame	ter	Units	92496730002 	MS Spike Conc.	MSD Spike Conc. 50	MS Result 389	MSD Result 389	MS % Rec 249	MSD % Rec 249	% Rec Limits 90-110	RPD 0	Max RPD 10	Qual
Parame Chloride Fluoride Sulfate	ter	Units 	92496730002 	MS Spike Conc. 50 2.5 50	MSD Spike Conc. 50 2.5 50	MS Result 389 3.3 57.3	MSD Result 389 3.4 57.3	MS % Rec 249 110	MSD % Rec 249 0 110	% Rec Limits 90-110 90-110 90-110	RPD 0 1	Max RPD 10 10	Qual
Parame Chloride Fluoride Sulfate	ter	Units mg/L mg/L mg/L	92496730002 	MS Spike Conc. 50 2.5 50	MSD Spike Conc. 50 2.5 50	MS Result 389 3.3 57.3	MSD Result 389 3.4 57.3	MS % Rec 249 110 109	MSD % Rec 249 0 110 9 109	% Rec Limits 90-110 90-110 90-110	RPD 0 1 0	Max RPD 10 10 10	Qual
Parame Chloride Fluoride Sulfate MATRIX SPIKE &	ter MATRIX	Units 	92496730002 	MS Spike Conc. 50 2.5 50 115	MSD Spike Conc. 50 2.5 50	MS Result 389 3.3 57.3 3011116	MSD Result 389 3.4 57.3	MS % Rec 249 110 109	MSD % Rec 249 0 110 9 109	% Rec Limits 90-110 90-110 90-110	RPD 0 1 0	Max RPD 10 10 10	Qual
Parame Chloride Fluoride Sulfate MATRIX SPIKE &		Units mg/L mg/L SPIKE DUPL	92496730002 	MS Spike Conc. 50 2.5 50 115 MS	MSD Spike Conc. 50 2.5 50 MSD	MS Result 389 3.3 57.3 3011116	MSD Result 389 3.4 57.3	MS % Rec 249 110 109	MSD % Rec 249 0 110 0 109	% Rec Limits 90-110 90-110 90-110		Max RPD 10 10 10	Qual
Parame Chloride Fluoride Sulfate MATRIX SPIKE &		Units mg/L mg/L SPIKE DUPL	92496730002 Result 364 0.60 3.0 LICATE: 3011 92496730004	MS Spike Conc. 50 2.5 50 115 MS Spike	MSD Spike Conc. 50 2.5 50 MSD Spike	MS Result 389 3.3 57.3 3011116 MS	MSD Result 389 3.4 57.3 MSD	MS % Rec 249 110 109 MS	MSD % Rec 249 0 110 0 109 MSD	% Rec Limits 90-110 90-110 90-110 % Rec	RPD 0 1 0	Max RPD 10 10 10 10	Qual
Parame Chloride Fluoride Sulfate MATRIX SPIKE & Parame	ter MATRIX ter	SPIKE DUPI 	92496730002 <u>Result</u> 364 0.60 3.0 LICATE: 3011 92496730004 <u>Result</u>	MS Spike Conc. 50 2.5 50 115 MS Spike Conc.	MSD Spike Conc. 50 2.5 50 MSD Spike Conc.	MS Result 389 3.3 57.3 3011116 MS Result	MSD Result 389 3.4 57.3 MSD Result	MS % Rec 249 110 109 MS % Rec	MSD % Rec 249 0 110 9 109 MSD % Rec	% Rec Limits 90-110 90-110 90-110 % Rec Limits	RPD 0 1 0 RPD	Max RPD 10 10 10 10 Max RPD	Qual
Parame Chloride Fluoride Sulfate MATRIX SPIKE & Parame Chloride	ter MATRIX ter	SPIKE DUPI 	92496730002 <u>Result</u> 364 0.60 3.0 LICATE: 3011 92496730004 <u>Result</u> 109	MS Spike Conc. 50 2.5 50 115 MS Spike Conc. 50	MSD Spike Conc. 50 2.5 50 MSD Spike Conc. 50	MS Result 389 3.3 57.3 3011116 MS Result 158	MSD Result 389 3.4 57.3 MSD Result 158	MS % Rec 249 110 109 MS % Rec 97	MSD % Rec 249 0 110 9 109 MSD % Rec 7 97	% Rec Limits 90-110 90-110 90-110 % Rec Limits 90-110	RPD 0 1 0 RPD 0	Max RPD 10 10 10 10 Max RPD 10	Qual
Parame Chloride Fluoride Sulfate MATRIX SPIKE & Parame Chloride Fluoride	ter MATRIX ter	SPIKE DUPI mg/L mg/L mg/L SPIKE DUPI Units mg/L mg/L	92496730002 <u>Result</u> 364 0.60 3.0 LICATE: 3011 92496730004 <u>Result</u> 109 0.43	MS Spike Conc. 50 2.5 50 115 MS Spike Conc. 50 2.5	MSD Spike Conc. 50 2.5 50 MSD Spike Conc. 50 2.5	MS Result 389 3.3 57.3 3011116 MS Result 158 3.1	MSD Result 389 3.4 57.3 MSD Result 158 3.2	MS % Rec 249 110 109 MS % Rec 97 108	MSD % Rec 249 0 110 9 109 MSD % Rec 97 3 109	% Rec Limits 90-110 90-110 90-110 % Rec Limits 90-110 90-110	RPD 0 1 0 8 PD 0 1	Max RPD 10 10 10 10 Max RPD 10 10	Qual

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



QUALIFIERS

Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

- B Analyte was detected in the associated method blank.
- D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
- H1 Analysis conducted outside the EPA method holding time.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH BCD NETWORK

Pace Project No.: 92495653

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495653001	BRGWA-12S				
92495653002	BRGWA-12I				
92495653003	BRGWA-23S				
92495653004	BRGWC-25I				
92495653005	BRGWC-29I				
92495653006	BRGWC-32S				
92495653007	BRGWC-30I				
92495653008	BRGWC-47				
92495653009	BRGWC-45				
92495653010	BRGWC-27I				
92495653013	BRGWC-50				
92495653014	BRGWC-52I				
02405652001	BBGWA-128	EPA 2010A	566971		566008
92495055001	BRGWA-125	EPA 3010A	500071		500900
92495055002	BROWA-121 BROWA 225	EPA 3010A	500071		500900
92495055005	BRGWA-235	EPA 3010A	500071		200908
92495653004	BRGWC-251	EPA 3010A	566871	EPA 6010D	566908
92495653005	BRGWC-291	EPA 3010A	00071	EPA 6010D	200908
92495653006	BRGWC-32S	EPA 3010A	568100	EPA 6010D	568125
92495653007	BRGWC-30I	EPA 3010A	568100	EPA 6010D	568125
92495653008	BRGWC-47	EPA 3010A	568100	EPA 6010D	568125
92495653009	BRGWC-45	EPA 3010A	568100	EPA 6010D	568125
92495653010	BRGWC-27I	EPA 3010A	568100	EPA 6010D	568125
92495653011	DUP-1	EPA 3010A	568100	EPA 6010D	568125
92495653012	EB-1	EPA 3010A	568100	EPA 6010D	568125
92495653013	BRGWC-50	EPA 3010A	568100	EPA 6010D	568125
92495653014	BRGWC-52I	EPA 3010A	568100	EPA 6010D	568125
92495653015	FB-2	EPA 3010A	568100	EPA 6010D	568125
92495653001	BRGWA-12S	EPA 3005A	566966	EPA 6020B	566971
92495653002	BRGWA-12I	EPA 3005A	566966	EPA 6020B	566971
92495653003	BRGWA-23S	EPA 3005A	566966	EPA 6020B	566971
92495653004	BRGWC-25I	EPA 3005A	566966	EPA 6020B	566971
92495653005	BRGWC-29I	EPA 3005A	566966	EPA 6020B	566971
92495653006	BRGWC-32S	EPA 3005A	567397	EPA 6020B	567512
92495653007	BRGWC-30I	EPA 3005A	567397	EPA 6020B	567512
92495653008	BRGWC-47	EPA 3005A	567397	EPA 6020B	567512
92495653009	BRGWC-45	EPA 3005A	567397	EPA 6020B	567512
92495653010	BRGWC-27I	EPA 3005A	567397	EPA 6020B	567512
92495653011	DUP-1	EPA 3005A	567397	EPA 6020B	567512
92495653012	EB-1	EPA 3005A	567397	EPA 6020B	567512
02/05652012	BRGWC-50		562/17		568/5/
92495055015	BRGWC-50		500417		500454
92493033014			500417		200424
92490003015	FB-2	EPA 3005A	568417	EPA 0UZUB	568454
92495653001	BRGWA-12S	EPA 7470A	567375	EPA 7470A	567456
92495653002	BRGWA-12I	EPA 7470A	567375	EPA 7470A	567456
92495653003	BRGWA-23S	EPA 7470A	567375	EPA 7470A	567456
92495653004	BRGWC-25I	EPA 7470A	567375	EPA 7470A	567456



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: **BRANCH BCD NETWORK**

Pace Project No.: 92495653

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495653005	BRGWC-29I	EPA 7470A	567375	EPA 7470A	567456
92495653006	BRGWC-32S	EPA 7470A	567375	EPA 7470A	567456
92495653007	BRGWC-30I	EPA 7470A	567375	EPA 7470A	567456
92495653008	BRGWC-47	EPA 7470A	567375	EPA 7470A	567456
92495653009	BRGWC-45	EPA 7470A	567375	EPA 7470A	567456
92495653010	BRGWC-27I	EPA 7470A	567375	EPA 7470A	567456
92495653011	DUP-1	EPA 7470A	567375	EPA 7470A	567456
92495653012	EB-1	EPA 7470A	567375	EPA 7470A	567456
92495653013	BRGWC-50	EPA 7470A	568004	EPA 7470A	568115
92495653014	BRGWC-52I	EPA 7470A	568004	EPA 7470A	568115
92495653015	FB-2	EPA 7470A	568004	EPA 7470A	568115
92495653001	BRGWA-12S	SM 2450C-2011	566772		
92495653002	BRGWA-12I	SM 2450C-2011	566772		
92495653003	BRGWA-23S	SM 2450C-2011	566772		
92495653004	BRGWC-25I	SM 2450C-2011	566772		
92495653005	BRGWC-29I	SM 2450C-2011	566772		
92495653006	BRGWC-32S	SM 2450C-2011	567147		
92495653007	BRGWC-30I	SM 2450C-2011	567147		
92495653008	BRGWC-47	SM 2450C-2011	567882		
92495653009	BRGWC-45	SM 2450C-2011	567147		
92495653010	BRGWC-27I	SM 2450C-2011	567147		
92495653011	DUP-1	SM 2450C-2011	567372		
92495653012	EB-1	SM 2450C-2011	567372		
92495653013	BRGWC-50	SM 2450C-2011	569364		
92495653014	BRGWC-52I	SM 2450C-2011	567882		
92495653015	FB-2	SM 2450C-2011	567882		
92495653001	BRGWA-12S	EPA 300.0 Rev 2.1 1993	567529		
92495653002	BRGWA-12I	EPA 300.0 Rev 2.1 1993	567529		
92495653003	BRGWA-23S	EPA 300.0 Rev 2.1 1993	568234		
92495653004	BRGWC-25I	EPA 300.0 Rev 2.1 1993	567529		
92495653005	BRGWC-29I	EPA 300.0 Rev 2.1 1993	567529		
92495653006	BRGWC-32S	EPA 300.0 Rev 2.1 1993	567529		
92495653007	BRGWC-30I	EPA 300.0 Rev 2.1 1993	567607		
92495653008	BRGWC-47	EPA 300.0 Rev 2.1 1993	567607		
92495653009	BRGWC-45	EPA 300.0 Rev 2.1 1993	567607		
92495653010	BRGWC-27I	EPA 300.0 Rev 2.1 1993	567607		
92495653011	DUP-1	EPA 300.0 Rev 2.1 1993	567607		
92495653012	EB-1	EPA 300.0 Rev 2.1 1993	567607		
92495653013	BRGWC-50	EPA 300.0 Rev 2.1 1993	567942		
92495653014	BRGWC-52I	EPA 300.0 Rev 2.1 1993	567942		
92495653015	FB-2	EPA 300.0 Rev 2.1 1993	567942		

Sa	mple Condition	Upon Receipt	
Pace Analytical Client Nom	En Pa	WO WO	#:92495653
Client Name	. Offlow		
		Pace Othe	
racking #:	-	9249	
ustody Seal on Cooler/Box Present: yes	a 🗌 no 🛛 Seals i	ntact: ves	no
acking Material: Bubble Wrap Bubbl	le Bags CHNone	Other	
hermometer Used4	Type of Ice: Wel	Blue None	Samples on ice, cooling process has begun
cooler Temperature	Biological Tissue i	s Frozen: Yes No Comments:	contents:
Photo of Custody Present:		1.	
	Ves ONO ON/A	2.	
Chain of Custody Relinquished		3.	
Sampler Name & Signature on COC:		4.	
Samples Arrived within Hold Time:	EYes DNO DN/A	5.	
bort Hold Time Analysis (<72hr):		6.	
sush Turn Around Time Requested:		7.	de jin per mengenne områdense som her i som her br>Nordense som her som he
Sufficient Volume:		8.	
Correct Containers Used:		9.	er i e iz anen ez dige - e geler e alpar e - i e iz anen ez dige - ieg e fi i - E
-Pace Containers Used:			
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iltered volume received for Dissolved tests		11.	in de l'élégénées élégénées a la competition de
Sample Labels match COC:		12.	
-Includes date/time/ID/Analysis Matrix:	W/		a da ang ang ang ang ang ang ang ang ang an
I containers needing preservation have been checked.	Grat DNg DNA	13	
Il containers needing preservation are found to be in ompliance with EPA recommendation.			la (bell'anna a dhe anna Adena a' dhaonna dha mil anna anna 19 a shaonna an dhaonna a mar anna anna anna anna anna anna anna a
		Initial when completed	Lot # of added preservative
exceptions: VOA, contorni, TUC, Oad, WEDRO (water)		14	
Samples checked for dechlorination.		15	
		16.	
Trip Blank Present:			
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Pace The Blank Lot # (Il pulchased).			
Client Notification/ Resolution:	Deta	Time:	
Person Contacted:	Date/	1111rG.	in the second se
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Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003rev.3, 11September2006

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Colonay Consultation Radiation Balling Information Colonay Consultation Radiation Call SHADED AREAS are for LAB USE ONLY Motors 2.080 Name Frond Constant Francisco Final To: sciences/gload/terros cam 1 <t< td=""><td>Pacce Analytical Count of Counsely is at EGAL DOCUMENT: Complete all relevent 1/5 ALL SHADED AREAS are for LAB USE ONLY Company Genga Nover: Coal Connection Readow Balling Information Balling Information Image: Counsel Counsel is a EGAL DOCUMENT: Complete all relevent 1/5 Anders: 2003 Contract: Coal Connection Readow Balling Information Image: Coal Counsel is a EGAL DOCUMENT: Complete all relevent 1/5 ALL SHADED AREAS are for LAB USE ONLY Addres: 2003 Setti Coorpo City, Mandgowle: Time Zone Collected Image: /td><td></td><td>X</td><td>×</td><td>×</td><td>×</td><td>ر ال</td><td>6.0</td><td></td><td></td><td>1115</td><td>0207-51-1</td><td>5</td><td>Cw V</td><td>DRUMALIT</td></t<>	Pacce Analytical Count of Counsely is at EGAL DOCUMENT: Complete all relevent 1/5 ALL SHADED AREAS are for LAB USE ONLY Company Genga Nover: Coal Connection Readow Balling Information Balling Information Image: Counsel Counsel is a EGAL DOCUMENT: Complete all relevent 1/5 Anders: 2003 Contract: Coal Connection Readow Balling Information Image: Coal Counsel is a EGAL DOCUMENT: Complete all relevent 1/5 ALL SHADED AREAS are for LAB USE ONLY Addres: 2003 Setti Coorpo City, Mandgowle: Time Zone Collected Image:		X	×	×	×	ر ال	6.0			1115	0207-51-1	5	Cw V	DRUMALIT
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October 08, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH BCD/E BACKGROUND RADS Pace Project No.: 92495654

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Hung

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder





Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495654001	BRGWA-6S	Water	09/15/20 09:45	09/16/20 09:45
92495654002	BRGWA-5S	Water	09/15/20 13:20	09/16/20 09:45
92495654003	BRGWA-5I	Water	09/15/20 14:02	09/16/20 09:45
92495654004	BRGWA-2S	Water	09/15/20 15:01	09/16/20 09:45
92495654005	BRGWA-2I	Water	09/15/20 16:07	09/16/20 09:45



SAMPLE ANALYTE COUNT

Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92495654001	BRGWA-6S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92495654002	BRGWA-5S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92495654003	BRGWA-5I	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92495654004	BRGWA-2S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92495654005	BRGWA-2I	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg



SUMMARY OF DETECTION

Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495654001	BRGWA-6S					
EPA 9315	Radium-226	0.00810 ± 0.162 (0.444)	pCi/L		09/30/20 07:18	
EPA 9320	Radium-228	C:88% T:NA 0.466 ± 0.418 (0.851) C:71%	pCi/L		10/05/20 15:06	
Total Radium Calculation	Total Radium	T:86% 0.474 ± 0.580 (1.30)	pCi/L		10/06/20 14:01	
92495654002	BRGWA-5S					
EPA 9315	Radium-226	0.0906 ± 0.218 (0.520) C:87% TNA	pCi/L		09/30/20 07:18	
EPA 9320	Radium-228	0.459 ± 0.553 (1.17) C:71% T:84%	pCi/L		10/05/20 17:44	
Total Radium Calculation	Total Radium	0.550 ± 0.771 (1.69)	pCi/L		10/06/20 14:01	
92495654003	BRGWA-5I					
EPA 9315	Radium-226	0.0999 ± 0.226 (0.535) C`87% TNA	pCi/L		09/30/20 07:18	
EPA 9320	Radium-228	0.115 ± 0.622 (1.42) C:66%	pCi/L		10/05/20 17:44	
Total Radium Calculation	Total Radium	0.215 ± 0.848 (1.96)	pCi/L		10/06/20 14:01	
92495654004	BRGWA-2S					
EPA 9315	Radium-226	0.109 ± 0.177 (0.389)	pCi/L		09/30/20 07:18	
EPA 9320	Radium-228	C:91% T:NA 0.470 ± 0.606 (1.29) C:63%	pCi/L		10/05/20 17:44	
Total Radium Calculation	Total Radium	0.579 ± 0.783 (1.68)	pCi/L		10/06/20 14:01	



SUMMARY OF DETECTION

Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495654005	BRGWA-2I					
EPA 9315	Radium-226	-0.0263 ± 0.159 (0.461) C:94% T:NA	pCi/L		09/30/20 07:18	
EPA 9320	Radium-228	0.0583 ± 0.776 (1.80) C:44% T:84%	pCi/L		10/05/20 17:44	
Total Radium Calculation	Total Radium	0.0583 ± 0.935 (2.26)	pCi/L		10/06/20 14:01	



Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Sample: BRGWA-6S	Lab ID: 924956	54001 Collected: 09/15/20 09:45	Received:	09/16/20 09:45	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	0.00810 ± 0.162 (0.444) C:88% T:NA	pCi/L	09/30/20 07:18	3 13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	0.466 ± 0.418 (0.851) C:71% T:86%	pCi/L	10/05/20 15:06	6 15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	0.474 ± 0.580 (1.30)	pCi/L	10/06/20 14:01	7440-14-4	



Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Sample: BRGWA-5S	Lab ID: 9249	5654002 Collected: 09/15/20 13:20	Received:	09/16/20 09:45	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.0906 ± 0.218 (0.520) C:87% T:NA	pCi/L	09/30/20 07:18	3 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.459 ± 0.553 (1.17) C:71% T:84%	pCi/L	10/05/20 17:44	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.550 ± 0.771 (1.69)	pCi/L	10/06/20 14:01	7440-14-4	



Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Sample: BRGWA-5I	Lab ID: 924956	54003 Collected: 09/15/20 14:02	Received:	09/16/20 09:45	Matrix: Water	
FW3.	Sile ID.	Sample Type.				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg				
Radium-226	EPA 9315	0.0999 ± 0.226 (0.535) C:87% T:NA	pCi/L	09/30/20 07:18	3 13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	0.115 ± 0.622 (1.42) C:66% T:76%	pCi/L	10/05/20 17:44	15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.215 ± 0.848 (1.96)	pCi/L	10/06/20 14:01	7440-14-4	



Qual

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

,					
Sample: BRGWA-2S PWS:	Lab ID: 92495 Site ID:	5654004 Collected: 09/15/20 15:01 Sample Type:	Received:	09/16/20 09:45	Matrix: Water
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.
	Pace Analytical S	Services - Greensburg			
Radium-226	EPA 9315	0.109 ± 0.177 (0.389) C:91% T:NA	pCi/L	09/30/20 07:18	3 13982-63-3
	Pace Analytical S	Services - Greensburg			

Radium-228	EPA 9320	0.470 ± 0.606 (1.29) C:63% T:77%	pCi/L	10/05/20 17:44 15262-20-1
	Pace Analytical Ser	vices - Greensburg		
Total Radium	Total Radium Calculation	0.579 ± 0.783 (1.68)	pCi/L	10/06/20 14:01 7440-14-4



Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Sample: BRGWA-2I	Lab ID: 92495654	005 Collected: 09/15/20 16:07	Received:	09/16/20 09:45	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Servi	ces - Greensburg			_	
Radium-226	EPA 9315	-0.0263 ± 0.159 (0.461) C:94% T:NA	pCi/L	09/30/20 07:18	3 13982-63-3	
	Pace Analytical Servi	ces - Greensburg				
Radium-228	EPA 9320	0.0583 ± 0.776 (1.80) C:44% T:84%	pCi/L	10/05/20 17:44	15262-20-1	
	Pace Analytical Servi	ces - Greensburg				
Total Radium	Total Radium Calculation	0.0583 ± 0.935 (2.26)	pCi/L	10/06/20 14:01	7440-14-4	


QUALITY CONTROL - RADIOCHEMISTRY

Project:	BRANCH BCD/E E	ACKGROUND RADS			
Pace Project No.:	92495654				
QC Batch:	415401	Analysis Method:	EPA 9320		
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228		
		Laboratory:	Pace Analytical Se	rvices - Greensburg	g
Associated Lab Sam	nples: 92495654	001, 92495654002, 92495654003, 92495654004	, 92495654005		
METHOD BLANK:	2008969	Matrix: Water			
Associated Lab Sam	nples: 92495654	001, 92495654002, 92495654003, 92495654004	, 92495654005		
Param	neter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228		0.804 ± 0.467 (0.852) C:69% T:78%	pCi/L	10/05/20 15:01	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL - RADIOCHEMISTRY

Project:	BRANCH BCD/E	BACKGROUND	RADS			
Pace Project No.:	92495654					
QC Batch:	415400		Analysis Method:	EPA 9315		
QC Batch Method:	EPA 9315		Analysis Description:	9315 Total Radiun	n	
			Laboratory:	Pace Analytical Se	ervices - Greensburg	g
Associated Lab Sam	nples: 92495654	001, 924956540	02, 92495654003, 9249565400	92495654005		
METHOD BLANK:	2008968		Matrix: Water			
Associated Lab Sam	nples: 92495654	001, 924956540	02, 92495654003, 9249565400	04, 92495654005		
Param	neter	Act ±	Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226		0.0938 ± 0.181	(0.415) C:94% T:NA	pCi/L	09/30/20 07:18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH BCD/E BACKGROUND RADS

Pace Project No.: 92495654

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495654001	BRGWA-6S	EPA 9315	415400		
92495654002	BRGWA-5S	EPA 9315	415400		
92495654003	BRGWA-5I	EPA 9315	415400		
92495654004	BRGWA-2S	EPA 9315	415400		
92495654005	BRGWA-2I	EPA 9315	415400		
92495654001	BRGWA-6S	EPA 9320	415401		
92495654002	BRGWA-5S	EPA 9320	415401		
92495654003	BRGWA-5I	EPA 9320	415401		
92495654004	BRGWA-2S	EPA 9320	415401		
92495654005	BRGWA-2I	EPA 9320	415401		
92495654001	BRGWA-6S	Total Radium Calculation	417208		
92495654002	BRGWA-5S	Total Radium Calculation	417208		
92495654003	BRGWA-5I	Total Radium Calculation	417208		
92495654004	BRGWA-2S	Total Radium Calculation	417208		
92495654005	BRGWA-2I	Total Radium Calculation	417208		

San	ple Condition	Upon Rec IIO	#:92495654
Pace Analytical Client Name:	GA Pou	cer IIII	
	1000000	[] page oth 9249	
Courier: Fed Ex OPS OSPS Clen			Proj. Due Date:
Custody Seal on Cooler/Box Present: Lyes	🗌 no Seals	intact: byes	Proj. Name:
Packing Material: Bubble Wrap Bubble	Bags Mone	Other	
Thermometer Used 2/4	Type of Ice: Wel	Blue None	Samples on ice, cooling process has begun
Cooler Temperature	Biological Tissue	is Frozen: Yes No	Date and initials of person examining
Temp should be above freezing to 6°C		Comments:	
Chain of Custody Present:	Eres DNo DN/A	1	
Chain of Custody Filled Out:	Ves DNO DN/A	2.	
Chain of Custody Relinquished:		3.	
Sampler Name & Signature on COC:		4.	
Samples Arrived within Hold Time:		5.	
Short Hold Time Analysis (<72hr):	DYes BNO DN/A	6.	
Rush Turn Around Time Requested:		7.	
Sufficient Volume:	TYes DNO DN/A	8.	
Correct Containers Used:	Yes DNo DN/A	9.	
-Pace Containers Used:			
Containers Intact:		10.	
Filtered volume received for Dissolved tests		11.	
Sample Labels match COC:		12.	
-Includes date/time/ID/Analysis Matrix:	W		
All containers needing preservation have been checked.		13	
All containers needing preservation are found to be in compliance with EPA recommendation.			
eventions: VOA coliform TOC 08G WI-DBQ (water)	Ves Lo	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:		14.	· · · · · · · · · · · · · · · · · · ·
		15.	
		16.	
Trip Blank Fresch.			
Pace Trip Blank Lot # (if purchased):			
			Field Data Required? V / N
Client Notification/ Resolution:	Date	Time:	
Commented Resolution:	Dato		
	1		
Decised Manager Polylour			Date:
Project manager Review:		- Marine	

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003rev.3, 11September2006

Pace Analytical	Document Name: Bottle Identification Form (BIF) Document No.: F-CAR-CS-043-Rev.00	Page 1 of 1 issuing Authority: Pace Carolinas Quality Office
Checke mark top half of box if pH and/ entities and within the acceptance ran inples. Sceptions: VOA, Coliform, TOC, Oil and Grease, O Bottom half of box is to list number	or dechlorination is project w ge for preservation RO/8015 (water) DOC, LLHg of bottle	MUH · JZ4JJUU4 PM: KLH1 Due Date: 09/30/20 CLIENT: GA-GA Power
"-" Παιτίκ 1 1 henti 1 1 1	BPAC-125 mL Plastic NaOH [aH> 12] (CH) BPAC-125 mL Plastic NaOH [aH> 12] (CH) MGFLJ-WIde-mouthed Glass Jar Unpreserved MGFLJ-WIde-mouthed Glass Jar Unpreserved (N/A) (CH) AG1U-1 lifer Amber HCI (pH < 2) AG1U-1 lifer Amber	Destination of the second of t
Sample ID Type of Preservative	pH upon receipt Date preservation adjusted	adjusted added
		this form will be sent to the North Carolina DEHNR Certific

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npany Georgia Power - Coal Combustion Residuals Billing information All SHADED AREAS are for LAB USE ONLY Iress: 2480 Maner Road Container Preservative Types ** Lab Project Manager: Inta, GA 30339 Email To scsinvoices@southernco.com 1 All SHADED AREAS are for LAB USE ONLY Iori To Joyu Abraham Email To scsinvoices@southernco.com 1 All Shate: Figes (1) Intric acid. (2) Indicidence acid. (3) Indicidence acid. (4) sodium hydroxide, (5) Intric acid. (4) sodium hydroxide, (5) Intric acid. (4) sodium hydroxide, (5) Intric acid. (4) sodium hydroxide, (5) Inter acid. (4) somon um sultate, (4) ascrobe acid. (4) ammon um sultate, (4) ascrobe acid. (4) ammon um sultate, (4) and un sultate, (4) and (4) SO6-7239	Lab Sample Receipt Checklist:			-			9	MT (JCT (X)	()PT (Z	Boline	an: Jabraham@southernco.com
npany Georgia Power - Coal Combustion Residuals Billing information All SHADED AREAS are for LAB USE ONLY Jess: 2480 Maner Road Container Preservative Type ** Lab Project Manager: Inta, GA 30339 Email To scsinvoices@southernco.com 1 Image: 1 Image: 1 Jor To Joyu Abraham Email To scsinvoices@southernco.com 1 Image: 1 Image: 1 Vor To Joyu Abraham Email To scsinvoices@southernco.com 1 Image: 1 Image: 1 Vor To Joyu Abraham Email To scsinvoices@southernco.com 1 Image: 1 Image: 1 Vor To Joyu Abraham Email To scsinvoices@southernco.com 1 Image: 1 Image: 1 Image: 1 Vor To Joyu Abraham Email To scsinvoices@southernco.com 1 Image: 1 Image: 1 Image: 1 Vor To Joyu Abraham Email To scsinvoices@southernco.com 1 Image: 1 Image: 1 Image: 1 Vor To Joyu Abraham Email To scsinvoices@southernco.com Image: 1 Image: 1 Image: 1 Image: 1 Vor To Joyu Abraham Est Collection Info/Address. Plant Branch Image: 1 Image: 1 Image: 1 Image: 1 Image: 1 <tr< td=""><td>Lab Profile/Line:</td><td>lyses</td><td>Ana</td><td></td><td></td><td></td><td>ollected</td><td>le Time Zone C</td><td>City: Milledgevil</td><td>State: Georgia</td><td></td><td></td><td>one (404) 506-7239</td></tr<>	Lab Profile/Line:	lyses	Ana				ollected	le Time Zone C	City: Milledgevil	State: Georgia			one (404) 506-7239
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npany Georgia Power - Coal Combustion Residuals Billing Information Billing Information ALL SHADED AREAS are for LAB USE ONLY	Lab Project Manager:	ervative Type **	ontainer Pres		_		-						anta, GA 30339
npany Georgia Power - Coal Combustion Residuals Residuals Reline information	LAB USE ONLY	SHADED AREAS are for	ALL		Γ				Ğ				dress: 2480 Maner Road
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		Internation Persons											/ Pace Analytical

Page 18 of 21

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PACE Analytical Services Ra-228 Analysis

Quality Control Sample Performance Assessment

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Yellow.																																						
Analyst Must Manually Enter All Fields Highlighted in		Sample mark Spike Control Assessment Sample Collection Date:	Sample I.D. Sample MS I.D. Sample MSD I.D.	Spike I.D.:	MS/MSD Decay Corrected Spike Concentration (pCi/mL): Solids Volume Treed in MS (m) V	Spike Volume Used in MSD (mL):	MS Aliquot (L, g, F):	MS Larget Conc. (pC/L_L g, F): MSD Alteriot (1 o E)-	MSD Target Conc. (pCi/L, g, F):	MS Spike Uncertainty (calculated):	MSD Spike Uncertainty (calculated):	Sample Result	Sample Result Counting Uncertainty (pCl/L, g, F):	Varity Snike Desuit Counting I Incertainty (nOifi o E).	Sample Matrix Solike Duplicate Result	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, q, F):	MS Numerical Performance Indicator	MSD Numerical Performance Indicator:	MS Percent Recovery:	MSD Percent Recovery:	MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	MS Status vs Recovery:	MSD Status vs Recovery:	MS/MSD Upper % Recovery Limits: MS/MSD Lower % Becovery Limits:	MONNOD LOWER & RECOVERY LENTING.	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Semula D	Sample MS I.D.	Sample MSD I.D.	Sample Matrix Spike Result:	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	Duplicate Numerical Performance Indicator	(Based on the Percent Recovenes) MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Status vs Numencal Indicator:	איסט טעטווכפוב סופועט ערעט א RPD Limit: א RPD Limit:
											≻	LCSD56344	9/30/2020	00-61	0.10	0.505	4.761	0.057	3.912	0.693	-2.39	82.18%	N/A	Pass	125% 78%	807		Enter Duniicate	sample IDs if	other than	LCS/LCSD in	the space below.			92495960001	92495960001DUP		
900 O	1 A1	9/29/2020	56344 DW		2008968	0.180	0.415	1.02 N/A	Pass		-CSD (Y ar N)?	LCS56344	9/30/2020	24 044	0.10	0.509	4.723	0,057	3,880	0.699	-2.36	82.15%	N/A	Pass	125% 74%	8.01		10056344	LCSD56344	3.880	0.699	3.912	0.693	Ŷ	-0.065	0.04%	A/A	rass 25%
Tott		Marysu Date:	Worklist Matrix:	Method Blank Assessment	MB Sample ID	M/B Counting Uncertainty:	MBMDC:	WB Numerical Performance Indicator: MB Status vs Numerical Indicator:	MO Clarks vs reministrical monoton. MB Status vs. MDC:		Laboratory Control Sample Assessment		Count Date:	Oprested Snike Concentration (nCi/m1)	Volume Used (mL):	Aliquot Votume (L. q. F):	Target Conc. (pCi/L, g, F):	Uncertainty (Catculated):	Result (pCi/L, g, F):	LCS/LCSD Counting Uncertainty (pCi/L, g, F):	Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator:	Status vs Recovery:	Upper % Recovery Limits:	LUWER 20 RECUVERY LIMING.	Duplicate Sample Assessment	. O I alones	Duplicate Sample I.D.	Sample Result (pCi/l o. F)	Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Result (pCi/L, g, F):	Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator.	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Uuplicate Status vs Numerical Indicator	UUPIICARE SIGUES VERTU. % RPD Limit

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

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1 of 1

PACE Analytical Services Ra-228 Analysis

Pace Analytical

Quality Control Sample Performance Assessment

Test	Ra-226		<u>Analyst Must Manually Enter All Fields Highlighted in</u>	Yellow.	
Analyst	LAL		Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Date:	9/29/2020		Sample Collection Date:		
Worklist	56344 DW		Sample I.D. Sample MS I D		
			Sample MSD I.D.		
Method Blank Assessment			Spike I.D.:		
MB Sample ID	2008968		MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
MB concentration:	0.094		Spike Volume Used in MS (mL):		
M/B COUNTING UNCERTAINY: MB MDC:	0.150 0.415		Spike Volume Used in MSU (mL): MS Aliguot (L. g. F):		
MB Numerical Performance Indicator:	1.02		MS Target Conc.(pCiL, g, F):		
MB Status vs Numerical Indicator:	N/A		MSD Aliquot (L, g, F):		
MB Status vs. MDC:	Pass	_	MSD Target Conc. (pCi/l., g, F):		
			INS Spike Uncertainty (calculated):		
Laboratory control Sample Assessment	LUSU (Y OL N)?	z	MSU Spike Uncertainty (calculated):		
	LCS56344	LCSD56344	Sample Result		
Count Date:	9/30/2020		Sample Result Counting Uncertainty (pCi/L, g, F):		
United Solid	000-E-				
Decay confected optice contraintation (powints).	74.044		Matrix Spike Result Counting Uncertaining (PUIL, g, F).		
	0.10		Vieto: Callo Direftante Direftante Direftante Constant - 11		
Auquot voiume (L., g. F.). Target Conc. (pCJ/L., g. F).	u.205 4.723		Matrix Spike Duplicate Result Counting Uncertainty (pU/L, g, F); MS Numerical Performance Indicator		
Uncertainty (Calculated):	0.057		MSD Numerical Performance Indicator		
Result (pCi/L, g, F):	3.880		MS Percent Recovery:		
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.699		MSD Percent Recovery:		
Numerical Performance Indicator:	-2.36		MS Status vs Numerical Indicator.		
Percent Recovery:	82.15%		MSD Status vs Numerical indicator:		
Status vs Numerical Indicator:	N/A		MS Status vs Recovery:		
Status vs Recovery:	Pass		MSD Status vs Recovery:		
Upper % Recovery Limits:	125%		MS/MSD Upper % Recovery Limits:		
Lower % Recovery Limits:	75%		MS/MSD Lower % Recovery Limits:		
Division and Accession for the second s					
Dupicate Sample Assessment			Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:	92495960001	Enter Duplicate	Sample I,D,		
Duplicate Sample I.D.	92495960001DUP	sample IDs if	Sample MS I.D.		
Sample Result (pCi/L, g, F):	0.399	other than	Sample MSD I.D.		
Sample Result Counting Uncertainty (pCi/L, g, F):	0.282	LCSALCSD in	Sample Matrix Spike Result:		
Sample Duplicate Result (pCi/L, g, F):	0.152	the space below.	Matrix Spike Result Counting Uncertainty (pC/A, g, F):		
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.250		Sample Matrix Spike Duplicate Result:		
Are sample and/or duplicate results below RL?	See Below #		Matrix Spike Duplicate Result Counting Uncertainty (pC/L, g, F):		
Duplicate Numerical Performance Indicator:	1.284	92495960001	Duplicate Numerical Performance Indicator.		
Duplicate RPD:	89.47%	92495960001DUP	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
Duplicate Status vs Numerical Indicator:	N/A		MS/ MSD Duplicate Status vs Numerical Indicator;		
Duplicate Status vs KPD: % RPD Limit	Fail**** 25%		MS/ MSD Duplicate Status vs RPD: % RPD Limit:		
			and		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

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Comments:

ourse hilo mun acicios. D/A vergatch must be re-proper

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PACE Analytical Services Ra-228 Analysis

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Quality Control Sample Performance Assessment

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Yellow.	MS/MSD 1																								
Analyst Must Manually Enter All Fields Highlighted in	Sample Matrix Spike Control Assessment Sample Collection Date: Sample I.D. Sample MSI I.D. Sample MSD I.D.	Spike I.D.: Spike Concentration (pc/iml): Spike Volume Used in MS (mL): Spike Volume Used in MS (mL): Spike Volume Used in MS (mL): MS Target Conc.(pc/i/L, g, F): MS Target Conc.(pc/i/L, g, F): MSD Target Conc.(pc/i/L, g, F):	MS Spike Uncertainty (calculated):	Mou opike uncertainty (calculated). Semulo Result-	Sample Result 2 Sigma CSU (pC/L, g, F): Sample Matrix Spike Result:	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	Matrix Spike Duplicate Result 2 Signa CSU (51/L, g, F):	MSD Numerical Performance Indicator	MS Percent Recovery:	MSD Percent Recovery: MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	MS Status vs Recovery:	MS/MSD Honer % Recovery Limits	MS/MSD Lower % Recovery Limits:	Mateix Caiko Mateix Oniko Dunlicato Camalo Accesament			C I USA MACO I D	Sample Matrix Soike Result:	Matrix Spike Result 2 Sigma CSU (pCML, g, F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result 2 Sigma CSU (pC/L, g, F):	Duplicate Numerical Performance Indicator: (Period on the Demont Domination) MS/ MSD Duplicate DDD.	(Deserved and the network (New North Dephate New North Control of the New New New Network Status to New Status	WO/ MOU OUP/ICARE Status vs rounter remineration. MS/ MSD Duplicate Status vs RPD: % RPD Limit
			, ,	1 CSD56345	10/5/2020 20-030	38.140 0.40	0.806	4./32 0.232	4.137	1.305 -0.88	87.43%	N/A	Pass 135%	60%			cinei Dupiicate	adinpic (US II	LCS/LCSD in	the space below.					
Ra-228	VAL 9/29/2020 56345 WT	2008969 0.804 0.854 0.852 3.38 Fail* Pass		1 CS56345	10/5/2020 20-030	38.140 0.40	0.819	4.039 0.228	4.491	1.317 -0.25	96.38%	N/A	Pass 134%	60%		110000	1.0006045	LUSU0043	1.317	4.137	1.305	Q	0.373	8/1/0 0350	Pass 36%
Pace Analytical Test	Analyst: Date: Worklist: Matrix:	Method Blank Assessment MB Sample ID MB concentration: MB 2 Sigma CSU: MB Numerical Performance Indicator: MB Status vs Numerical Indicator: MB Status vs Numerical Indicator: MB Status vs Numerical Indicator: MB Status vs Numerical Indicator:		auroi aturi y Contru ol Santiple Assessinerit	Count Date: Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL):	Aliquot Volume (L, g, F): Transforms (2, g, F):	l auger conto. (powr. g. r.). Uncertainty (Calculated):	Result (pCVL, g, F);	LCS/LCSD 2 Sigma CSU (pCi/L, g, F): Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator.	Status vs Recovery: I Inner % Recovery I imite:	Lower % Recovery Limits:	Indicata Samula Accacement		Durfacto Security I.D.	Completion: Completion: Completion:	Sample Result 2 Sigma CSU (pCi/L, g, F):	Sample Duplicate Result (pCi/L, g, F):	Sample Duplicate Result 2 Sigma CSU (pCI/L, g, F):	Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator: (Beead on the LOS/LOSD Bernent Deconverse) Duplicate DDD:	(pased on the ECONECOD Forcers Networks) outpillate NEU. Duningta Status va Numarinai Indinatori	Duplicate Status vs RPD: Duplicate Status vs RPD: % RPD: [imit]

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Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

D/ 10-6-20

Comments: "If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be reversed." Ra-228 NELAC DW2 Printed: 10/6/2020 11:05 AM

Ra-228_56345_W.xls Ra-228 (R086-8 04Sep2019).xls



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

September 27, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH BCD/E BACKGROUND Pace Project No.: 92495656

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Charlotte
- Pace Analytical Services Peachtree Corners, GA

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Stury

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder





CERTIFICATIONS

Project: BRANCH BCD/E BACKGROUND

Pace Project No.: 92495656

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



SAMPLE SUMMARY

Project: BRANCH BCD/E BACKGROUND

Pace Project No.: 92495656

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495656001	BRGWA-6S	Water	09/15/20 09:45	09/16/20 09:45
92495656002	BRGWA-5S	Water	09/15/20 13:20	09/16/20 09:45
92495656003	BRGWA-5I	Water	09/15/20 14:02	09/16/20 09:45
92495656004	BRGWA-2S	Water	09/15/20 15:01	09/16/20 09:45
92495656005	BRGWA-2I	Water	09/15/20 16:07	09/16/20 09:45



SAMPLE ANALYTE COUNT

Project: BRANCH BCD/E BACKGROUND

Pace Project No.: 92495656

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495656001	BRGWA-6S	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495656002	BRGWA-5S	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495656003	BRGWA-5I	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495656004	BRGWA-2S	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495656005	BRGWA-2I	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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



SUMMARY OF DETECTION

Project: BRANCH BCD/E BACKGROUND

Pace Project No.: 92495656

Lab Sample ID Client Sample ID Qualifiers Method Parameters Result Units Report Limit Analyzed 92495656001 **BRGWA-6S** pН 6.43 Std. Units 09/22/20 12:29 EPA 6010D Calcium 3.7 1.0 09/17/20 18:38 mg/L EPA 6020B Barium 0.013 0.010 09/21/20 16:55 mg/L EPA 6020B Chromium 0.014 mg/L 0.010 09/21/20 16:55 EPA 6020B Lithium 0.0027J mg/L 0.030 09/21/20 16:55 **Total Dissolved Solids** 79.0 SM 2450C-2011 mg/L 10.0 09/17/20 15:25 EPA 300.0 Rev 2.1 1993 Chloride 2.3 mg/L 09/23/20 23:33 1.0 92495656002 **BRGWA-5S** bН 6.25 Std. Units 09/22/20 12:29 EPA 6010D Calcium 16.8 1.0 09/17/20 18:43 mg/L EPA 6020B Barium 0.038 09/21/20 17:00 mg/L 0.010 EPA 6020B Chromium 0.0048J 0.010 09/21/20 17:00 mg/L EPA 6020B Lead 0.000043J mg/L 0.0050 09/21/20 17:00 SM 2450C-2011 **Total Dissolved Solids** 116 mg/L 10.0 09/17/20 15:26 EPA 300.0 Rev 2.1 1993 Chloride 3.7 mg/L 1.0 09/23/20 23:48 EPA 300.0 Rev 2.1 1993 Fluoride 0.051J 0.10 09/23/20 23:48 mg/L **BRGWA-5I** 92495656003 pН 6.27 Std. Units 09/22/20 12:29 EPA 6010D Calcium 12.7 1.0 09/17/20 18:47 mg/L EPA 6020B Barium 0.022 mg/L 0.010 09/21/20 17:06 EPA 6020B Chromium 0.0069J mg/L 0.010 09/21/20 17:06 EPA 6020B Cobalt 0.00050J 0.0050 09/21/20 17:06 mg/L EPA 6020B 0.0050 Lead 0.0013J 09/21/20 17:06 mg/L EPA 6020B Lithium 0.0010J 0.030 09/21/20 17:06 mg/L EPA 6020B Molybdenum 0.0015J mg/L 0.010 09/21/20 17:06 SM 2450C-2011 **Total Dissolved Solids** 10.0 09/17/20 15:26 100 mg/L EPA 300.0 Rev 2.1 1993 Chloride 3.7 mg/L 1.0 09/24/20 00:03 EPA 300.0 Rev 2.1 1993 1.0 09/24/20 00:03 Sulfate 1.7 mg/L **BRGWA-2S** 92495656004 pН 6.01 Std. Units 09/22/20 12:29 EPA 6010D Calcium 3.9 mg/L 1.0 09/17/20 19:00 EPA 6020B Barium 0.0094J 0.010 09/21/20 17:12 mg/L EPA 6020B 0.0082J 0.010 09/21/20 17:12 Chromium mg/L EPA 6020B Cobalt 0.0010J mg/L 0.0050 09/21/20 17:12 Total Dissolved Solids SM 2450C-2011 69.0 mg/L 10.0 09/17/20 15:26 EPA 300.0 Rev 2.1 1993 Chloride 1.7 mg/L 1.0 09/24/20 00:48 92495656005 **BRGWA-2I** Std. Units pН 6.64 09/22/20 12:29 EPA 6010D Calcium 14.1 1.0 09/17/20 19:04 mg/L EPA 6020B 0.0083J Barium 0.010 09/21/20 17.18 mg/L EPA 6020B Lithium 0.033 0.030 09/21/20 17.18 mg/L FPA 6020B Molybdenum 0.00070J mg/L 0.010 09/21/20 17:18 Total Dissolved Solids SM 2450C-2011 116 mg/L 10.0 09/17/20 15:26 EPA 300.0 Rev 2.1 1993 Chloride 1.9 mg/L 1.0 09/24/20 07:27 EPA 300.0 Rev 2.1 1993 Sulfate 5.9 mg/L 1.0 09/24/20 07:27



Project: BRANCH BCD/E BACKGROUND

Pace Project No.:

92495656

Sample: BRGWA-6S	Lab ID:	92495656001	Collecte	ed: 09/15/20	0 09:45	Received: 09/	/16/20 09:45 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica Pace Ana	l Method: alytical Services	s - Charlotte	9					
рН	6.43	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytica Pace Ana	l Method: EPA	6010D Pre s - Peachtre	paration Met e Corners, C	hod: El GA	PA 3010A			
Calcium	3.7	mg/L	1.0	0.070	1	09/16/20 15:14	09/17/20 18:38	7440-70-2	
6020 MET ICPMS	Analytica Pace Ana	l Method: EPA	6020B Pre s - Peachtre	paration Met e Corners, C	hod: El GA	PA 3005A			
Antimony Arsenic Barium Beryllium Boron Cadmium Chromium Cobalt Lead Lithium Molybdenum Selenium Thallium 7470 Mercury	ND 0.013 ND ND 0.014 ND 0.0027J ND ND ND ND	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0030 0.0050 0.010 0.0030 0.0025 0.010 0.0050 0.0050 0.030 0.010 0.010 0.0010 7470A Prei	0.00028 0.00078 0.00071 0.000046 0.0052 0.00012 0.00055 0.00038 0.000036 0.00081 0.00069 0.0016 0.00014	1 1 1 1 1 1 1 1 1 1 1 1 1	09/16/20 18:16 09/16/20 18:16	09/21/20 16:55 09/21/20 16:55	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9 7440-47-3 7440-48-4 7439-92-1 7439-93-2 7439-98-7 7782-49-2 7440-28-0	
	Pace Ana	alytical Services	s - Peachtre	e Corners, C	GA E				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 12:58	7439-97-6	
2540C Total Dissolved Solids	Analytica Pace Ana	l Method: SM 2 alytical Services	450C-2011 s - Peachtre	e Corners, C	S A				
Total Dissolved Solids	79.0	mg/L	10.0	10.0	1		09/17/20 15:25		
300.0 IC Anions 28 Days	Analytica Pace Ana	l Method: EPA : alytical Services	300.0 Rev 2 s - Asheville	2.1 1993					
Chloride Fluoride Sulfate	2.3 ND ND	mg/L mg/L mg/L	1.0 0.10 1.0	0.60 0.050 0.50	1 1 1		09/23/20 23:33 09/23/20 23:33 09/23/20 23:33	16887-00-6 16984-48-8 14808-79-8	



Project: BRANCH BCD/E BACKGROUND

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Pace Project No.: 92495656

Sample: BRGWA-5S	Lab ID:	92495656002	Collecte	ed: 09/15/2	0 13:20	Received: 09/	/16/20 09:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica	I Method:							
	Pace Ana	alytical Services	- Charlotte	9					
рН	6.25	Std. Units			1		09/22/20 12:29		
	Analytica	Method: EPA	6010D Pre	naration Me	thod [.] FF	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners (аноа. <u>Е</u> г ЗА				
	1 400 7 416			.e eeniere, (- / / 0 - 0 0	
Calcium	16.8	mg/L	1.0	0.070	1	09/16/20 15:14	09/17/20 18:43	7440-70-2	
6020 MET ICPMS	Analytica	I Method: EPA	6020B Pre	paration Met	thod: EF	PA 3005A			
	Pace Ana	alytical Services	- Peachtre	e Corners, (GΑ				
Antimony	ND	mg/L	0.0030	0.00028	1	09/16/20 18:16	09/21/20 17:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/16/20 18:16	09/21/20 17:00	7440-38-2	
Barium	0.038	mg/L	0.010	0.00071	1	09/16/20 18:16	09/21/20 17:00	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/16/20 18:16	09/21/20 17:00	7440-41-7	
Boron	ND	mg/L	0.10	0.0052	1	09/16/20 18:16	09/21/20 17:00	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/16/20 18:16	09/21/20 17:00	7440-43-9	
Chromium	0.0048J	mg/L	0.010	0.00055	1	09/16/20 18:16	09/21/20 17:00	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/16/20 18:16	09/21/20 17:00	7440-48-4	
Lead	0.000043J	mg/L	0.0050	0.000036	1	09/16/20 18:16	09/21/20 17:00	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/16/20 18:16	09/21/20 17:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/16/20 18:16	09/21/20 17:00	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/16/20 18:16	09/21/20 17:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/16/20 18:16	09/21/20 17:00	7440-28-0	
7470 Mercury	Analytica	I Method: EPA	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	alytical Services	- Peachtre	e Corners, (GA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 13:07	7439-97-6	
2540C Total Dissolved Solids	Analytica	I Method: SM 2	450C-2011						
	Pace Ana	alytical Services	- Peachtre	e Corners, (GΑ				
Total Dissolved Solids	116	mg/L	10.0	10.0	1		09/17/20 15:26		
300.0 IC Anions 28 Days	Analytica	I Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	alytical Services	s - Asheville	•					
Chloride	3.7	mg/L	1.0	0.60	1		09/23/20 23:48	16887-00-6	
Fluoride	0.051J	mg/L	0.10	0.050	1		09/23/20 23:48	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/23/20 23:48	14808-79-8	



Project: BRANCH BCD/E BACKGROUND

Pace Project No.:

92495656

Sample: BRGWA-5I	Lab ID:	9249565600	3 Collecte	ed: 09/15/20	0 14:02	Received: 09/	/16/20 09:45 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica Pace Ana	l Method: alytical Service	s - Charlotte	e					
рН	6.27	Std. Units			1		09/22/20 12:29		
6010D ATL ICP	Analytica Pace Ana	I Method: EPA alytical Service	6010D Pre s - Peachtre	paration Meter e Corners, C	thod: E GA	PA 3010A			
Calcium	12.7	mg/L	1.0	0.070	1	09/16/20 15:14	09/17/20 18:47	7440-70-2	
6020 MET ICPMS	Analytica Pace Ana	I Method: EPA alytical Service	6020B Pre s - Peachtre	paration Met e Corners, C	hod: E GA	PA 3005A			
Antimony Arsenic Barium Beryllium Boron Cadmium Chromium Cobalt Lead Lithium Molybdenum Selenium Thallium	ND ND 0.022 ND ND 0.0069J 0.00050J 0.0013J 0.0010J 0.0015J ND	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0030 0.0050 0.010 0.0030 0.10 0.0025 0.010 0.0050 0.0050 0.0050 0.030 0.010 0.010 0.0010	0.00028 0.00078 0.00071 0.000046 0.0052 0.00012 0.00055 0.00038 0.000036 0.00081 0.00069 0.0016 0.00014	1 1 1 1 1 1 1 1 1 1 1	09/16/20 18:16 09/16/20 18:16	09/21/20 17:06 09/21/20 17:06	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9 7440-47-3 7440-48-4 7439-92-1 7439-93-2 7439-98-7 7782-49-2 7440-28-0	
7470 Mercury	Pace Ana	alytical Service	s - Peachtre	e Corners, C	GA BA	PA 7470A			
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 13:10	7439-97-6	
2540C Total Dissolved Solids	Analytica Pace Ana	I Method: SM 2 alytical Service	2450C-2011 s - Peachtre	e Corners, C	ĞΑ				
Total Dissolved Solids	100	mg/L	10.0	10.0	1		09/17/20 15:26		
300.0 IC Anions 28 Days	Analytica Pace Ana	I Method: EPA alytical Service	300.0 Rev 2 s - Asheville	2.1 1993 9					
Chloride Fluoride Sulfate	3.7 ND 1.7	mg/L mg/L mg/L	1.0 0.10 1.0	0.60 0.050 0.50	1 1 1		09/24/20 00:03 09/24/20 00:03 09/24/20 00:03	16887-00-6 16984-48-8 14808-79-8	



Project: BRANCH BCD/E BACKGROUND

Pace Project No.:

92495656

Sample: BRGWA-2S	Lab ID:	92495656004	Collecte	ed: 09/15/20) 15:01	Received: 09/	16/20 09:45 Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
Field Data	Analytica Pace Ana	l Method: alytical Services	- Charlotte	9						
рН	6.01	Std. Units			1		09/22/20 12:29			
6010D ATL ICP	Analytica Pace Ana	l Method: EPA 6 alytical Services	6010D Pre	paration Met e Corners, C	hod: El GA	PA 3010A				
Calcium	3.9	mg/L	1.0	0.070	1	09/16/20 15:14	09/17/20 19:00	7440-70-2		
6020 MET ICPMS	Analytica Pace Ana	l Method: EPA 6 alytical Services	6020B Pre - Peachtre	paration Met e Corners, C	hod: El GA	PA 3005A				
Antimony	ND	mg/L	0.0030	0.00028	1	09/16/20 18:16	09/21/20 17:12	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	09/16/20 18:16	09/21/20 17:12	7440-38-2		
Barium	0.0094J	mg/L	0.010	0.00071	1	09/16/20 18:16	09/21/20 17:12	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	09/16/20 18:16	09/21/20 17:12	7440-41-7		
Boron	ND	mg/L	0.10	0.0052	1	09/16/20 18:16	09/21/20 17:12	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00012	1	09/16/20 18:16	09/21/20 17:12	7440-43-9		
Chromium	0.0082J	mg/L	0.010	0.00055	1	09/16/20 18:16	09/21/20 17:12	7440-47-3		
Cobalt	0.0010J	mg/L	0.0050	0.00038	1	09/16/20 18:16	09/21/20 17:12	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	09/16/20 18:16	09/21/20 17:12	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	09/16/20 18:16	09/21/20 17:12	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	09/16/20 18:16	09/21/20 17:12	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	09/16/20 18:16	09/21/20 17:12	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	09/16/20 18:16	09/21/20 17:12	7440-28-0		
7470 Mercury	Analytica Pace Ana	I Method: EPA 7 alytical Services	7470A Pre - Peachtre	paration Met ee Corners, C	hod: El BA	PA 7470A				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 13:12	7439-97-6		
2540C Total Dissolved Solids	Analytica Pace Ana	l Method: SM 2 alytical Services	450C-2011 - Peachtre	e Corners, C	6A					
Total Dissolved Solids	69.0	mg/L	10.0	10.0	1		09/17/20 15:26			
300.0 IC Anions 28 Days	Analytica Pace Ana	l Method: EPA 3 alytical Services	300.0 Rev 2 - Asheville	2.1 1993 9						
Chloride	1.7	ma/L	1.0	0.60	1		09/24/20 00:48	16887-00-6		
Fluoride	ND	ma/L	0.10	0.050	1		09/24/20 00:48	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		09/24/20 00:48	14808-79-8		



Project: BRANCH BCD/E BACKGROUND

Pace Project No.:

92495656

Sample: BRGWA-2I	Lab ID:	9249565600	5 Collecte	ed: 09/15/20	0 16:07	Received: 09/	Received: 09/16/20 09:45 Matrix: Water				
Doromotoro	Poquito	Linito	Report	MDI	DE	Bronorod	Applyzod		Qual		
Falameters		Units						CAS NO.			
Field Data	Analytica	I Method:									
	Pace Ana	alytical Service	s - Charlotte	;							
рН	6.64	Std. Units			1		09/22/20 12:29				
6010D ATL ICP	Analytica	al Method: EPA	6010D Pre	paration Met	hod: E	PA 3010A					
	Pace Ana	alytical Service	s - Peachtre	e Corners, C	SA						
Calcium	14.1	mg/L	1.0	0.070	1	09/16/20 15:14	09/17/20 19:04	7440-70-2			
6020 MET ICPMS	Analytica	al Method: EPA	6020B Pre	paration Met	hod: E	PA 3005A					
	Pace Ana	alytical Service	s - Peachtre	e Corners, C	SA						
Antimony	ND	ma/l	0.0030	0.00028	1	09/16/20 18:16	09/21/20 17:18	7440-36-0			
Arsenic	ND	ma/l	0.0050	0.00078	1	09/16/20 18:16	09/21/20 17:18	7440-38-2			
Barium	0.0083J	ma/l	0.010	0.00071	1	09/16/20 18:16	09/21/20 17:18	7440-39-3			
Bervllium	ND	ma/L	0.0030	0.000046	1	09/16/20 18:16	09/21/20 17:18	7440-41-7			
Boron	ND	ma/L	0.10	0.0052	1	09/16/20 18:16	09/21/20 17:18	7440-42-8			
Cadmium	ND	ma/L	0.0025	0.00012	1	09/16/20 18:16	09/21/20 17:18	7440-43-9			
Chromium	ND	ma/L	0.010	0.00055	1	09/16/20 18:16	09/21/20 17:18	7440-47-3			
Cobalt	ND	ma/L	0.0050	0.00038	1	09/16/20 18:16	09/21/20 17:18	7440-48-4			
Lead	ND	ma/L	0.0050	0.000036	1	09/16/20 18:16	09/21/20 17:18	7439-92-1			
Lithium	0.033	mg/L	0.030	0.00081	1	09/16/20 18:16	09/21/20 17:18	7439-93-2			
Molybdenum	0.00070J	mg/L	0.010	0.00069	1	09/16/20 18:16	09/21/20 17:18	7439-98-7			
Selenium	ND	mg/L	0.010	0.0016	1	09/16/20 18:16	09/21/20 17:18	7782-49-2			
Thallium	ND	mg/L	0.0010	0.00014	1	09/16/20 18:16	09/21/20 17:18	7440-28-0			
7470 Mercury	Analytica	al Method: EPA	7470A Pre	paration Met	hod: E	PA 7470A					
2	Pace Ana	alytical Service	s - Peachtre	e Corners, C	ΒA						
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 13:14	7439-97-6			
2540C Total Dissolved Solids	Analytica	al Method: SM 2	2450C-2011								
	Pace Ana	alytical Service	s - Peachtre	e Corners, C	S A						
Total Dissolved Solids	116	mg/L	10.0	10.0	1		09/17/20 15:26				
300.0 IC Anions 28 Days	Analytica	al Method: EPA	300.0 Rev 2	2.1 1993							
	Pace Ana	alytical Service	s - Asheville	•							
Chloride	1.9	mg/L	1.0	0.60	1		09/24/20 07:27	16887-00-6			
Fluoride	ND	mg/L	0.10	0.050	1		09/24/20 07:27	16984-48-8			
Sulfate	5.9	ma/L	1.0	0.50	1		09/24/20 07:27	14808-79-8			



Project:	BRANCH BCD/E E	BACKGROUND												
Pace Project No .:	92495656													
QC Batch:	566871		Anal	ysis Me	thod:	EP	A 6010D							
QC Batch Method:	EPA 3010A		Analysis Description:			601	6010D ATL							
			Labo	oratory:		Pac	ce Analy	tical Ser	vices - Peach	tree Corne	rs, GA			
Associated Lab Sam	ples: 924956560	001, 9249565600	2, 924956	56003, 9	249565600	4, 924	4956560	05						
METHOD BLANK:	3003868			Matrix:	Water									
Associated Lab Sam	ples: 924956560	001, 9249565600	2, 924956	56003, 9	249565600	4, 924	4956560	05						
			Bla	ink	Reporting	g								
Param	eter	Units	Res	sult	Limit		MD	L	Analyzeo	l Qi	ualifiers			
Calcium		mg/L		ND		1.0		0.070	09/17/20 17	:42				
LABORATORY CON	TROL SAMPLE:	3003869												
			Spike		LCS	l	LCS	%	Rec					
Param	eter	Units	Conc.	.	Result	%	6 Rec	L	imits	Qualifiers				
Calcium		mg/L		1	0.93J		9	3	80-120					
MATRIX SPIKE & MA	ATRIX SPIKE DUP	LICATE: 3003	870		30038	371								
		02/05653001	MS Spike	MSD Spike	MS		MSD	MS	MSD	% Rec		Max		
Parameter	Units	Result	Conc.	Conc.	Result	F	Result	% Rec	c % Rec	Limits	RPD	RPD	Qual	
Calcium	mg/L	5.7	1		1 6	.6	6.6		89 87	75-125	0	20		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: BRANCH BCD/E BACKGROUND

Pace Project No.:	92495656
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QC Batch:	56696	3	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 30	005A	Analysis Description:	6020 MET
			Laboratory:	Pace Analytical Services - Peachtree Corners, GA
Associated Lab Sam	ples:	92495656001, 92495656002	2, 92495656003, 92495656004	I, 92495656005

METHOD BLANK: 300)4543	Matrix: Water								
Associated Lab Samples	s: 92495656001, 92495656002,	92495656003, 92	2495656004, 924	95656005						
		Blank	Reporting							
Parameter	r Units	Result	Limit	MDL	Analyzed	Qualifiers				
Antimony	mg/L	ND	0.0030	0.00028	09/21/20 15:26					
Arsenic	mg/L	ND	0.0050	0.00078	09/21/20 15:26					
Barium	mg/L	ND	0.010	0.00071	09/21/20 15:26					
Beryllium	mg/L	ND	0.0030	0.000046	09/21/20 15:26					
Boron	mg/L	ND	0.10	0.0052	09/21/20 15:26					
Cadmium	mg/L	ND	0.0025	0.00012	09/21/20 15:26					
Chromium	mg/L	ND	0.010	0.00055	09/21/20 15:26					
Cobalt	mg/L	ND	0.0050	0.00038	09/21/20 15:26					
Lead	mg/L	ND	0.0050	0.000036	09/21/20 15:26					
Lithium	mg/L	ND	0.030	0.00081	09/21/20 15:26					
Molybdenum	mg/L	ND	0.010	0.00069	09/21/20 15:26					
Selenium	mg/L	ND	0.010	0.0016	09/21/20 15:26					
Thallium	mg/L	ND	0.0010	0.00014	09/21/20 15:26					

LABORATORY CONTROL SAMPLE: 3004544

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.099	99	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.10	105	80-120	
Boron	mg/L	1	1.1	109	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.10	105	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.11	107	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SP	3004546											
		92495653001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony Arsenic	mg/L mg/L	ND ND	0.1 0.1	0.1 0.1	0.10 0.10	0.097 0.096	100 101	97 96	75-125 75-125	2 5	20 20	

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REPORT OF LABORATORY ANALYSIS

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Project: BRANCH BCD/E BACKGROUND

Pace Project No.: 92495656

MATRIX SPIKE & MATRIX SPI	ke dupi	LICATE: 3004	545 MS	MSD	3004546							
		92495653001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	mg/L	0.058	0.1	0.1	0.16	0.15	99	95	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.096	102	96	75-125	6	20	
Boron	mg/L	ND	1	1	1.0	0.98	103	97	75-125	5	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.096	100	96	75-125	4	20	
Chromium	mg/L	0.0025J	0.1	0.1	0.11	0.099	103	96	75-125	7	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.097	100	97	75-125	2	20	
Lead	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	3	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	104	100	75-125	4	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.097	100	97	75-125	3	20	
Selenium	mg/L	ND	0.1	0.1	0.098	0.10	98	99	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.094	97	94	75-125	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD/E E	BACKGROUND											
Pace Project No.:	92495656												
QC Batch:	567255		Analy	sis Metho	d:	EPA 7470A							
QC Batch Method:	EPA 7470A		Analysis Description:			7470 Mercury							
			Labo	ratory:		Pace Analyt	ical Servi	ces - Peach	tree Corne	rs, GA			
Associated Lab Sar	nples: 92495656	001, 9249565600	02, 9249565	6003, 924	95656004,	924956560	05						
METHOD BLANK:	3006139			Matrix: W	/ater								
Associated Lab Sar	nples: 92495656	001, 9249565600	2, 9249565	6003, 924	95656004,	924956560	05						
			Blar	nk	Reporting								
Parar	neter	Units	Res	ult	Limit	MD	L	Analyzed	Q	ualifiers			
Mercury		mg/L		ND	0.0005	50 0.0	00078 (9/18/20 12:	53				
LABORATORY CO	NTROL SAMPLE:	3006140											
			Spike	LC	S	LCS	% F	Rec					
Parar	neter	Units	Conc.	Res	sult	% Rec	Lin	its	Qualifiers				
Mercury		mg/L	0.002	5	0.0026	10	2	80-120		_			
MATRIX SPIKE & M	IATRIX SPIKE DUP	LICATE: 3006	141		3006142	2							
			MS	MSD									
Dava		92495656001	Spike	Spike	MS	MSD	MS	MSD	% Rec	000	Max	0	
Paramete	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	LIMITS			Qual	
Mercury	mg/L	ND	0.0025	0.0025	0.0026	0.0025	102	100	75-125	2	20		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD/E	BACKGROUND							
Pace Project No.:	92495656								
QC Batch:	567139		Analysis Me	ethod:	SM 2450C-20)11			
QC Batch Method:	SM 2450C-2011		Analysis De	escription:	2540C Total D	Dissolv	ved Solids		
			Laboratory:		Pace Analytic	al Ser	vices - Pea	achtree	Corners, GA
Associated Lab Sar	mples: 92495656	6001, 92495656002	, 92495656003,	92495656004	92495656005	5			
METHOD BLANK:	3005336		Matrix	: Water					
Associated Lab Sar	nples: 92495656	6001, 92495656002	, 92495656003,	92495656004	92495656005	5			
			Blank	Reporting					
Parar	neter	Units	Result	Limit	MDL		Analyz	ed	Qualifiers
Total Dissolved Soli	ids	mg/L	ND	10	0.0	10.0	09/17/20	15:22	
		-							
LABORATORY CO	NTROL SAMPLE:	3005337							
			Spike	LCS	LCS	%	Rec		
Parar	neter	Units	Conc.	Result	% Rec	L	imits	Qua	lifiers
Total Dissolved Soli	ds	mg/L	400	420	105		84-108		
SAMPLE DUPLICA	TE: 3005338								
			92494171032	Dup			Max		
Parar	neter	Units	Result	Result	RPD		RPD		Qualifiers
Total Dissolved Soli	ids	mg/L	146	5 14	42	3		10	
SAMPLE DUPLICA	TE: 3005339								
			92495656003	Dup			Max		
Parar	neter	Units	Result	Result	RPD		RPD		Qualifiers
Total Dissolved Soli	ds	mg/L	100	95	.0	5		10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH B	SCD/E B	ACKGROUND										
Pace Project No.:	92495656												
QC Batch:	568234			Anal	sis Metho	d:	EPA 300.0 I	Rev 2.1 1	993				
QC Batch Method:	EPA 300.0) Rev 2.	1 1993	Analy	/sis Descri	ption:	300.0 IC An	ions					
				Labo	ratory:		Pace Analy	tical Serv	ices - Ashevi	lle			
Associated Lab San	nples: 924	1956560	001, 9249565600	2, 9249565	6003, 924	95656004							
METHOD BLANK:	3010905				Matrix: W	/ater							
Associated Lab Sar	nples: 924	1956560	01, 9249565600	2, 9249565	6003, 924	95656004							
				Blai	nk	Reporting							
Paran	neter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	alifiers		
Chloride			mg/L		ND	1.	0	0.60	09/23/20 17:	04			
Fluoride			mg/L		ND	0.1	0	0.050	09/23/20 17:	04			
Sulfate			mg/L		ND	1.	0	0.50	09/23/20 17:0	04			
LABORATORY COI	NTROL SAM	PLE:	3010906	0 1									
Parar	notor		Unite	Spike Сорс	LC	5 Sult	LCS % Rec	% Li	REC mite (Juglifiers			
	lielei		Units				70 Ket			zuaimers	_		
Chloride			mg/L	5	50 E	53.0	10	6	90-110				
Sulfate			mg/L	ے ہ	.5 :0	2.1 53.2	10	9 6	90-110 90-110				
Cunate			ing/E			00.2	10	0	00 110				
MATRIX SPIKE & N	IATRIX SPIK	E DUPI	LICATE: 3010	909		3010910)						
				MS	MSD								
			92496730002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	<u> </u>
Parameter	ſ	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride		mg/L	264	50	50	389	389	24	9 249	90-110	0	10	
Fluoride		mg/L	0.60	2.5	2.5	3.3	3.4	11	0 110	90-110	1	10	
Sulfate		mg/L	3.0	50	50	57.3	57.3	10	9 109	90-110	0	10	
MATRIX SPIKE & M	IATRIX SPIK	E DUPI	LICATE: 3011	115		3011116							
				MS	MSD								
			92496730004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	r	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride		mg/L	109	50	50	158	158	g	97	90-110	0	10	
Fluoride		mg/L	0.43	2.5	2.5	3.1	3.2	10	8 109	90-110	1	10	
Sulfate		mg/L	79.4	50	50	120	120	8	1 81	90-110	0	10	M1

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REPORT OF LABORATORY ANALYSIS

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Project:	BRANCH BCD/	E BACKGROUND										
Pace Project No .:	92495656											
QC Batch:	568377		Anal	ysis Metho	d: E	EPA 300.0 I	Rev 2.1 19	93				
QC Batch Method:	EPA 300.0 Re	v 2.1 1993	Anal	ysis Descri	ption: 3	300.0 IC An	ions					
			Labo	oratory:	F	Pace Analy	tical Servic	es - Ashevil	le			
Associated Lab Sar	mples: 924956	56005				-						
METHOD BLANK:	3011350			Matrix: W	ater							
Associated Lab Sar	nples: 924956	56005										
			Bla	nk	Reporting							
Parar	neter	Units	Res	ult	Limit	MD	L	Analyzed	Qu	ualifiers		
Chloride		mg/L		ND	1.(0	0.60 0	9/24/20 06:	58			
Fluoride		mg/L		ND	0.10	0	0.050 0	9/24/20 06:	58			
Sulfate		mg/L		ND	1.(0	0.50 0	9/24/20 06:	58			
		· 3011351										
		. 3011331	Spike	LC	s	LCS	% R	ec				
Parar	neter	Units	Conc.	Res	sult	% Rec	Lim	its (Qualifiers			
Chloride		ma/l	<u></u>	50	50.7	10	 1	90-110		_		
Fluoride		mg/L	2	.5	2.6	10	2	90-110				
Sulfate		mg/L	Ę	50	50.1	10	0	90-110				
			1250		2011252							
MATRIA SPIRE & N	ATRIX SPIKE D	UPLICATE: 301	MS	MSD	3011353							
		92495656005	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	r Ur	nits Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride		n/l 19	50	50	55.8	56.2	108	109	90-110	1	10	
Fluoride	m	g/L ND	2.5	2.5	2.8	2.8	109	110	90-110	1	10	
Sulfate	m	g/L 5.9	50	50	59.3	59.6	107	108	90-110	1	10	
MATRIX SPIKE & N			1354		3011355							
		5. EIG/IIE 501	MS	MSD	0011000							
		92496524001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	r Uı	nits Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride	m	g/L 2.6	50	50	56.8	57.6	108	110	90-110	1	10	
Fluoride	m	g/L ND	2.5	2.5	2.7	2.8	108	110	90-110	2	10	
Sulfate	m	g/L 1.0	50	50	54.0	54.8	106	108	90-110	1	10	

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QUALIFIERS

Project: BRANCH BCD/E BACKGROUND

Pace Project No.: 92495656

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH BCD/E BACKGROUND

Pace Project No.: 92495656

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495656001	BRGWA-6S				
92495656002	BRGWA-5S				
92495656003	BRGWA-5I				
92495656004	BRGWA-2S				
92495656005	BRGWA-2I				
92495656001	BRGWA-6S	EPA 3010A	566871	EPA 6010D	566908
92495656002	BRGWA-5S	EPA 3010A	566871	EPA 6010D	566908
92495656003	BRGWA-5I	EPA 3010A	566871	EPA 6010D	566908
92495656004	BRGWA-2S	EPA 3010A	566871	EPA 6010D	566908
92495656005	BRGWA-2I	EPA 3010A	566871	EPA 6010D	566908
92495656001	BRGWA-6S	EPA 3005A	566966	EPA 6020B	566971
92495656002	BRGWA-5S	EPA 3005A	566966	EPA 6020B	566971
92495656003	BRGWA-5I	EPA 3005A	566966	EPA 6020B	566971
92495656004	BRGWA-2S	EPA 3005A	566966	EPA 6020B	566971
92495656005	BRGWA-2I	EPA 3005A	566966	EPA 6020B	566971
92495656001	BRGWA-6S	EPA 7470A	567255	EPA 7470A	567454
92495656002	BRGWA-5S	EPA 7470A	567255	EPA 7470A	567454
92495656003	BRGWA-5I	EPA 7470A	567255	EPA 7470A	567454
92495656004	BRGWA-2S	EPA 7470A	567255	EPA 7470A	567454
92495656005	BRGWA-2I	EPA 7470A	567255	EPA 7470A	567454
92495656001	BRGWA-6S	SM 2450C-2011	567139		
92495656002	BRGWA-5S	SM 2450C-2011	567139		
92495656003	BRGWA-5I	SM 2450C-2011	567139		
92495656004	BRGWA-2S	SM 2450C-2011	567139		
92495656005	BRGWA-2I	SM 2450C-2011	567139		
92495656001	BRGWA-6S	EPA 300.0 Rev 2.1 1993	568234		
92495656002	BRGWA-5S	EPA 300.0 Rev 2.1 1993	568234		
92495656003	BRGWA-5I	EPA 300.0 Rev 2.1 1993	568234		
92495656004	BRGWA-2S	EPA 300.0 Rev 2.1 1993	568234		
92495656005	BRGWA-2I	EPA 300.0 Rev 2.1 1993	568377		

	San	nple Condition	Upon Recei	1# .02105656
Courier:	Pace Analytical Client Name	GA Pa	WV.	J#· 92493030
Courier: Cale of the control of the		- mon		
Castady Seal on Cooler/Box Present: ves on seels intact: ves on prog. Name:	Courier: Fed Ex UPS USPS Clier		Pace Other 924	
Packing Material: Bubble Wrap Bubble Bags Other	Custody Seal on Cooler/Box Present: Vyes	no Seals	intact: yes	Proj. Name: no
Thermometer Used 2 4 Type of ice: We Blue None Samples on ice: cooling process has begun Cooler Temperature Biological Tissue is Frozen: Yes No Date and Initiate of perform exampling: contents:: Date and Initiate of perform exampling: contents:: Date and Initiate of perform exampling: contents:: Date and Initiate of perform examples on ice: cooling process has begun Chain of Custody Present: ZMT No DNA 1. Chain of Custody Present: Comments: Chain of Custody Present: ZMT No DNA 3. Samples Name & Signature on COC: Comments: Comments: Comments: Samples Arrived within Hold Time: Comments: No Na 4. Samples Arrived within Hold Time: Cres Elvo DNA 5. Samples Containers Used: Cres Elvo DNA 6. Correct Containers Used: Cres Elvo DNA 6. Correct Containers Used: Cres Elvo DNA 12. Containers Intact: Cres Elvo DNA 10. Eltered volume received for Dissolved tests Dres Elvo DNA 12. Containers Intact: Cres Elvo DNA 10. Elve DNA 12. All containers mediag preservation have beac checked. All containers meding preservatin have beachecked. Cres Elvo	Packing Material: Bubble Wrap Bubble	Baos Mone	Other	
Cooler Temperature Biological Tissue is Frozen: vs. No Date and Initials of present: Comments: Chain of Custody Present: Biological Tissue is Frozen: vs. No Comments: Contents: Contents: <td< td=""><td>Thermometer Used 214</td><td>Type of Ice: Wet</td><td>Blue None</td><td>Samples on ice, cooling process has begun</td></td<>	Thermometer Used 214	Type of Ice: Wet	Blue None	Samples on ice, cooling process has begun
Chain of Custody Present: resent: Present:	Cooler Temperature	Biological Tissue	is Frozen: Yes No Comments:	Date and Initials of person examining contents:
Chain of Custody Filled Out: Uves INo	Chain of Custody Present:	Pres ONO ON/A	1.	
Chain of Custody Relinquished: IVes INo INo 3. Sampler Name & Signature on COC: Ives INo INo INo INo Samples Arrived within Hold Time: Ives Ives INo INo INo Short Hold Time Analysis (<72hr):	Chain of Custody Filled Out:	Ves DNo DN/A	2.	
Sampler Name & Signature on COC: Ive	Chain of Custody Relinquished:		3.	
Samples Arrived within Hold Time: Uves INo INo S. Short Hold Time Analysis (<72hr):	Sampler Name & Signature on COC:		4.	
Short Hold Time Analysis (<72hr):	Samples Arrived within Hold Time:		5.	
Rush Turn Around Time Requested: Dres GNo DNA 7. Sufficient Volume: Dres DNo DNA 8. Correct Containers Used: Dres DNo DNA 9. -Pace Containers Used: Dres DNo DNA 9. -Pace Containers Used: Dres DNo DNA 9. -Pace Containers Used: Dres DNo DNA 10. Filtered volume received for Dissolved tests Dres DNo DNA 12. -Includes date/lime/ID/Analysis Matrix: DNA 12. -Includes date/lime/ID/Analysis Matrix: DNA 13. All containers needing preservation are found to be in compliance with EPA recommendation. Dres DNo DNA exceptions: VOA, cotorm, TOC, O&G, WI-DRO (water) Dres DNo DNA 14. Headspace in VOA Vials (>6mm): Dres DNo DMA 15. Trip Blank Costoly Seals Present Dres DNo DNA Parson Contacted:	Short Hold Time Analysis (<72hr):		6.	
Sufficient Volume: Image:	Rush Turn Around Time Requested:		7.	
Correct Containers Used: Image: Second and the sec	Sufficient Volume:		8.	
-Pace Containers Used:	Correct Containers Used:	Yes DNO DN/A	9.	
Containers Intact: Image: Choo IN/A 10. Filtered volume received for Dissolved tests Image: Choo	-Pace Containers Used:			
Filtered volume received for Dissolved tests IVes No Hit. Sample Labels match COC: IVes No IVA 12. -Includes date/lime/ID/Analysis Matrix: Matrix: Matrix: Matrix: All containers needing preservation have been checked. IVes	Containers Intact:		10.	
Sample Labels match COC: Dres DNo DNo 12. Includes date/lime/ID/Analysis Matrix: M 12. All containers needing preservation have been checked. Dres DNo DNo All containers needing preservation are found to be in compliance with EPA recommendation. Dres DNo DNA All containers needing preservation are found to be in compliance with EPA recommendation. Dres DNo DNA exceptions: VOA, colform, TOC, O&G, WI-DRO (water) Dres Dres Dres Dres Samples checked for dechlorination: Dres Dres Dres Dres Dres Trip Blank Custody Seals Present Dres Dres Dres Dres Y N Pace Trip Blank Lot # (if purchased):	Filtered volume received for Dissolved tests		11.	
-Includes date/time//D/Analysis Matrix: All containers needing preservation have been checked. All containers needing preservation are found to be in compliance with EPA recommendation. Prescriptions: VOA, colform, TOC, O&G, WI-DRO (water) Yes Samples checked for dechlorination: Headspace in VOA Vials (>6mm): Yes Yes No Date: Project Manager Review: Project Manager Review: Project Manager Review: Vince	Sample Labels match COC:		12.	
All containers needing preservation have been checked.	-Includes date/time/ID/Analysis Matrix:	<u> </u>		
All containers needing preservation are found to be in compliance with EPA recommendation. Ives No N/A exceptions: VOA, coliform, TOC, 0&G, WI-DRO (water) Ves No Initial when completed preservative Samples checked for dechlorination: Ives No Ives Ives Headspace in VOA Vials (>6mm): Ives No Ives Ives Trip Blank Present: Ives No Ives Ives Ives Trip Blank Custody Seals Present Ives Ives Ives Ives Ives Pace Trip Blank Lot # (if purchased): Ives Date/Time:	All containers needing preservation have been checked.	- BTOS - DNos - DN/A	13	
exceptions: VOA, collorm, TOC, 0&G, WI-DRO (water) IVes Initial witering completed preservative Samples checked for dechlorination: IVes INo IAIA 14. Headspace in VOA Vials (>6mm): IVes INo IAIA 15. Trip Blank Present: IVes INo IAIA 16. Trip Blank Custody Seals Present IVes INo IAIA Pace Trip Blank Lot # (if purchased):	All containers needing preservation are found to be in compliance with EPA recommendation.		Initial when	Let the fielded
Samples checked for dechlorination: IYes Ivo Id. Headspace in VOA Vials (>6mm): IYes Ivo Id. Trip Blank Present: IYes Ivo Id. Trip Blank Custody Seals Present IYes Ivo Id. Pace Trip Blank Lot # (if purchased): Ito Ito Ito Client Notification/ Resolution: Field Data Required? Y / N Person Contacted:	exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)		completed	preservative
Headspace in VOA Vials (>6mm): Image: Display the second of the sec	Samples checked for dechlorination:		14.	
Trip Blank Present: Image: Present	Headspace in VOA Vials (>6mm):		15.	
Trip Blank Custody Seals Present Image: Trip Blank Lot # (if purchased): Pace Trip Blank Lot # (if purchased): Field Data Required? Y / N Person Contacted: Comments/ Resolution: Date/Time: Comments/ Resolution: Date/Time: Date Date/Time: Date Date	Trip Blank Present:		16.	
Pace Trip Blank Lot # (if purchased):	Trip Blank Custody Seals Present			
Client Notification/ Resolution: Field Data Required? Y / N Person Contacted: Comments/ Resolution: Project Manager Review:	Pace Trip Blank Lot # (if purchased):			
Person Contacted: Date/Time: Comments/ Resolution:	Client Notification/ Resolution:			Field Data Required? Y / N
Comments/ Resolution:	Person Contacted:	Date/	Time:	
Project Manager Review: Date:	Comments/ Resolution:	£		
Project Manager Review: Date:				
Project Manager Review: Date:				
Project Manager Review: Date:			North Contraction of	
Project Manager Review: Date:				
Project Manager Review: Date:				
	Project Manager Review:			Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

	R		Pao	eAn	alytic	al		ſ			lotti	Do le Ide F-C	entif Docu AR-C	ient ficat	Nam Ion F At No 43-R	e: orm	(BIF	<u>}</u>		F	Do	Pac	Iss ie Ca	Pag	e 1 c Autinas O	hori luali	14 17: 17:	t, 20	e			
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		nple	ID	TV	pe of	Pres	ervat	lve		Hup	i no	ecelp	Adj	Ust Da	te pro	nt l	og	adju	sted	576	Tim	e pre adj	usted	ation	-	A	mou	int of	dded	ervath	ve	
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Page 21 of 22

Company Georgia Power - Coal Comba Address: 2480 Maner Road Atlanta, GA 30339 Report To Joju Abraham Copy To, Golder Phone: (404) 506-7239 Email: Jabraham@southernco.com Phone: (404) 506-7239 Email: Jabraham@southernco.com Collected By (print): Travis Martinez, Andrea McClure Collected By (print): Travis Martinez, Andrea McClure Collected By (semature): Collected By (s	Chain-of-C Stion Residuals Project Name: Plant Bran Project # CCR 3rd Semi-Au Purchase Order # Quote # Quote # Turnaround Date Require Rush: [] 2 Day [] 3 Day [[Same Day [] 2 Day [] 3 Day [(Espedie Ch (Espedie Ch), G	Billing information Email To scsnwoices@south Ste Collection Info/Address State: Georga City Milledg State: Georga City Milledg State: Georga City Milledg State: Georga City Milledg () Jate:	- Complete all relevent f Plant Branch Plant Branch [_]MT []CT [X]ET [Pace Profile# [Pa	et c	D/6020/7470 - see comments	Loride/Sulfate	.2228	For LAB USE ONLY Iab Project Manager: Iab Profile/Une: Iab Profile/Une: Iab Profile/Une: Iab Sample Receipt Checklit: Custody Seals Present Y N NA Sofficient Volume Samples Receipt Onecklit: Custody Seals Present Y N NA Sofficient Volume Samples Receipt Onecklit: Custody Seals Present Y N NA Sofficient Volume Custody Seals Present Y N NA Samples Receipted on Ice Y N NA Samples Receiptable Y N NA Samples Neceiptable Y N NA Samples Neceiptable Y N NA Samples Present Y N NA Samples Nacceptable Y N NA Samples Present Y N NA Sulfide Present Y N NA Lead Accetate Sinjps:
Justomer Sample ID	Matrix * Grab	Collected (or Composite Start) Date Time	Composite End Date Time	pH #of Ctras	Metals 601	Chirodie/Fi	Radium 22	LAB Sample # / Comments:
BRGWA-65 BRGWA-55	9 m9	4-15-2020 0945 9-15-2020 0945		643 5 643 5	××	××	× × 1	
BRGWA-25	6w 6	105/000-51-6		6.27 5	**	~ ×	< ×	
BRGWA-21	Gw 6	9-15-2020		S h99	**	××		
netans): As, B, Ba, Be, La, Ld, Ld, Lr, M	a, Pb, Sb, Se, Li, Tl, Hg	Type of Ice Used: Wet Packing Material Used:	Blue Dry No	₽.	SHORT HOLDS	PRESENT (<72 hour	s): Y N N/A	LAB Sample Temperature Info: Temp Blank Received: Y N NA Therm IDF:
		Radchem sample(s) screened	(<500 cpm): Y N	NA	Samples receiv FEDEX L	ed via: PS Client Cou	rier Pace Courier	Cooler 1 Temp Upon Recept:oC Cooler 1 Them Corr, FactoroC Cooler 1 Corrected TempoC
elinquished by/Company: [Signature]	Date/	16-2020 /0800 R	evenues by Kompany 15	active 1	Al Open Fine	2460	MTJL LAB USE ONLY bic # ctnum: mplate:	Comments: Trip Blank Received: Y N NJ HCL MEOH TSP Other
lelinquished by/Company [Signature]	Date/	Time R	eceived by/Company: (Sa	naturel	Date/Time	PB		Non Conformance(s): Page 1 YES / NO of: 1

3



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

October 12, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH E NETWORK RADS Pace Project No.: 92495960

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 17, 2020 and September 18, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Hung

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder





Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495960001	BRGWC-35S	Water	09/16/20 09:05	09/17/20 10:00
92495960002	BRGWC-34S	Water	09/16/20 09:59	09/17/20 10:00
92495960003	BRGWC-33S	Water	09/16/20 11:02	09/17/20 10:00
92495960004	BRGWC-17S	Water	09/16/20 12:30	09/17/20 10:00
92495960005	BRGWC-36S	Water	09/16/20 15:21	09/17/20 10:00
92495960006	BRGWC-37S	Water	09/16/20 16:09	09/17/20 10:00
92495960007	FB-1	Water	09/16/20 10:10	09/17/20 10:00
92495960008	DUP-2	Water	09/16/20 00:00	09/17/20 10:00
92495960009	BRGWC-38S	Water	09/17/20 11:26	09/18/20 10:15



SAMPLE ANALYTE COUNT

Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92495960001	BRGWC-35S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495960002	BRGWC-34S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495960003	BRGWC-33S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495960004	BRGWC-17S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495960005	BRGWC-36S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495960006	BRGWC-37S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495960007	FB-1	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495960008	DUP-2	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495960009	BRGWC-38S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg


Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495960001	BRGWC-35S					
EPA 9315	Radium-226	0.399 ± 0.288 (0.465)	pCi/L		09/30/20 09:01	
EPA 9320	Radium-228	C:82% T:NA 0.846 ± 0.848 (1.77) C:66%	pCi/L		10/05/20 18:33	
Total Radium Calculation	Total Radium	T:85% 1.25 ± 1.14 (2.24)	pCi/L		10/07/20 15:56	
92495960002	BRGWC-34S	, , , , , , , , , , , , , , , , , , ,				
EPA 9315	Radium-226	0.156 ± 0.212 (0.446) C:86% TNA	pCi/L		09/30/20 08:22	
EPA 9320	Radium-228	0.564 ± 0.797 (1.71) C:67% T:80%	pCi/L		10/05/20 18:33	
Total Radium Calculation	Total Radium	0.720 ± 1.01 (2.16)	pCi/L		10/07/20 15:56	
92495960003	BRGWC-33S					
EPA 9315	Radium-226	0.0620 ± 0.200 (0.495)	pCi/L		09/30/20 08:29	
EPA 9320	Radium-228	C:86% T:NA 0.133 ± 0.499 (1.13) C:62%	pCi/L		10/06/20 11:51	
Total Radium Calculation	Total Radium	T:72% 0.195 ± 0.699 (1.63)	pCi/L		10/07/20 15:56	
92495960004	BRGWC-17S					
EPA 9315	Radium-226	-0.0553 ± 0.184 (0.552)	pCi/L		09/30/20 08:30	
EPA 9320	Radium-228	0.478 ± 0.453 (0.929) C:62% T83%	pCi/L		10/06/20 11:51	
Total Radium Calculation	Total Radium	0.478 ± 0.637 (1.48)	pCi/L		10/07/20 15:56	



Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495960005	BRGWC-36S					
EPA 9315	Radium-226	0.239 ± 0.229 (0.425)	pCi/L		09/30/20 08:31	
EPA 9320	Radium-228	C:87% T:NA 0.926 ± 0.502 (0.904) C:64%	pCi/L		10/06/20 11:51	
Total Radium Calculation	Total Radium	T:81% 1.17 ± 0.731 (1.33)	pCi/L		10/07/20 15:56	
92495960006	BRGWC-37S					
EPA 9315	Radium-226	0.276 ± 0.291 (0.588) C-83% T-NA	pCi/L		09/30/20 08:32	
EPA 9320	Radium-228	0.568 ± 0.492 (1.00) C:67%	pCi/L		10/06/20 11:51	
Total Radium Calculation	Total Radium	0.844 ± 0.783 (1.59)	pCi/L		10/07/20 15:56	
92495960007	FB-1					
EPA 9315	Radium-226	0.116 ± 0.208 (0.473)	pCi/L		09/30/20 08:24	
EPA 9320	Radium-228	0.0575 ± 0.419 (0.957) C:65% T84%	pCi/L		10/06/20 11:51	
Total Radium Calculation	Total Radium	0.174 ± 0.627 (1.43)	pCi/L		10/07/20 15:56	
92495960008	DUP-2					
EPA 9315	Radium-226	0.283 ± 0.239 (0.426)	pCi/L		09/30/20 08:33	
EPA 9320	Radium-228	C:88% T:NA 0.907 ± 0.502 (0.922) C:65%	pCi/L		10/06/20 11:52	
Total Radium Calculation	Total Radium	T:84% 1.19 ± 0.741 (1.35)	pCi/L		10/07/20 15:56	



Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495960009	BRGWC-38S			_		
EPA 9315	Radium-226	0.852 ± 0.369 (0.409) C:91% TNA	pCi/L		09/30/20 08:25	
EPA 9320	Radium-228	2.07 ± 0.730 (1.08) C:63% T74%	pCi/L		10/06/20 11:52	
Total Radium Calculation	Total Radium	2.92 ± 1.10 (1.49)	pCi/L		10/07/20 15:56	



Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Sample: BRGWC-35S	Lab ID: 92495960	Collected: 09/16/20 09:05	Received:	09/17/20 10:00 M	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	vices - Greensburg				
Radium-226	EPA 9315	0.399 ± 0.288 (0.465) C:82% T:NA	pCi/L	09/30/20 09:01	13982-63-3	
	Pace Analytical Serv	rices - Greensburg				
Radium-228	EPA 9320	0.846 ± 0.848 (1.77) C:66% T:85%	pCi/L	10/05/20 18:33	15262-20-1	
	Pace Analytical Serv	rices - Greensburg				
Total Radium	Total Radium Calculation	1.25 ± 1.14 (2.24)	pCi/L	10/07/20 15:56	7440-14-4	



Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Sample: BRGWC-34S	Lab ID: 92495	960002 Collected: 09/16/20 09:59	Received:	09/17/20 10:00 N	Aatrix: Water	
1 WS.	Sile ID.	Sample Type.				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 9315	0.156 ± 0.212 (0.446) C:86% T:NA	pCi/L	09/30/20 08:22	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 9320	0.564 ± 0.797 (1.71) C:67% T:80%	pCi/L	10/05/20 18:33	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.720 ± 1.01 (2.16)	pCi/L	10/07/20 15:56	7440-14-4	



Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Sample: BRGWC-33S	Lab ID: 9249596	Collected: 09/16/20 11:02	Received:	09/17/20 10:00 N	latrix: Water	
FW3.	Sile ID.	Sample Type.				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	rvices - Greensburg				
Radium-226	EPA 9315	0.0620 ± 0.200 (0.495) C:86% T:NA	pCi/L	09/30/20 08:29	13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	0.133 ± 0.499 (1.13) C:62% T:72%	pCi/L	10/06/20 11:51	15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	0.195 ± 0.699 (1.63)	pCi/L	10/07/20 15:56	7440-14-4	



Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Sample: BRGWC-17S PWS:	Lab ID: 9249596 Site ID:	Collected: 09/16/20 12:30 Sample Type:	Received:	09/17/20 10:00 N	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	rvices - Greensburg				
Radium-226	EPA 9315	-0.0553 ± 0.184 (0.552) C:80% T:NA	pCi/L	09/30/20 08:30	13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	0.478 ± 0.453 (0.929) C:62% T:83%	pCi/L	10/06/20 11:51	15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	0.478 ± 0.637 (1.48)	pCi/L	10/07/20 15:56	7440-14-4	



Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Sample: BRGWC-36S PWS:	Lab ID: 92495 Site ID:	960005 Collected: 09/16/20 15:21 Sample Type:	Received:	09/17/20 10:00 M	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg				
Radium-226	EPA 9315	0.239 ± 0.229 (0.425) C:87% T:NA	pCi/L	09/30/20 08:31	13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	0.926 ± 0.502 (0.904) C:64% T:81%	pCi/L	10/06/20 11:51	15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	1.17 ± 0.731 (1.33)	pCi/L	10/07/20 15:56	7440-14-4	



Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Sample: BRGWC-37S PWS:	Lab ID: 9249596 Site ID:	60006 Collected: 09/16/20 16:09 Sample Type:	Received:	09/17/20 10:00 N	fatrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	rvices - Greensburg				
Radium-226	EPA 9315	0.276 ± 0.291 (0.588) C:83% T:NA	pCi/L	09/30/20 08:32	13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	0.568 ± 0.492 (1.00) C:67% T:79%	pCi/L	10/06/20 11:51	15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	0.844 ± 0.783 (1.59)	pCi/L	10/07/20 15:56	7440-14-4	



Project: BRANCH E NE I WORK RAL

Pace Project No.: 92495960

Sample: FB-1	Lab ID: 9249596	0007 Collected: 09/16/20 10:10	Received:	09/17/20 10:00 N	latrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 9315	0.116 ± 0.208 (0.473) C:95% T:NA	pCi/L	09/30/20 08:24	13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 9320	0.0575 ± 0.419 (0.957) C:65% T:84%	pCi/L	10/06/20 11:51	15262-20-1	
	Pace Analytical Ser	vices - Greensburg				
Total Radium	Total Radium Calculation	0.174 ± 0.627 (1.43)	pCi/L	10/07/20 15:56	7440-14-4	



NETWORK RADS

Pace Project No.: 92495960

Sample: DUP-2	Lab ID: 92495960	008 Collected: 09/16/20 00:00	Received:	09/17/20 10:00 N	Aatrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	ices - Greensburg				
Radium-226	EPA 9315	0.283 ± 0.239 (0.426) C:88% T:NA	pCi/L	09/30/20 08:33	13982-63-3	
	Pace Analytical Serv	ices - Greensburg				
Radium-228	EPA 9320	0.907 ± 0.502 (0.922) C:65% T:84%	pCi/L	10/06/20 11:52	15262-20-1	
	Pace Analytical Serv	ices - Greensburg				
Total Radium	Total Radium Calculation	1.19 ± 0.741 (1.35)	pCi/L	10/07/20 15:56	7440-14-4	



Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Sample: BRGWC-38S PWS:	Lab ID: 924959 Site ID:	Collected: 09/17/20 11:26 Sample Type:	Received:	09/18/20 10:15 M	latrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	0.852 ± 0.369 (0.409) C:91% T:NA	pCi/L	09/30/20 08:25	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 9320	2.07 ± 0.730 (1.08) C:63% T:74%	pCi/L	10/06/20 11:52	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	2.92 ± 1.10 (1.49)	pCi/L	10/07/20 15:56	7440-14-4	



Project:	BRANCH E NETW	ORK RADS					
Pace Project No.:	92495960						
QC Batch:	415401		Analysis Method:	EPA 9320			
QC Batch Method:	EPA 9320		Analysis Description:	9320 Radium 2	28		
			Laboratory:	Pace Analytical	Services - Greensbu	rg	
Associated Lab San	nples: 924959600	001, 92495960002					
METHOD BLANK:	2008969		Matrix: Water				
Associated Lab San	nples: 924959600	001, 92495960002					
Paran	neter	Act ± Un	c (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-228		0.804 ± 0.467 (0.8	852) C:69% T:78%	pCi/L	10/05/20 15:01		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH E NETW	ORK RADS					
Pace Project No.:	92495960						
QC Batch:	415402		Analysis Method:	EPA 9315			
QC Batch Method:	EPA 9315		Analysis Description:	9315 Total Radi	um		
			Laboratory:	Pace Analytical	Services - Greensbur	g	
Associated Lab Sam	ples: 92495960	003, 9249596000	4, 92495960005, 9249596000	6, 92495960007, 9	92495960008, 924959	960009	
METHOD BLANK:	2008971		Matrix: Water				
Associated Lab Sam	nples: 92495960	003, 9249596000	4, 92495960005, 9249596000	6, 92495960007, 9	92495960008, 924959	960009	
Param	neter	Act ± l	Jnc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-226		-0.0214 ± 0.170	(0.482) C:94% T:NA	pCi/L	09/30/20 08:23		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH E NETV	/ORK RADS					
Pace Project No.:	92495960						
QC Batch:	415400		Analysis Method:	EPA 9315			
QC Batch Method:	EPA 9315		Analysis Description:	9315 Total Radi	um		
			Laboratory:	Pace Analytical	Services - Greensbur	g	
Associated Lab San	nples: 92495960	001, 92495960002					
METHOD BLANK:	2008968		Matrix: Water				
Associated Lab San	nples: 92495960	001, 92495960002					
Paran	neter	Act ± Uno	c (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-226		0.0938 ± 0.181 (0.	.415) C:94% T:NA	pCi/L	09/30/20 07:18		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH E NETW	ORK RADS									
Pace Project No.:	92495960										
QC Batch:	415403		Analysis Method:	EPA 9320							
QC Batch Method:	EPA 9320		Analysis Description:	9320 Radium 22	28						
			Laboratory:	Pace Analytical	Services - Greensburg	g					
Associated Lab Sam	nples: 92495960	003, 92495960004,	92495960005, 9249596000	6, 92495960007, 9	92495960008, 924959	60009					
METHOD BLANK:	2008973		Matrix: Water								
Associated Lab Sam	nples: 92495960	003, 92495960004,	92495960005, 9249596000	6, 92495960007, 9	92495960008, 924959	60009					
Param	neter	Act ± Un	c (MDC) Carr Trac	Units	Analyzed	Qualifiers					
Radium-228		0.789 ± 0.460 (0.8	332) C:67% T:72%	pCi/L	10/06/20 11:47						

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH E NETWORK RADS

Pace Project No.: 92495960

Analytical Lab ID Sample ID **QC Batch Method** QC Batch Batch **Analytical Method** 92495960001 **BRGWC-35S** EPA 9315 415400 92495960002 **BRGWC-34S** EPA 9315 415400 92495960003 **BRGWC-33S** EPA 9315 415402 **BRGWC-17S** 415402 92495960004 EPA 9315 92495960005 **BRGWC-36S** 415402 EPA 9315 92495960006 **BRGWC-37S** 415402 EPA 9315 FB-1 92495960007 EPA 9315 415402 92495960008 DUP-2 EPA 9315 415402 92495960009 **BRGWC-38S** EPA 9315 415402 92495960001 **BRGWC-35S** EPA 9320 415401 92495960002 **BRGWC-34S** EPA 9320 415401 92495960003 **BRGWC-33S** EPA 9320 415403 92495960004 **BRGWC-17S** EPA 9320 415403 92495960005 BRGWC-36S EPA 9320 415403 92495960006 **BRGWC-37S** 415403 EPA 9320 92495960007 FB-1 EPA 9320 415403 92495960008 DUP-2 EPA 9320 415403 92495960009 **BRGWC-38S** EPA 9320 415403 92495960001 **BRGWC-35S Total Radium Calculation** 417460 92495960002 **BRGWC-34S Total Radium Calculation** 417460 92495960003 **BRGWC-33S** Total Radium Calculation 417460 92495960004 **BRGWC-17S Total Radium Calculation** 417460 92495960005 **BRGWC-36S Total Radium Calculation** 417460 92495960006 BRGWC-37S Total Radium Calculation 417460 92495960007 FB-1 **Total Radium Calculation** 417460 DUP-2 92495960008 Total Radium Calculation 417460 **BRGWC-38S** 92495960009 **Total Radium Calculation** 417460

Sa Sa	mple Condition L	Jpon Rec 40	#:92495960
Face Analytical Client Name	: GAlowe	<u> </u>	
		9249	
Courier: 🔲 Fed Ex 🗌 UPS 🗍 USPS 🛄 Clie Fracking #:	ent 🗗 Commercial [Pace Othe.	Proj. Due Date. Proj. Name:
Custody Seal on Cooler/Box Present:	no Seals in	ntact: 🗗 yes 🔲	no
Packing Material: Bubble Wrap Bubble	e Bags PNone	Other	
Thermometer lised 7/4	Type of Ice: Wet	Blue None	Samples on ice, cooling process has begun
	Biological Tissue is	s Frozen: Yes No	Date and initials of person examining
Femp should be above freezing to 6°C		Comments:	
Chain of Custody Present:		1.	
Chain of Custody Filled Out:	Yes ONO ON/A	2	
Chain of Custody Relinquished:	Pres DNO DN/A	3.	
Sampler Name & Signature on COC:		4	
Samples Arrived within Hold Time:	Yes DNO DN/A	5	
Short Hold Time Analysis (<72hr):		6.	
Rush Turn Around Time Requested:		7	
Sufficient Volume:		8.	
Correct Containers Used:	Yes DNO DN/A	9.	
-Pace Containers Used:			
Containers Intact:	Tes DNO DN/A	10.	
Filtered volume received for Dissolved tests	Yes No DATA	11,	
Sample Labels match COC:	Stes DNo DN/A	12.	
-Includes date/time/ID/Analysis Matrix:	N		
All containers needing preservation have been checked.	HTES LINO DINA	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.		1.10.1	L o # of addad
averagions: VOA caliform TOC O&G Wi-DRO (water)	Yes Die	completed	preservative
Samples checked for dechlorination:		14.	
Headspace in VOA Vials (>6mm);	Yes No QATA	15.	
Trin Blank Present	TYes DNO DATA	16.	
Trip Blank Custody Seals Present			
Pace Trip Blank Lot # (if purchased):			
			Field Data Required? Y / N
Client Notification/ Resolution:	Date	Time:	
Person Contacteo:			
		•	

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003rev.3, 11September2006

R.	Zace Analytical	Document Name: Bottle Identification For Document No.: F-CAR-CS-043-Rev	m (81F)	Document Issued: N Page 1 c Issuing Aut Pace Carolinas C	harch 14, 2019 of 1 hority: wality Office
Checkynark to verified and with samples. Beoptions: VOA, Co	p half of box if pH and hin the acceptance ra liform, TOC, Oil and Grease, of box is to list numb	/or dechlorination is nge for preservation DRO/8015 (water) DOC, LLHg or of bottle	Project P P C	10#:924 M: KLH1 CLIENT: GA-GA P	95960 Due Date: 10/01/20 ower
Bodth Matrix Anatrix Matrix Anatrix	BP2U-500 mL Plastic Unpreserved (N/N) BP2U-1 liter Plastic Unpreserved (N/N) BP2U-1 liter Plastic Unpreserved (N/N) BP2U-250 mL Plastic H2504 (pH < 2) (Cl-) Cl-) BP2M-250 mL Plastic H003 (pH < 2) (Cl-)	BPAC-125 mL Plestic NaCH (BH> 12) (CH-) BPAC-125 mL Plestic NaCH (BH> 12) (CH-) WG5FU-WIde-mouthed Glass Jar Unpreserved AG3U-1 liter Amber Unpreserved (N/A) (CH-) AG3U-1 liter Amber HCI (BH < 2) AG3U-250 mL Amber Unpreserved (N/A) (CH-)	AG20-1 mor H2504 (pH < 2) AG35-250 mL Amber H2504 (pH < 2) AG34[DG34]-250 mL Amber NH4CJ (N/A)(CH) DG9H-40 mL VOA HCJ (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A) VG9U-40 mL VOA Unp (N/A) DG9D-40 mL VOA H3PO4 (N/A) VOAK (6 Wais per htt)-5035 kt (N/A)	 V/GK (3 vials per lat). Vr/GK (3 vials per lat). Vr/Une minute in the interview in the interview in the interview interview in the interview in
9 10 11 12 12 5 Sample ID	Type of Preservative	pH Adjustment pH upon receipt Date preser	Log for Prese vation adjusted	rved Samples Time preservation adjusted	Amount of Preservative added

Relinquished by/Company: (Signature)	Relinquished by/Company: (Signature)	Relinquished by/Company: (Signature)			(Metals): As, B, Ba, Be, Ca, Cd, Co, Cr, M					5-9v0	FB-I	BRGWC-375	BRGWC-365	BRGWC-175	BRGWC - 335	BRGWC-34S	BRGWC-355		Customer Sample ID	* Matrix Codes (insert in Matrik box bek Product (P), Soil/Solid (SL), Oil (OL), Wi				Collected By (signature):	Andrea McClure	Email: jabraham@southernco.com	Phone: (404) 506-7239	phone: (404) 506-7239 Email: jabraham@southernco.com	Copy To: Golder	Report To: Joju Abranam	Address: 2480 Maner Road Atlanta, GA 30339	Company: Georgia Power - Coal Combus	Pace Analytical
					o, Pb, Sb, Se, Li, Tl, Hg					Sw	1	GW	6~	64	64	65 0	Gw (Matrix C	ow): Drinking Water (I pe (WP), Air (AR), Tiss	() - U = () - (I I yen ci i	Rush:	Turnaround Date R	Quote #	Project # CCR 3rd S	Project Name: Plan					tion Residuals	- Chair
Date/T	Date/1	Date/T			3				_	6	0	6	6	C	0	C G	-0		omp /	DW), Groi sue (TS), E	edite Charg	ne Day [equired:		emi-Annu	t Branch	ts.	2	5	,	98	N-OF-Custo
ime	me	1-2020/C	adchem sample(s	acking Material C	ype of Ice Used:					1-16-2020	1-16-2020	1-16-2020	9-16-2020	7-16-2020	1-16-2020	1-16-2020	-16-2020	Date	Callected (or Co Start)	und Water (GW), Bioassay (6), Wat	tes Apply	Next Day				ler	E Network	tate: Georgia Cit	te Collection Info	man to:scsmvoic		lling information	OUSTODY A
		0080	s) screene	Ised:	We					1	0101	1609	1221	1230	2011	9290	5060	Time	mposite	Wastewa er (WT). C		ç						iv: Milledg	o/Address:	eslevsouth			DCUMENT
Received by/Comp	Received by/Comp	Received Wilcom	d (<500 cpm): Y		t Blue Dr													Date	Composite	ter (WW), ther (OT)	Analysis:	[]Yes []]	Field Filtered (if a	Immediately Pack	kevin.herring@pa		Pace Profile#	eville Time Zone	Plant Branch	ernco.com			al Request D
Dany (Sign	nany: (Sigi	Sant Sig	z		Y Nor		╋				$\left \right $	-				-		Ime	5				pplicable	ed on Ice	agel.	-		Collected			1		od Cum
tature)	fature)	ALCUN	NA		Ř					1	۱	2.84	5.58	6.26	4.78	18.5	296		PH				л		F			÷			-		ent
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		A	Samp	Lab T	SHOP					×	×	×	×	×	×	×	×	Me	etals 6	010/6020/	7470	- see	20	mm	ents				ammonium	Preservative			
late/Time:	ate/Time	DT/In	les receive)EX U	racking #:	T HOLDS F	-+		┝╍┝		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	×	X	×	×	X	×	X	TD	5										hydroxide.	Types: (1)	_		5
		100	nd via: PS Clier		RESENT (1-						Ĺ																(D) TSP, (U)	ntric acid, (ontainer P	A	
Pa	Pre	0	nt Cou		72 hour	$\left \right $	+	$\left \right $	-	×		Y	×	F	Ê	Ê	X	Chi	Irodie,	/Fluoride/:	oullate	e							Unpreser	2) sulturic	reservat	T SHY	
" п	ctnum: mplate: elogin	MTJL L	rier Pz		A : (S					>	< >	×	×	×	×	×	X	Rai	dium 2	226.228							••••	_	ved, (0)	əcid, (3)	Ive Type	DED	
		AB USE	ice Cou		z				_							L							_	5. 10		•••••			Other	hydroch	:	ARE	ATJL Lo
		ONLY	nier		VA	$\left \right $	+-				+	┢	-	-			-											-	and by an	oric acid, (4		AS are 1	g-in Numb
														1					5	Le Le Le	Sol	Rea	US VO	S & 1	66	Col	2 2	2 2 1		Sodium by	lat	for LAB	ber Here
Non Conformance(s): Page: 1 YES / NO of. 1	Trip Blank Received: Y N T HCL MeOH TSP Othe		Cooler 1 Therm Corr/Factor: U oC Cooler 1 Corrected Temp: // aC	Therm IDA: 214	Temp Blank Received: X N NA												+ 2 Radium	March	b Sample # / Comments:	s irips: Y N NA ad Acenale Strips: Y N NA	Strips: mpie pH Acceptable Y N NA	mples in Holding Time YN NA sidual Chlorine Present YN NA	DA Regulated Solls Y N NA	mples Received on Ice YN NA	Arrect Bottles Y N NA	silector Signature Present Y N NA	istody Signatures Present YN NA	b Sample Receipt Checklist.	b Profile/Line:	droxide, (5) zinc acetate,	ib Project Manager:	USE ONLY	

	Page	25	of	3	1
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Face Analytical

Quality Control Sample Performance Assessment

MS/MSD 2

Pace Analytical Test Analyst:	Ra-226 LAL		Analyst Must Manually Enter All Fields Highlighted in Samole Matrix Solke Control Assessment	Yellow. MS/MSD 1
Date:	9/29/2020		Sample mature Spine Composized Assessment Sample Collection Date:	
Worklist: Matrix:	56346 DW		Sample I.D. Sample MS I.D. Sample MSD I.D.	
iank Assessment MB Sample ID	2008971		Spike I.D.: MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
MP Contentration:	-0.021		Spike Volume Used in MSC (mL): Colte Volume Theod in MSD (mL):	
IN/P COURTER OF MARK	0.482		opine volume Volume Used in Mode (In.g., F); MS Aliquot (L, g, F);	
MB Numerical Performance Indicator:	-0.25		MS Target Conc.(pCi/L, g, F):	
MB Status vs Numerical Indicator: MB Status vs. MDC:	N/A Pass		MSD Aliquot (L, g, F): MSD Target Conc. (pCl/L, g, F):	
	011-10	ļ	MS Spike Uncertainty (calculated):	
	UCCERATE	1 CEDECALE	INOU OPINE UTCETTATING (Catuateu). Samula Postiff	
Count Date:	9/30/2020	9/30/2020	Sample Result Counting Uncertainty (pCiV., g, F):	
Spike I.D.: Docar Contration Contration (OCIVII)	19-033	18-033	Matrix Shika Desut Counting Uncertainty (nCi/) in EV-	
Decay collected Spike Collectin anoli (powilik.)	010	010	Samola Matrix Shika Duning Under Matrix Shika Duning Pourti 8, 1 /-	
Allouot Volume (1. 4. F);	0.504	0.508	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Target Conc. (pCi/L, g, F):	4.774	4.731	MS Numerical Performance Indicator:	
Uncertainty (Calculated);	0.057	0.057	MSD Numerical Performance Indicator	
Result (pCr/L) 9, F/S	0.860	4.719	MSD Percent Recovery:	
Numerical Performance Indicator:	1,40	-0.03	MS Status vs Numerical Indicator:	
Percent Recovery:	112.87%	99.74%	MSD Status vs Numerical Indicator.	
Status vs Numerical Indicator:	N/A	N/A	MS Status vs Recovery:	
Status vs Recovery:	Pass	Pass	MSD Status vs Recovery:	
Upper % Recovery Limits: Lower % Recovery Limits:	125% 75%	125% 75%	MS/MSD Upper % Recovery Limits: MS/MSD Lower % Recovery Limits:	
Sample Assessment			Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	LCS56346	Enter Duplicate	Sample I.D.	
Duplicate Sample I.D.	LCSD56346	sample IDs if	Sample MS I.D.	
Sample Result (pCi/L, g, F):	5.388	other than	Sample MSD I.D.	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.860	LCS/LCSD in	Sample Matrix Spike Result	
Sample Dunicate Besuit Counting Incertainty (nCi/L, g, F):	4./19 0.780	the space below.	Matrix Spike Result Counting Uncertainty (pUrt., g. F.). Samnie Matrix Snike Dunlicate Result:	
Are sample and/or duplicate results below RL?	o N		Matrix Spike Duplicate Result Counting Uncertainty (pCi/l., g, F):	
Duplicate Numerical Performance Indicator:	1.129	92496249001	Duplicate Numerical Performance Indicator	
d on the LCS/LCSD Percent Recoveries) Duplicate RPD:	12.34%	92496249001DUP	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
Duplicate Status vs Numerical Indicator:	N/A		MS/ MSD Duplicate Status vs Numerical Indicator	
Duplicate Status vs RPD:	Pass		MS/ MSD Duplicate Status vs KPU:	
ארט נושוני 🖓	25%		א ארע בווווגן %	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

UAM 10/1 /2020

0202/1/01MD

1 of 1

TAR DW QC Printed: 10/1/2020 6:34 AM

Pace Analytical

Quality Control Sample Performance Assessment

	MS/MSD 2																					
Yellow.	MS/MSD 1																					
<u>Analyst Must Manually Enter All Fields Highlighted in </u>	Sample Matrix Spike Control Assessment Sample Collection Date: Sample I.D. Sample MSI I.D.	Spike I.D.: MS/MSD Decay Corrected Spike Concentration (pC/imL): Spike Volume Used in MSD (mL): Spike Volume Used in MSD (mL): MSD Aliquot (L, g, F): MSD Target Conc.(pC/i/L, g, F): MSD Target Conc.(pC/i/L, g, F): MSD Target Conc.(pC/i/L, g, F):	MSD Spike Uncertainty (calculated);	Sample Result	Sample Result Counting Uncertainty (pCl/L, g, F): Sample Matrix Spike Result	Matrix Spike Result Counting Uncertainty (pCi/L, g, F): Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F): MS Numerical Performance Indicator:	MSD Numerical Performance Indicator: MS Percent Recovery:	MSD Percent Recovery: MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	MS Status vs Recovery:	MSIASD Upper % Recovery Limits: MS/MSD Upper % Recovery Limits: MS/MSD Lower % Recovery Limits:	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample I.D.	Sample MS I.D.	Sample MSD I.D.	Sattiple matrix Spike Result Comfine Uncertainty (pCM _ g. F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	Duplicate Numerical Performance Indicator: (Rased on the Percent Recoveries) MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Status vs Numerical Indicator:	MS/ MSD Duplicate Status vs RPD: % RPD Limit:
			z	LCSD56346										Enter Duniicate	sample iDs if	other than	the snare helow			92496249001 92496249001		
D- 776	LAL LAL 56346 DW	2008971 -0.021 0.170 0.482 -0.25 -0.25 N/A	LCSD (Y or N)?	LCS56346	9/30/2020 19-033	24.044 0.10	0.504 4.774	0.057 5.388	0.860	112.87%	N/A	Pass 125% 75%		92496249001	92496249001DUP	0.241	0.234	0.344	See Below #	-0.992 60 82%	N/A	Fail**** 25%
Pace Analytical www.previute.com	Analyst Date: Worklist Mathx:	Method Blank Assessment MB Sample ID MB concentration: M/B Counting Uncertainty: MB MDC: MB Numerical Performance Indicator: MB Status vs Numerical Indicator: MB Status vs MDC:	"aboratory Control Sample Assessment		Count Date: Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL): Volume Used (mL):	Aliquot Volume (L, g, F): Target Conc. (pCi/L, g, F):	Uncertainty (Calculated): Result (nCi/I, o. F):	LCS/LCSD Counting Uncertainty (PC/I.1, g, F): Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator:	Status vs Recovery Upper % Recovery Limits: I ower % Recovery Limits:	Duplicate Sample Assessment	. U alume2	Duplicate Sample I.D.	Sample Result (pCI/L, g, F):	Sample Result Counting Uncertainty (pUrL, g, F): Semale Dunisate Desult / DOM	Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator	Duplicate Status vs Numerical Indicator	Duplicate Status vs RPD: % RPD Limit:

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

***Bate

iat borro propped due to unacceptable precision: IO(A UA-M 10 [11] Z.OLO

> TAR DW QC Printed: 10/1/2020 6:34 AM

UAM 10/12020

or or / 1/cin/

1 01 1

Quality Control Sample Performance Assessment

	MS/MSD 2																										 											
<u>Yellow.</u>	MS/MSD 1																																					
Analyst Must Manually Enter All Fields Highlighted in	Sample Matrix Spike Control Assessment	Sample Collection Date:	Sample I.D. Sample MS I.D.	Satisfier D.	MS/MSD Decay Corrected Spike Concentration (pCi/mL):	Spike Volume Used in MS (mL):	Spike Volume Used in MSD (mL):	MS Terret Coor (2011) 25	MSD Alignet (T. o. F).	MSD Target Conc. (pCi/L, g, F):	MS Spike Uncertainty (calculated):	MSD Spike Uncertainty (calculated):	Sample Result:	Sample Result Counting Uncertainty (pCl/t, g, F): Semula Matrix Solve Destity:	Matrix Spike Result Counting Uncertainty (pC)(L. o. F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	MS Numerical Performance Indicator:	MSD Numerical Performance Indicator:	MS Percent Recovery:	MSD Percent Recovery:	MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	MS Status vs Recovery:	MSD Status vs Recovery:	MS/MSD Upper % Recovery Limits: MS/MSD Lower % Recovery Limits:	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample I.D.	Sample MS I.D.	Sample MSD I.D.	Sample Matrix Spike Result:	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	Sample Man Spike Duplicate Result.	Marry Spike Duplicate Result Counting Uncertainty (puller, g, F);	Pupiloate Numerical Period Indicate RPD- (Rased on the Percent Recoveries) MS/ MSD Dublicate RPD-	MS/ MSD Duplicate Status vs Numerical Indicator:	MS/ MSD Duplicate Status vs RPD:	% RPD Limit:
												~	LCSD56344	9/30/2020	24.044	0.10	0.505	4.761	0,057	3.912	0.693	-2.39	82.18%	A/A	Pass	125% 75%		Enter Duplicate	sample IDs if	other than	LCS/LCSD in	the space below.		10506001	92495960001 Dt IP			
Ra-226	LAL	9/29/2020	56344 DW		2008968	0.094	0.180	0.4.0	N/A	Pass		CSD (Y ar N)?	LCS56344	9/30/2020 10-033	24.044	0,10	0.509	4.723	0,057	3,880	0.699	-2.36	82.15%	NA	Pass	125% 75%		LCS56344	LCSD56344	3.880	0.699	3.912	0.033	DN C	0.04%	N/A	Pass	25%
Taucaruan ucar www.prembac.com	Analyst	Date:	Worklist Matrix:	Method Blank Assessment	MB Sample ID	MB concentration:	M/B Counting Uncertainty:	WB Nimerical Deformance Indicator	MB Status vs Numerical Indicator:	MB Status vs. MDC:		Laboratory Control Sample Assessment		Count Date:	Decay Corrected Spike Concentration (pCi/mL):	Volume Used (mL):	Aliquot Volume (L. g. F):	Target Conc. (pCi/L, g, F):	Uncertainty (Calculated):	Result (pCi/L, g, F):	LCS/LCSD Counting Uncertainty (pCi/L, g, F):	Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator:	Status vs Recovery:	Upper % Recovery Limits: Lower % Recovery Limits:	Duplicate Sample Assessment	Sample 1.D.:	Duplicate Sample I.D.	Sample Result (pCi/L, g, F):	Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Result (pCl/L, g, F):	Sample Duplicate Result Counting Uncertainty (purch, g, F);	Are sample and/or duplicate results below KL?	Based on the LCS/LCSD Percent Recoveries) Dunitcate RPD-	Duplicate Status vs Numerical Indicator	Duplicate Status vs RPD:	% RPD Limit:

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

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Quality Control Sample Performance Assessment

	000 - E		Analyst Must Manually Enter All Fields Highlighted in	Yellow.	
Iest	Ka-220				
Analyst	F		Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Date:	9/29/2020		Sample Collection Date:		
Worklist	56344		Sample I,D,		
Matrix:	MQ		Sample MS I.D.		
Method Blank Assessment			Sample MSD I.D.		
Marcal and Marcal and American a	100000		We have been from the first former and the first of the f		
MD consistent of MD	20000				
MID Assistant Handrick					
	0.160				
	20.1		Wis larget Conc. (pci/L, g, F):		
MB Status vs Numencal Indicator: MB Status vs. MDC:	N/A Pass		MSD Taroet Conc. (pCi/l., g, F): MSD Taroet Conc. (pCi/l., g, F):		
			MS Soïke Uncertainty (calculated):		
Laboratory Control Sample Assessment	LCSD (Y or N)?	N	MSD Spike Uncertainty (calculated):		
	LCS56344	LCSD56344	Samule Result		
Count Date:	9/30/2020		Samula Result Counting Uncertainty (nCi/l o E)		
Spike 1.D.:	19-033		Sample Matrix Spike Result:		
Decay Corrected Spike Concentration (pCi/mL);	24.044		Matrix Spike Result Counting Uncertainty (pCi/L, a, F):		
Volume Used (mL):	0.10		Samole Matrix Solke Duplicate Result:		
Aliauot Volume (L. a. F):	0.509		Matrix Soike Duolicate Result Counting Uncertainty (pCi/l _ o _ F):		
Target Conc. (pCi/L, g, F):	4.723		MS Numerical Performance Indicator		
Uncertainty (Calculated):	0.057		MSD Numerical Performance Indicator:		
Result (pCi/L, g, F);	3.880		MS Percent Recovery:		
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.699		MSD Percent Recovery:		
Numerical Performance Indicator:	-2.36		MS Status vs Numerical Indicator:		
Percent Recovery:	82.15%		MSD Status vs Numerical Indicator:		
Status vs Numerical Indicator:	N/A		MS Status vs Recovery:		
Status vs Recovery:	Pass		MSD Status vs Recovery:		
Upper % Recovery Limits:	125%		MS/MSD Upper % Recovery Limits:		
Lower % Recovery Limits:	75%		MS/MSD Lower % Recovery Limits:		
Duplicate Sample Assessment			Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:	92495960001	Enter Duplicate	Sample I.D.		
Duplicate Sample I.D.	92495960001DUP	sample IDs if	Sample MS I.D.		
Sample Result (pCi/L, g, F);	0.399	other than	Sample MSD I.D.		
Sample Result Counting Uncertainty (pCi/L, g, F):	0.282	LCS/LCSD in	Sample Matrix Spike Result:		
Sample Duplicate Result (pCi/L, g, F);	0.152	the space below.	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F);	0.250		Sample Matrix Spike Duplicate Result:		
Are sample and/or duplicate results below RL?	See Below ##		Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:	1.284	92495960001	Duplicate Numerical Performance Indicator;		
Duplicate RPD:	89.47%	92495960001DUP	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
Duplicate Status vs Numerical Indicator:	N/A		MS/ MSD Duplicate Status vs Numerical Indicator:		
Duplicate Status vs RPD:	Fail***		MS/ MSD Duplicate Status vs RPD:		
% RPD Limit	25%		% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

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Comments:

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Quality Control Sample Performance Assessment

	WS/WSD 2																								
Yellow.	MS/MSD 1																								
Analyst Must Manually Enter All Fields Highlighted in	Sample Matrix Spike Control Assessment Sample Collection Date: Sample I.D. Sample MSD I.D.	Spike I.D.: Spike Concentration (pc(imL): Spike Volume Used in MS (mL): Spike Volume Used in MSD (mL): Spike Volume Used in MSD (mL): MS Target Conc.(pc/it, g, F): MS Target Conc.(pc/it, g, F): MSD Target Conc. (pc/it, g, F):	MS Spike Uncertainty (calculated):	MSD Spike Uncertainty (calculated):	Sample Result 2 Sigma CSU (pCi/L, g, F): Sample Matrix Spike Result.	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	Sample warry Spike Duplicate Result 2 Signa CSU (pCM, g F): Matrix Spike Duplicate Result 2 Signa CSU (pCM, g F):	MSD Numerical Performance Indicator:	MS Percent Recovery:	MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	MS Status vs Recovery:	MSU Status vs recovery: MS/MSD Upper % Recovery Limits:	MS/MSD Lower % Recovery Limits:	Matrix Snike/Matrix Snike Dunlicate Sample Assessment		Cample 1.D.	Sample MSD 1 D	Sample Matrix Spike Result:	Matrix Spike Result 2 Sigma CSU (pCML, g, F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result 2 Sigma CSU (pCML, g, F):	Duplicate Numerical Ferrorinative movement. (Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Status vs Numerical Indicator:	MS/ MSD Duplicate Status vs RPD: % RPD Limit:
					10/5/2020 20-030	38.140 0.40	0.806	0.232	4.137	0,88 0-	87.43%	AN	rass 135%	60%		Entor Duniforto	samia Dupicate samia IDs if	other than	LCS/LCSD in	the space below.					
Ra-228	VAL 9/29/2020 56345 WT	2008969 0.804 0.857 0.852 3.38 Fall* Pass		CSD (Y or N)?	10/5/2020 20-030	38.140 0.40	0.10 0.819 4.650	0.228	4.491	-0.25	96.38%	N/A	135%	60%		10056345	I CSD56345	4 491	1.317	4.137	1.305	ON O	0.272%	Pass	Pass 36%
Pace Analytical Test	Analyst: Date: Worklist: Matrix:	Method Blank Assessment MB Concentration: MB concentration: MB 2 Sigma CSU: MB Numerical Performance Indicator: MB Status vs Numerical Indicator: MB Status vs NMC:		Laboratory Control Sample Assessment	Count Date Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL):	VOUTINE OSCU (TITL): Aliquot VOLUTINE (L, g, F): Tarrock Cornor Argin & EV	Uncertainty (Calculated):	Result (pC/L, g, F):	LCORLOOD 2 SIGNIA COU (POWL, 9, F.): Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator.	Upper % Recovery:	Lower % Recovery Limits:	Dunlicate Sample Assessment	Common	Dunlicate Samule I D	Sample Result (nCM or EV	Sample Result 2 Sigma CSU (pCi/L, g, F);	Sample Duplicate Result (pCi/L, g, F):	Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	Are sample and/or duplicate results below RL?	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Duplicate Status vs Numerical Indicator:	Duplicate Status vs RPD: % RPD Limit:

.

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

D/ 10-6-20

Comments: "If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be reversed."

Ra-228 56345 W xls Ra-228 (R086-8 04Sep2019).xls



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Quality Control Sample Performance Assessment

Pace Analytical Test: Test:	Ra-228		<u>Analyst Must Manually Enter All Fields Highlighted in Yell</u>	<u>ow.</u>	
Analyst: Date: Worklist: Matrix:	VAL 9/29/2020 56347 WT		Sample Matrix Spike Control Assessment M Sample Collection Date: Sample I.D. Sample I.D.	S/MSD 1	MS/MSD 2
Method Blank Assessment MB Sample ID MB concentration: MB 2 Sigma CSU: MB MDC: MB Numerical Performance Indicator: MB Status vs Numerical indicator: MB Status vs. MDC:	2008973 0.789 0.460 0.832 3.36 Fail*		Sample MSU JU. Spike I.D.: Spike Volume Used in MS (mL): Spike Volume Used in MS (mL): Spike Volume Used in MSD (mL): MS Aliquot (L. g. F): MS Target Conc. (pCiL, g. F): MSD Target Conc. (pCiL, g. F):		
Laboratory Control Sample Assessment	LCSD (Y or N)?	N I CSD66347	MS Spike Uncertainty (calculated); MSD Spike Uncertainty (calculated);		
Count Date: Spike I.D.: Decay Corrected Spike Concentration (pC/imL):	10/6/2020 20-030 38.131		Sample Result 2 Sigma CSU (pCi/L, g, F): Sample Matrix Spite Result: Matrix Spite Result 2 Sigma CSU (pCi/L, g, F);		
Volume Used (mL): Aliquat Volume (L, g, F): Target Conc. (pciL, g, F): Uncertainty (Calculated): Result (pcUL, g, F):	0.10 0.814 0.230 6.664		Sample Matrix Spike Duplicate Result: Matrix Spike Duplicate Result 2 Sigma CSU (pCiL, g, F); MS Numerical Performance Indicator: MSD Numerical Performance Indicator: MSD Numerical Performance Indicator:	99 (1994) 1997 - Statistic Andrewson, 2000 - 2000	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F) Numerical Performance Indicator: Percent Recovery: Status vs Numerical Indicator: Status vs Recovery Limits: Upper % Recovery Limits	1.522 2.52 2.52 742.78% Warming Fail High** 135%		MSD Percent Recovery: MS Status vs Numerical Indicator: MSD Status vs Recovery: MSD Status vs Recovery: MSIMSD Upper % Recovery Limits:		
	\$0%		MS/MSD Lower % Recovery Limits:		
Uuplicate Sample Assessment	00406040004	Cotor Duniforti-	Matrix Spike/Matrix Spike Duplicate Sample Assessment		
- Duplicate Sample 1.D. Buplicate Sample 1.D. Sample Result 2 Sigma CSU (p.C.it., g, F); Sample Result 2 Sigma CSU (p.C.it., g, F);	92496249001DUP 92496249001DUP 0.711 0.513	criter puppicate sample IDs if other than LCS/LCSD in	Sample I.D. Sample MSD I.D. Sample MSD I.D. Sample Martix Soive Result		
Sample Duplicate Result (pCi/L, g, F): Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F): Are sample and/or duplicate results below RL?	0.232 0.545 See Below ##	the space below.	Matrix Spike Result 2 Sigma CSU (pCirl., g, F); Sample Matrix Spike Duplicate Result Matrix Spike Duplicate Result 2 Sigma CSU (pCirl., g, F);		
Duplicate Numerical Performance Indicator: Duplicate RPD: Duplicate Status vs Numercal Indicator: Duplicate Status vs RPD: % RPD Limit:	1.254 101.60% Pass Fail***	92496249001 32496249001DUP	Duplicate Numerical Performance Indicator (Based on the Percent Recoveries) MS/ MSD Duplicate RPD: MS/ MSD Duplicate Status vs Numerical Indicator: MS/ MSD Duplicate Status vs RPD: MS/ MSD Duplicate Status vs RPD:		

Duplicate Status vs Numerical Indicator: Duplicate Status vs RPD: % RPD Limit:

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

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torpert NI 2 arceptubly Comments: "If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped. "If all sample results are below MDC, the batch is acceptable, otherwise this batch must be reprepped due to LCS failure. OMfailure.

Ra-228 NELAC DW2 Printed: 10/7/2020 10:19 AM



October 01, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH E NETWORK Pace Project No.: 92495964

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 17, 2020 and September 18, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Charlotte
- Pace Analytical Services Peachtree Corners, GA

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tel Pager

Tyler Forney for Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta



Brian Steele, Golder

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH E NETWORK

Pace Project No.: 92495964

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



SAMPLE SUMMARY

Project: BRANCH E NETWORK

Pace Project No.: 92495964

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495964001	BRGWC-35S	Water	09/16/20 09:05	09/17/20 10:00
92495964002	BRGWC-34S	Water	09/16/20 09:59	09/17/20 10:00
92495964003	BRGWC-33S	Water	09/16/20 11:02	09/17/20 10:00
92495964004	BRGWC-17S	Water	09/16/20 12:30	09/17/20 10:00
92495964005	BRGWC-36S	Water	09/16/20 15:21	09/17/20 10:00
92495964006	BRGWC-37S	Water	09/16/20 16:09	09/17/20 10:00
92495964007	FB-1	Water	09/16/20 10:10	09/17/20 10:00
92495964008	DUP-2	Water	09/16/20 00:00	09/17/20 10:00
92495964009	BRGWC-38S	Water	09/17/20 11:26	09/18/20 10:15



SAMPLE ANALYTE COUNT

Project: BRANCH E NETWORK

Pace Project No.: 92495964

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495964001	BRGWC-35S	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495964002	BRGWC-34S	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495964003	BRGWC-33S	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495964004	BRGWC-17S	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495964005	BRGWC-36S	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495964006	BRGWC-37S	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495964007	FB-1	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495964008	DUP-2	EPA 6010D	DRB	1
		EPA 6020B	CW1	13



SAMPLE ANALYTE COUNT

Project: BRANCH E NETWORK Pace Project No.: 92495964

Lab ID	Sample ID	Method A	nalysts	Analytes Reported
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495964009	BRGWC-38S	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	FFP	1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	BRJ	3

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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



Project: BRANCH E NETWORK

Pace Project No.: 92495964

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495964001	BRGWC-35S					
	рН	5.96	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	61.8	mg/L	1.0	09/22/20 21:32	
EPA 6020B	Barium	0.033	mg/L	0.010	09/22/20 17:42	
EPA 6020B	Beryllium	0.00014J	mg/L	0.0030	09/22/20 17:42	
EPA 6020B	Boron	1.9	mg/L	0.10	09/22/20 17:42	
EPA 6020B	Chromium	0.0058J	mg/L	0.010	09/22/20 17:42	
EPA 6020B	Lead	0.00012J	mg/L	0.0050	09/22/20 17:42	
EPA 6020B	Lithium	0.0020J	ma/L	0.030	09/22/20 17:42	
SM 2450C-2011	Total Dissolved Solids	474	ma/L	10.0	09/18/20 09:58	
EPA 300.0 Rev 2.1 1993	Chloride	6.0	ma/L	1.0	09/19/20 18:22	
EPA 300.0 Rev 2.1 1993	Fluoride	0.062J	ma/L	0.10	09/19/20 18:22	
EPA 300.0 Rev 2.1 1993	Sulfate	270	mg/L	6.0	09/20/20 04:47	
92495964002	BRGWC-34S					
	рН	5.81	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	77.7	mg/L	1.0	09/22/20 21:37	
EPA 6020B	Barium	0.023	mg/L	0.010	09/22/20 17:48	
EPA 6020B	Beryllium	0.00014J	mg/L	0.0030	09/22/20 17:48	
EPA 6020B	Boron	2.2	mg/L	0.10	09/22/20 17:48	
EPA 6020B	Cadmium	0.00017J	mg/L	0.0025	09/22/20 17:48	
EPA 6020B	Cobalt	0.0042J	mg/L	0.0050	09/22/20 17:48	
SM 2450C-2011	Total Dissolved Solids	392	mg/L	10.0	09/18/20 09:58	
EPA 300.0 Rev 2.1 1993	Chloride	6.6	mg/L	1.0	09/19/20 18:37	
EPA 300.0 Rev 2.1 1993	Fluoride	0.077J	mg/L	0.10	09/19/20 18:37	
EPA 300.0 Rev 2.1 1993	Sulfate	283	mg/L	6.0	09/20/20 05:01	
92495964003	BRGWC-33S					
	рН	4.78	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	37.9	mg/L	1.0	09/22/20 21:41	
EPA 6020B	Barium	0.019	mg/L	0.010	09/22/20 17:53	
EPA 6020B	Beryllium	0.0015J	mg/L	0.0030	09/22/20 17:53	
EPA 6020B	Boron	1.1	mg/L	0.10	09/22/20 17:53	
EPA 6020B	Cadmium	0.00032J	mg/L	0.0025	09/22/20 17:53	
EPA 6020B	Cobalt	0.034	mg/L	0.0050	09/22/20 17:53	
EPA 6020B	Lead	0.000063J	mg/L	0.0050	09/22/20 17:53	
EPA 6020B	Lithium	0.0089J	mg/L	0.030	09/22/20 17:53	
EPA 6020B	Selenium	0.0028J	mg/L	0.010	09/22/20 17:53	
EPA 6020B	Thallium	0.00018J	mg/L	0.0010	09/22/20 17:53	
SM 2450C-2011	Total Dissolved Solids	88.0	mg/L	10.0	09/18/20 09:59	
EPA 300.0 Rev 2.1 1993	Chloride	4.1	mg/L	1.0	09/19/20 18:52	
EPA 300.0 Rev 2.1 1993	Fluoride	0.085J	mg/L	0.10	09/19/20 18:52	
EPA 300.0 Rev 2.1 1993	Sulfate	154	mg/L	3.0	09/20/20 05:16	
92495964004	BRGWC-17S					
	рН	6.26	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	37.9	mg/L	1.0	09/22/20 21:45	
EPA 6020B	Barium	0.044	mg/L	0.010	09/22/20 18:11	
EPA 6020B	Boron	0.0066J	mg/L	0.10	09/22/20 18:11	
EPA 6020B	Chromium	0.012	mg/L	0.010	09/22/20 18:11	



Project: BRANCH E NETWORK

Pace Project No.: 92495964

Lab Sample ID Client Sample ID Qualifiers Method Parameters Result Units Report Limit Analyzed 92495964004 **BRGWC-17S** EPA 6020B Lead 0.000054J mg/L 0.0050 09/22/20 18:11 EPA 6020B Lithium 0.00096J mg/L 0.030 09/22/20 18:11 SM 2450C-2011 **Total Dissolved Solids** 316 10.0 09/18/20 09:59 mg/L EPA 300.0 Rev 2.1 1993 Chloride 4.2 mg/L 1.0 09/19/20 19:07 EPA 300.0 Rev 2.1 1993 Fluoride 0.10 mg/L 0.10 09/19/20 19:07 Sulfate EPA 300.0 Rev 2.1 1993 151 mg/L 3.0 09/20/20 05:30 92495964005 BRGWC-36S pН 5.58 Std. Units 09/29/20 12:27 EPA 6010D Calcium 45.9 mg/L 1.0 09/22/20 21:50 EPA 6020B Barium 0.030 0.010 09/22/20 18:16 mg/L EPA 6020B 0.000080J 0.0030 09/22/20 18:16 Beryllium mg/L EPA 6020B 09/22/20 18:16 Boron 0.99 mg/L 0.10 EPA 6020B Chromium 0.0064J mg/L 0.010 09/22/20 18:16 EPA 6020B Lithium 0.0022J mg/L 0.030 09/22/20 18:16 EPA 6020B Selenium 0.0031J mg/L 0.010 09/22/20 18:16 SM 2450C-2011 **Total Dissolved Solids** 463 10.0 09/18/20 09:59 mg/L EPA 300.0 Rev 2.1 1993 Chloride 7.9 mg/L 1.0 09/19/20 19:22 Sulfate 09/20/20 06:15 EPA 300.0 Rev 2.1 1993 256 mg/L 5.0 M6 92495964006 **BRGWC-37S** рН 5.84 Std. Units 09/29/20 12:27 EPA 6010D Calcium 3.2 mg/L 1.0 09/22/20 21:54 EPA 6020B Barium 0.024 0.010 09/22/20 18:22 mg/L EPA 6020B Boron 0.0062J 0.10 09/22/20 18.22 mg/L EPA 6020B Chromium 0.0018J 0.010 09/22/20 18:22 mg/L SM 2450C-2011 **Total Dissolved Solids** 31.0 mg/L 10.0 09/18/20 09:59 EPA 300.0 Rev 2.1 1993 Chloride 09/19/20 20:07 1.8 mg/L 1.0 92495964008 DUP-2 EPA 6010D Calcium 47.6 mg/L 1.0 09/25/20 19:00 EPA 6020B Barium 0.030 mg/L 0.010 09/22/20 18:34 0.000085J EPA 6020B Beryllium mg/L 0.0030 09/22/20 18:34 EPA 6020B Boron 1.0 mg/L 0.10 09/22/20 18:34 EPA 6020B Chromium 0.0067J 0.010 09/22/20 18:34 mg/L EPA 6020B 0.0023J 0.030 09/22/20 18:34 I ithium mg/L EPA 6020B Selenium 0.0040J mg/L 0.010 09/22/20 18:34 mg/L SM 2450C-2011 **Total Dissolved Solids** 462 10.0 09/18/20 09:59 EPA 300.0 Rev 2.1 1993 Chloride 7.9 mg/L 1.0 09/19/20 20:36 EPA 300.0 Rev 2.1 1993 Sulfate 251 mg/L 50 09/20/20 06:59 92495964009 BRGWC-38S рH 4.17 Std. Units 09/29/20 12:27 EPA 6010D 33.1 09/25/20 19:26 Calcium mg/L 1.0 EPA 6020B Arsenic 0.0015J 0.0050 09/22/20 20.22 mg/L EPA 6020B Barium 0.014 mg/L 0.010 09/22/20 20:22 0.0073 EPA 6020B Beryllium mg/L 0.0030 09/22/20 20:22 EPA 6020B Boron 1.4 mg/L 0.10 09/22/20 20:22 EPA 6020B Cadmium 0.00050J mg/L 0.0025 09/22/20 20:22



Project: BRANCH E NETWORK

Pace Project No.: 92495964

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495964009	BRGWC-38S					
EPA 6020B	Chromium	0.0042J	mg/L	0.010	09/22/20 20:22	
EPA 6020B	Cobalt	0.20	mg/L	0.0050	09/22/20 20:22	
EPA 6020B	Lead	0.00032J	mg/L	0.0050	09/22/20 20:22	
EPA 6020B	Lithium	0.020J	mg/L	0.030	09/22/20 20:22	
EPA 6020B	Selenium	0.029	mg/L	0.010	09/22/20 20:22	
EPA 6020B	Thallium	0.00017J	mg/L	0.0010	09/22/20 20:22	
EPA 7470A	Mercury	0.00011J	mg/L	0.00050	09/23/20 10:43	
SM 2450C-2011	Total Dissolved Solids	587	mg/L	10.0	09/21/20 16:29	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	09/22/20 12:31	
EPA 300.0 Rev 2.1 1993	Fluoride	0.68	mg/L	0.10	09/22/20 12:31	
EPA 300.0 Rev 2.1 1993	Sulfate	356	mg/L	7.0	09/22/20 18:55	



ANALYTICAL RESULTS

Project: BRANCH E NETWORK

Pace Project No.:

ct No.: 92495964

Sample: BRGWC-35S	Lab ID:	92495964001	Collecte	ed: 09/16/20	0 09:05	Received: 09/	/17/20 10:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica Pace Ana	l Method: alytical Services	s - Charlotte	9					
рН	5.96	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytica Pace Ana	l Method: EPA alytical Services	6010D Pre s - Peachtre	paration Meter e Corners, C	hod: E	PA 3010A			
Calcium	61.8	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:32	7440-70-2	
6020 MET ICPMS	Analytica Pace Ana	l Method: EPA alytical Services	6020B Pre s - Peachtre	paration Met e Corners, C	hod: E GA	PA 3005A			
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:42	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:42	7440-38-2	
Barium	0.033	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:42	7440-39-3	
Beryllium	0.00014J	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:42	7440-41-7	
Boron	1.9	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:42	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:42	7440-43-9	
Chromium	0.0058J	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:42	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:42	7440-48-4	
Lead	0.00012J	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:42	7439-92-1	
Lithium	0.0020J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:42	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:42	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:42	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:42	7440-28-0	
7470 Mercury	Analytica Pace Ana	l Method: EPA	7470A Pre s - Peachtre	paration Met ee Corners, C	hod: E ∋A	PA 7470A			
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:52	7439-97-6	
2540C Total Dissolved Solids	Analytica Pace Ana	l Method: SM 2 alytical Services	2450C-2011 s - Peachtre	e Corners, C	θA				
Total Dissolved Solids	474	mg/L	10.0	10.0	1		09/18/20 09:58		
300.0 IC Anions 28 Days	Analytica Pace Ana	l Method: EPA alytical Services	300.0 Rev 2 s - Asheville	2.1 1993					
Chloride	6.0	ma/L	1.0	0.60	1		09/19/20 18:22	16887-00-6	
Fluoride	0.062J	ma/L	0.10	0.050	1		09/19/20 18:22	16984-48-8	
Sulfate	270	mg/L	6.0	3.0	6		09/20/20 04:47	14808-79-8	


Project: BRANCH E NETWORK

Pace Project No.:

oject No.: 92495964

Sample: BRGWC-34S	Lab ID:	92495964002	Collecte	ed: 09/16/2	0 09:59	Received: 09/	/17/20 10:00 Ma	atrix: Water	
-			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	9					
рН	5.81	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical	Method: EPA 6	6010D Pre	paration Me	thod: EF	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Calcium	77.7	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:37	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	thod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:48	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:48	7440-38-2	
Barium	0.023	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:48	7440-39-3	
Beryllium	0.00014J	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:48	7440-41-7	
Boron	2.2	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:48	7440-42-8	
Cadmium	0.00017J	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:48	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:48	7440-47-3	
Cobalt	0.0042J	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:48	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:48	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:48	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:48	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:48	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:48	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (GΑ				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:54	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Total Dissolved Solids	392	mg/L	10.0	10.0	1		09/18/20 09:58		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville	•					
Chloride	6.6	mg/L	1.0	0.60	1		09/19/20 18:37	16887-00-6	
Fluoride	0.077J	mg/L	0.10	0.050	1		09/19/20 18:37	16984-48-8	
Sulfate	283	mg/L	6.0	3.0	6		09/20/20 05:01	14808-79-8	



Project: BRANCH E NETWORK

Pace Project No.:

ect No.: 92495964

Sample: BRGWC-33S	Lab ID:	92495964003	Collecte	ed: 09/16/20	0 11:02	Received: 09/	17/20 10:00 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	9					
рН	4.78	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical	Method: FPA 6	5010D Pre	paration Me	thod: FI	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Calcium	37.9	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:41	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	thod: Ef	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	ee Corners, 0	GΑ				
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 17:53	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 17:53	7440-38-2	
Barium	0.019	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 17:53	7440-39-3	
Beryllium	0.0015J	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 17:53	7440-41-7	
Boron	1.1	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 17:53	7440-42-8	
Cadmium	0.00032J	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 17:53	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 17:53	7440-47-3	
Cobalt	0.034	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 17:53	7440-48-4	
Lead	0.000063J	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 17:53	7439-92-1	
Lithium	0.0089J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 17:53	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 17:53	7439-98-7	
Selenium	0.0028J	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 17:53	7782-49-2	
Thallium	0.00018J	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 17:53	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	ee Corners, 0	GΑ				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:56	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	- Peachtre	ee Corners, C	GΑ				
Total Dissolved Solids	88.0	mg/L	10.0	10.0	1		09/18/20 09:59		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville	9					
Chloride	4.1	mg/L	1.0	0.60	1		09/19/20 18:52	16887-00-6	
Fluoride	0.085J	mg/L	0.10	0.050	1		09/19/20 18:52	16984-48-8	
Sulfate	154	ma/L	3.0	1.5	3		09/20/20 05:16	14808-79-8	



Project: **BRANCH E NETWORK**

Pace Project No.:

92495964

Sample: BRGWC-17S	Lab ID:	92495964004	4 Collecte	ed: 09/16/20	0 12:30	Received: 09/	/17/20 10:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica Pace Ana	l Method: alytical Service	s - Charlotte	9					
рН	6.26	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytica Pace Ana	l Method: EPA alytical Service	6010D Pre s - Peachtre	paration Met e Corners, C	thod: E GA	PA 3010A			
Calcium	37.9	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:45	7440-70-2	
6020 MET ICPMS	Analytica Pace Ana	l Method: EPA alytical Service	6020B Pre s - Peachtre	paration Met e Corners, C	hod: E GA	PA 3005A			
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 18:11	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 18:11	7440-38-2	
Barium	0.044	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 18:11	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 18:11	7440-41-7	
Boron	0.0066J	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 18:11	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 18:11	7440-43-9	
Chromium	0.012	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 18:11	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 18:11	7440-48-4	
Lead	0.000054J	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 18:11	7439-92-1	
Lithium	0.00096J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 18:11	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 18:11	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 18:11	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 18:11	7440-28-0	
7470 Mercury	Analytica Pace Ana	l Method: EPA alytical Service	7470A Pre s - Peachtre	paration Met ee Corners, C	hod: El ∋A	PA 7470A			
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 14:59	7439-97-6	
2540C Total Dissolved Solids	Analytica Pace Ana	l Method: SM 2 alytical Service	2450C-2011 s - Peachtre	e Corners, C	ΒA				
Total Dissolved Solids	316	mg/L	10.0	10.0	1		09/18/20 09:59		
300.0 IC Anions 28 Days	Analytica Pace Ana	l Method: EPA alytical Service	300.0 Rev 2 s - Asheville	2.1 1993 9					
Chloride	4.2	ma/l	1.0	0.60	1		09/19/20 19:07	16887-00-6	
Fluoride	0.10	ma/L	0.10	0.050	1		09/19/20 19:07	16984-48-8	
Sulfate	151	mg/L	3.0	1.5	3		09/20/20 05:30	14808-79-8	



Project: BRANCH E NETWORK

Pace Project No.:

ct No.: 92495964

Sample: BRGWC-36S	Lab ID:	92495964005	Collecte	ed: 09/16/20	0 15:21	Received: 09/	17/20 10:00 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte	9					
рН	5.58	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical	Method: EPA 6	6010D Pre	paration Me	thod: El	PA 3010A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	GΑ				
Calcium	45.9	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:50	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	thod: Ef	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	GA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 18:16	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 18:16	7440-38-2	
Barium	0.030	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 18:16	7440-39-3	
Beryllium	0.000080J	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 18:16	7440-41-7	
Boron	0.99	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 18:16	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 18:16	7440-43-9	
Chromium	0.0064J	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 18:16	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 18:16	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 18:16	7439-92-1	
Lithium	0.0022J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 18:16	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 18:16	7439-98-7	
Selenium	0.0031J	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 18:16	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 18:16	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, 0	GΑ				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 15:01	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Anal	ytical Services	- Peachtre	e Corners, 0	GΑ				
Total Dissolved Solids	463	mg/L	10.0	10.0	1		09/18/20 09:59		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville	1					
Chloride	7.9	mg/L	1.0	0.60	1		09/19/20 19:22	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/20 19:22	16984-48-8	
Sulfate	256	mg/L	5.0	2.5	5		09/20/20 06:15	14808-79-8	M6



Project: BRANCH E NETWORK

Pace Project No.:

lo.: 92495964

Sample: BRGWC-37S	Lab ID:	9249596400	6 Collecte	ed: 09/16/20	0 16:09	Received: 09/	/17/20 10:00 Ma	atrix: Water	
Parameters	Results	Units	Report	MDI	DF	Prepared	Analyzed	CAS No	Qual
Field Data	Analytica	I Method:							
	Pace Ana	alytical Service	s - Charlotte	9					
рН	5.84	Std. Units			1		09/29/20 12:27		
	Analytica	I Method: EPA	6010D Pre	naration Met	hod. E	PA 3010A			
	Pace Ana	lutical Service	s - Poachtre		2A				
	Face And	alytical Service	s - reachine	e comers, c					
Calcium	3.2	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:54	7440-70-2	
6020 MET ICPMS	Analytica	I Method: EPA	6020B Pre	paration Met	hod: E	PA 3005A			
	Pace Ana	alytical Service	s - Peachtre	e Corners, G	ΒA				
Antimony	ND	ma/l	0.0030	0.00028	1	09/18/20 11:00	09/22/20 18:22	7440-36-0	
Arsenic	ND	ma/l	0.0050	0.00078	1	09/18/20 11:00	09/22/20 18:22	7440-38-2	
Barium	0.024	ma/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 18:22	7440-39-3	
Bervllium	ND	ma/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 18:22	7440-41-7	
Boron	0.0062J	ma/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 18:22	7440-42-8	
Cadmium	ND	ma/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 18:22	7440-43-9	
Chromium	0.0018J	ma/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 18:22	7440-47-3	
Cobalt	ND	ma/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 18:22	7440-48-4	
Lead	ND	ma/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 18:22	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 18:22	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 18:22	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 18:22	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 18:22	7440-28-0	
7470 Mercury	Analytica	I Method: EPA	7470A Pre	paration Met	hod: E	PA 7470A			
·····,	Pace Ana	alytical Service	s - Peachtre	e Corners, C	BA	-			
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 15:03	7439-97-6	
2540C Total Dissolved Solids	Analytica	I Method: SM 2	2450C-2011						
	Pace Ana	alytical Service	s - Peachtre	e Corners, G	SA				
Total Dissolved Solids	31.0	mg/L	10.0	10.0	1		09/18/20 09:59		
300.0 IC Anions 28 Days	Analytica	Method: FPA	300.0 Rev 3	2,1,1993					
Contro Aniono Lo Dayo	Pace Ana	alytical Service	s - Asheville						
Chloride	1.8	ma/L	1.0	0.60	1		09/19/20 20:07	16887-00-6	
Fluoride	ND	ma/L	0.10	0.050	1		09/19/20 20:07	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/19/20 20:07	14808-79-8	



Project: BRANCH E NETWORK

Pace Project No.: 92495964

Sample: FB-1	Lab ID:	92495964007	Collecte	ed: 09/16/2	0 10:10	Received: 09/	17/20 10:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Me	thod: EF	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (ЗA				
Calcium	ND	mg/L	1.0	0.070	1	09/22/20 14:15	09/22/20 21:58	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Me	thod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	GA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 18:28	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 18:28	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 18:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 18:28	7440-41-7	
Boron	ND	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 18:28	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 18:28	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 18:28	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 18:28	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 18:28	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 18:28	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 18:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 18:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 18:28	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	hod: EP	PA 7470A			
-	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 15:06	7439-97-6	
2540C Total Dissolved Solids	Analytical Pace Ana	Method: SM 24 lytical Services	I50C-2011 - Peachtre	e Corners, (GA				
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		09/18/20 09:59		
300.0 IC Anions 28 Days	Analytical Pace Ana	Method: EPA 3 lytical Services	00.0 Rev 2 - Asheville	2.1 1993					
Chloride	ND	ma/L	1.0	0.60	1		09/19/20 20:21	16887-00-6	
Fluoride	ND	ma/L	0.10	0.050	1		09/19/20 20:21	16984-48-8	
Sulfate	ND	ma/L	1.0	0.50	1		09/19/20 20:21	14808-79-8	
		3							



Project: BRANCH E NETWORK

Pace Project No.: 92495964

Sample: DUP-2	Lab ID:	92495964008	Collecte	ed: 09/16/2	0 00:00	Received: 09/	17/20 10:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Me	thod: EF	PA 3010A			
	Pace Ana	lytical Services	 Peachtre 	e Corners, 0	GA				
Calcium	47.6	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:00	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Me	thod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (ЗA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/18/20 11:00	09/22/20 18:34	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/18/20 11:00	09/22/20 18:34	7440-38-2	
Barium	0.030	mg/L	0.010	0.00071	1	09/18/20 11:00	09/22/20 18:34	7440-39-3	
Beryllium	0.000085J	mg/L	0.0030	0.000046	1	09/18/20 11:00	09/22/20 18:34	7440-41-7	
Boron	1.0	mg/L	0.10	0.0052	1	09/18/20 11:00	09/22/20 18:34	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/18/20 11:00	09/22/20 18:34	7440-43-9	
Chromium	0.0067J	mg/L	0.010	0.00055	1	09/18/20 11:00	09/22/20 18:34	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/18/20 11:00	09/22/20 18:34	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/18/20 11:00	09/22/20 18:34	7439-92-1	
Lithium	0.0023J	mg/L	0.030	0.00081	1	09/18/20 11:00	09/22/20 18:34	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/18/20 11:00	09/22/20 18:34	7439-98-7	
Selenium	0.0040J	mg/L	0.010	0.0016	1	09/18/20 11:00	09/22/20 18:34	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/18/20 11:00	09/22/20 18:34	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Me	thod: EP	A 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/18/20 08:30	09/18/20 15:08	7439-97-6	
2540C Total Dissolved Solids	Analytical	Method: SM 24	150C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, (GA				
Total Dissolved Solids	462	mg/L	10.0	10.0	1		09/18/20 09:59		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
-	Pace Ana	lytical Services	- Asheville	•					
Chloride	7.9	ma/L	1.0	0.60	1		09/19/20 20:36	16887-00-6	
Fluoride	ND	ma/L	0.10	0.050	1		09/19/20 20:36	16984-48-8	
Sulfate	251	ma/L	5.0	2.5	5		09/20/20 06:59	14808-79-8	
			0.0	2.0	•				



Project: **BRANCH E NETWORK**

Pace Project No.: 92495964

Sample: BRGWC-38S	Lab ID:	92495964009	Collect	ed: 09/17/20	0 11:26	Received: 09/	18/20 10:15 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica	I Method:							
	Pace Ana	alytical Services	- Charlotte	9					
рН	4.17	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytica	I Method: EPA 6	010D Pre	paration Met	thod: El	PA 3010A			
	Pace Ana	alytical Services	- Peachtre	ee Corners, C	ЗA				
Calcium	33.1	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:26	7440-70-2	
6020 MET ICPMS	Analytica	I Method: EPA 6	020B Pre	paration Met	hod: Ef	PA 3005A			
	Pace Ana	alytical Services	- Peachtre	e Corners, C	ΒA				
Antimony	ND	mg/L	0.0030	0.00028	1	09/21/20 14:30	09/22/20 20:22	7440-36-0	
Arsenic	0.0015J	mg/L	0.0050	0.00078	1	09/21/20 14:30	09/22/20 20:22	7440-38-2	
Barium	0.014	mg/L	0.010	0.00071	1	09/21/20 14:30	09/22/20 20:22	7440-39-3	
Beryllium	0.0073	mg/L	0.0030	0.000046	1	09/21/20 14:30	09/22/20 20:22	7440-41-7	
Boron	1.4	mg/L	0.10	0.0052	1	09/21/20 14:30	09/22/20 20:22	7440-42-8	
Cadmium	0.00050J	mg/L	0.0025	0.00012	1	09/21/20 14:30	09/22/20 20:22	7440-43-9	
Chromium	0.0042J	mg/L	0.010	0.00055	1	09/21/20 14:30	09/22/20 20:22	7440-47-3	
Cobalt	0.20	mg/L	0.0050	0.00038	1	09/21/20 14:30	09/22/20 20:22	7440-48-4	
Lead	0.00032J	mg/L	0.0050	0.000036	1	09/21/20 14:30	09/22/20 20:22	7439-92-1	
Lithium	0.020J	mg/L	0.030	0.00081	1	09/21/20 14:30	09/22/20 20:22	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/21/20 14:30	09/22/20 20:22	7439-98-7	
Selenium	0.029	mg/L	0.010	0.0016	1	09/21/20 14:30	09/22/20 20:22	7782-49-2	
Thallium	0.00017J	mg/L	0.0010	0.00014	1	09/21/20 14:30	09/22/20 20:22	7440-28-0	
7470 Mercury	Analytica	I Method: EPA 7	'470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	alytical Services	- Peachtre	e Corners, C	ΒA				
Mercury	0.00011J	mg/L	0.00050	0.000078	1	09/22/20 11:15	09/23/20 10:43	7439-97-6	
2540C Total Dissolved Solids	Analytica	I Method: SM 24	450C-2011						
	Pace Ana	alytical Services	- Peachtre	e Corners, C	βA				
Total Dissolved Solids	587	mg/L	10.0	10.0	1		09/21/20 16:29		
300.0 IC Anions 28 Days	Analytica	I Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	alytical Services	- Asheville	;					
Chloride	6.1	mg/L	1.0	0.60	1		09/22/20 12:31	16887-00-6	
Fluoride	0.68	mg/L	0.10	0.050	1		09/22/20 12:31	16984-48-8	
Sulfate	356	mg/L	7.0	3.5	7		09/22/20 18:55	14808-79-8	



Project:	BRANCH E NETW	VORK										
Pace Project No.:	92495964											
QC Batch:	568100		Anal	lysis Meth	nod:	EPA 6010D	1					
QC Batch Method:	EPA 3010A		Anal	lysis Des	cription:	6010D ATL						
			Labo	oratory:		Pace Analy	tical Servic	es - Peach	tree Corne	ers, GA		
Associated Lab Sar	mples: 92495964	001, 9249596400	2, 924959	64003, 92	2495964004	4, 924959640	05, 92495	964006, 92	495964007	7		
METHOD BLANK:	3010230			Matrix:	Water							
Associated Lab Sar	mples: 92495964	001, 9249596400	2, 924959	64003, 92	2495964004	4, 924959640	05, 92495	964006, 92	495964007	7		
			Bla	ink	Reporting	9						
Parar	neter	Units	Res	sult	Limit	MD	L	Analyzed	Qu	ualifiers	5	
Calcium		mg/L		ND		1.0	0.070 0	9/22/20 20	:31			
LABORATORY CO	NTROL SAMPLE:	3010231										
			Spike	· I	LCS	LCS	% R	Rec				
Parar	neter	Units	Conc.	. R	esult	% Rec	Lim	its	Qualifiers	_		
Calcium		mg/L		1	0.92J	g	2	80-120				
MATRIX SPIKE & N	ATRIX SPIKE DUF	PLICATE: 3010	232		30102	33						
			MS	MSD								
Paramoto	r Linite	92495653006	Spike	Spike	MS Rocult	MSD Bosult	MS % Roc	MSD % Roc	% Rec	חסס	Max	Qual
Calcium	mg/L	. 43.1	1		1 44.	0 43.4	83	22	75-125	1	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



		ONN										
Pace Project No.:	92495964											
QC Batch:	568747		Analy	sis Metho	d:	EPA 6010D)					
QC Batch Method:	EPA 3010A		Analy	sis Descri	ption:	6010D ATL						
			Labor	atory:		Pace Analy	tical Serv	vices - Peach	tree Corne	rs, GA		
Associated Lab Sam	nples: 92495964	008, 9249596400	Э									
METHOD BLANK:	3013294			Matrix: W	ater							
Associated Lab Sam	nples: 92495964	008, 9249596400	9									
			Blan	k	Reporting)						
Param	neter	Units	Resu	ılt	Limit	MD	L	Analyzed	Qı	ualifiers		
Calcium		mg/L		ND		1.0	0.070	09/25/20 18	:16			
LABORATORY CON	ITROL SAMPLE:	3013295										
			Snike	10	· C	LCS	%	Rec				
Dener			Opino	20	.5	200						
Paran	neter	Units	Conc.	Res	sult	% Rec	Li	mits	Qualifiers			
Calcium	neter	Units mg/L		Res	sult 0.98J	% Rec	Li 98	mits	Qualifiers			
		Units mg/L		 1	.5 sult 0.98J	% Rec	Li	mits	Qualifiers			
Calcium MATRIX SPIKE & M	ATRIX SPIKE DUP	Units mg/L LICATE: 3013;	296		30132	97	Li	mits	Qualifiers	_		
Calcium MATRIX SPIKE & M	ATRIX SPIKE DUP	Units mg/L LICATE: 30132 92495904004	296 Spike	MSD Spike	.5 sult 0.98J 30132 MS	97 MSD	Li	mits 80-120 MSD	Qualifiers	_	Max	
Calcium MATRIX SPIKE & M Parameter	ATRIX SPIKE DUP	Units mg/L LICATE: 30132 92495904004 Result	296 MS Spike Conc.	MSD Spike Conc.	.5 sult 0.98J 30132 MS Result	97 MSD Result	MS % Rec	MSD % Rec	Qualifiers % Rec Limits	RPD	Max RPD	Qual

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QC Batch: 567	397	Analysis Me	ethod:	EPA 6020B		
QC Batch Method: EPA	3005A	Analysis De	scription:	6020 MET		
		Laboratory:		Pace Analytical	Services - Pea	chtree Corners, GA
Associated Lab Samples:	92495964001, 9249596400	2, 92495964003,	92495964004	, 92495964005,	92495964006,	92495964007,
	92495964008					
IETHOD BLANK: 3006	748	Matrix	: Water			
ssociated Lab Samples:	92495964001, 9249596400 92495964008	2, 92495964003,	92495964004	, 92495964005,	92495964006,	92495964007,
Parameter	Units	Blank Result	Reporting	MDI	Analyz	ed Qualifier
numony	mg/L	0.00033J	0.00		120 U9/22/20	15.42
arium	mg/L		0.00		10 09/22/20	10.4Z
anum	mg/L	םא חוא	0.0		1 03/22/20 146 00/22/20	15.42
a yinan in aron	mg/L	םוא חוא	0.00		152 09/22/20	15:42
admium	ma/l		0.00	25 0.00	12 09/22/20	15:42
nomium	mg/L	ND	0.0	10 0.000	55 09/22/20	15:42
obalt	mg/L	ND	0.00	50 0.000	38 09/22/20	15:42
ad	mg/L	ND	0.00	50 0.0000	36 09/22/20	15:42
hium	mg/L	ND	0.0	30 0.000	81 09/22/20	15:42
lvbdenum	mg/L	ND	0.0	10 0.000	69 09/22/20	15:42
lenium	mg/L	ND	0.0	10 0.00	16 09/22/20	15:42
allium	mg/L	ND	0.00	10 0.000	14 09/22/20	15:42
	_ SAMPLE: 3006749					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
itimony	mg/L	0.1	0.11	106	80-120	
senic	mg/L	0.1	0.099	99	80-120	
rium	mg/L	0.1	0.10	100	80-120	
ryllium	mg/L	0.1	0.11	106	80-120	
ron	mg/L	1	1.1	112	80-120	
dmium	mg/L	0.1	0.10	100	80-120	
iromium	mg/L	0.1	0.10	103	80-120	
halt	mg/L	0.1	0.099	99	80-120	
bait	mg/L	0.1	0.10	101	80-120	
ld		0.1	0.10	105	80-120	
ad nium	mg/L	•••			00 100	
ad hium Jybdenum	mg/L mg/L	0.1	0.098	98	80-120	
ead ithium Iolybdenum elenium	mg/L mg/L mg/L	0.1 0.1	0.098 0.10	98 101	80-120 80-120	

Parameter	Units	92495870002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L		0.1	0.1	0.10	0.11	104	106	75-125	2		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



Project: BRANCH E NETWORK

Pace Project No.: 92495964

MATRIX SPIKE & MATRIX SPIK	E DUPI	LICATE: 3006	750 MS	MSD	3006751							
		92495870002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/L	 ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20	
Barium	mg/L	0.019	0.1	0.1	0.12	0.12	97	99	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	101	101	75-125	0	20	
Boron	mg/L	0.0053J	1	1	1.0	1.0	100	101	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.098	0.096	98	96	75-125	1	20	
Chromium	mg/L	0.00086J	0.1	0.1	0.10	0.10	103	104	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.096	0.096	95	96	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS



Project: BRANCH E NETWORK

Pace Project No.: 92495964

QC Batch:	567743		Analysis Meth	nod: E	PA 6020B			
QC Batch Method:	EPA 3005A		Analysis Desc	cription: 6	020 MET			
			Laboratory:	Р	ace Analytical Se	rvices - Peachtree	Corners, GA	
Associated Lab Sa	mples: 92495964	009	·		·			
METHOD BLANK:	3008588		Matrix:	Water				
Associated Lab Sar	mples: 92495964	009						
			Blank	Reporting				
Para	meter	Units	Result	Limit	MDL	Analyzed	Qualifiers	
Antimony		mg/L		0.0030	0.00028	09/22/20 17:54		
Arsenic		mg/L	ND	0.0050	0.00078	09/22/20 17:54		
Barium		mg/L	ND	0.010	0.00071	09/22/20 17:54		
Beryllium		mg/L	ND	0.0030	0.000046	09/22/20 17:54		
Boron		mg/L	ND	0.10	0.0052	09/22/20 17:54		
Cadmium		mg/L	ND	0.0025	0.00012	09/22/20 17:54		
Chromium		mg/L	ND	0.010	0.00055	09/22/20 17:54		
Cobalt		mg/L	ND	0.0050	0.00038	09/22/20 17:54		
Lead		mg/L	ND	0.0050	0.000036	09/22/20 17:54		
Lithium		mg/L	ND	0.030	0.00081	09/22/20 17:54		
Molybdenum		mg/L	ND	0.010	0.00069	09/22/20 17:54		
Selenium		mg/L	ND	0.010	0.0016	09/22/20 17:54		
Thallium		mg/L	ND	0.0010	0.00014	09/22/20 17:54		

LABORATORY CONTROL SAMPLE: 3008589

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.093	93	80-120	
Barium	mg/L	0.1	0.095	95	80-120	
Beryllium	mg/L	0.1	0.092	92	80-120	
Boron	mg/L	1	0.96	96	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.10	104	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.093	93	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.092	92	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPI	IKE DUPL	_ICATE: 3008	590		3008591							
Parameter	Units	92496275001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ma/L		0.1	0.1	0.10	0.10	101	105	75-125	3	20	
Arsenic	mg/L	ND	0.1	0.1	0.099	0.10	96	98	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS



Project: BRANCH E NETWORK

Pace Project No.: 92495964

MATRIX SPIKE & MATRIX SPI	KE DUPI	LICATE: 3008	590 MS	MSD	3008591							
		92496275001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	mg/L		0.1	0.1	0.15	0.16	94	101	75-125	4	20	
Beryllium	mg/L	ND	0.1	0.1	0.087	0.092	87	92	75-125	6	20	
Boron	mg/L	244 ug/L	1	1	1.1	1.2	89	98	75-125	8	20	
Cadmium	mg/L	ND	0.1	0.1	0.094	0.096	94	96	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.11	102	104	75-125	2	20	
Cobalt	mg/L	ND	0.1	0.1	0.095	0.099	95	99	75-125	4	20	
Lead	mg/L	ND	0.1	0.1	0.092	0.093	92	93	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.094	0.097	89	92	75-125	4	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.11	99	104	75-125	5	20	
Selenium	mg/L	ND	0.1	0.1	0.095	0.096	95	96	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.091	0.093	91	93	75-125	2	20	

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Project:	BRAN	CH E NETWO	ORK										
Pace Project No.:	92495	964											
QC Batch:	5673	75		Anal	ysis Metho	od:	EPA 7470A						
QC Batch Method:	EPA	7470A		Analy	ysis Descr	iption:	7470 Mercu	ury					
				Labo	oratory:		Pace Analy	tical Servi	ces - Peach	tree Corne	rs, GA		
Associated Lab Sar	mples:	924959640 924959640	01, 92495964002 08	, 9249596	64003, 924	195964004,	, 924959640	05, 92495	5964006, 92	495964007	7,		
METHOD BLANK:	30066	15			Matrix: V	Vater							
Associated Lab Sa	mples:	924959640 924959640	01, 92495964002 08	, 9249596	64003, 924	195964004,	, 924959640	05, 92495	5964006, 92	495964007	7,		
				Blai	nk	Reporting							
Parar	meter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	ualifiers		
Mercury			mg/L		ND	0.000	50 0.0	000078	09/18/20 14	:02			
LABORATORY CO	NTROL	SAMPLE:	3006616										
				Spike	L	CS	LCS	%	Rec				
Parar	meter		Units	Conc.	Re	sult	% Rec	Lin	nits	Qualifiers			
Mercury			mg/L	0.002	25	0.0024	g	16	80-120				
MATRIX SPIKE & M	MATRIX	SPIKE DUPL	ICATE: 30066	17		300661	8						
				MS	MSD								
		11-2	92495653002	Spike	Spike	MS	MSD	MS	MSD	% Rec	000	Max	Qual
Paramete	r	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Mercury		mg/L	ND	0.0025	0.0025	0.0025	0.0026	100	0 103	75-125	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: I	BRANCH E NETW	/ORK										
Pace Project No.:	92495964											
QC Batch:	568007		Analy	/sis Metho	d:	EPA 7470A						
QC Batch Method:	EPA 7470A		Analy	/sis Descri	ption:	7470 Mercu	ıry					
			Labo	ratory:		Pace Analy	tical Serv	ices - Peacl	ntree Corne	rs, GA		
Associated Lab Samp	oles: 92495964	009										
METHOD BLANK:	3009608			Matrix: W	ater							
Associated Lab Samp	oles: 92495964	009										
			Blar	nk	Reporting							
Parame	eter	Units	Res	ult	Limit	MD	L	Analyzed	d Qi	ualifiers		
Mercury		mg/L		ND	0.0005	50 0.0	00078	09/23/20 09	9:49			
LABORATORY CON	TROL SAMPLE:	3009609										
			Spike	LC	S	LCS	%	Rec				
Parame	eter	Units	Conc.	Res	sult	% Rec	Lii	mits	Qualifiers			
Mercury		mg/L	0.002	25	0.0025	10	0	80-120				
MATRIX SPIKE & MA	TRIX SPIKE DUP	PLICATE: 3009	610 MC	MOD	3009611	1						
		02/06278002	IVIJ Sniko	MSD Snike	MS	MSD	MS	MSD	% Pec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0024	0.0025	9	5 99	9 75-125	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRAN	CH E NETW	ORK									
Pace Project No .:	924959	964										
QC Batch:	5673	72		Analysis	Method:	S	M 2450C-20)11				
QC Batch Method:	SM 2	450C-2011		Analysis	Description:	25	540C Total E	Dissol	ved Solids			
				Laborato	ory:	Pa	ace Analytic	al Sei	vices - Pea	achtree	e Corners, GA	
Associated Lab San	nples:	924959640 924959640	01, 92495964002 08	, 9249596400)3, 92495964	004, 92	2495964005	5, 924	95964006,	92495	5964007,	
METHOD BLANK:	300660)1		Ма	trix: Water							
Associated Lab San	nples:	924959640 924959640	01, 92495964002 08	, 9249596400)3, 92495964	004, 9	2495964005	5, 924	95964006,	92495	5964007,	
				Blank	Repor	ting						
Paran	neter		Units	Result	Lim	it	MDL		Analyz	ed	Qualifiers	
Total Dissolved Soli	ds		mg/L	I	ND	10.0		10.0	09/18/20	09:58		
	NTROL	SAMPLE:	3006602									
Paran	neter		Units	Spike Conc.	LCS Result		LCS % Rec	9 L	6 Rec ₋imits	Qua	alifiers	
Total Dissolved Soli	ds		mg/L	400	38		97		84-108			
SAMPLE DUPLICA	TE: 30	06603										
Paran	neter		Units	924956530 Result	11 Du Res	p ult	RPD		Max RPD		Qualifiers	
Total Dissolved Soli	ds		mg/L	6	322	654		5		10		
SAMPLE DUPLICA	TE: 30	06604										
Deser	o o to r		Linita	924959000	08 Du	p 	000		Max		Qualifiara	
Paran	neter		Units	Result		uit	KPD		RPD		Qualifiers	
Total Dissolved Soli	ds		mg/L	12	220	1250		3		10		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH E NETV	VORK						
Pace Project No.:	92495964							
QC Batch:	567882		Analysis M	ethod:	SM 2450C-20)11		
QC Batch Method:	SM 2450C-2011		Analysis D	escription:	2540C Total D	Dissolved Solids		
			Laboratory	:	Pace Analytic	al Services - Pe	achtree	e Corners, GA
Associated Lab Sat	mples: 92495964	009						
METHOD BLANK:	3009251		Matri	x: Water				
Associated Lab Sar	mples: 92495964	009						
			Blank	Reporting				
Para	neter	Units	Result	Limit	MDL	Analy	zed	Qualifiers
Total Dissolved Sol	ids	mg/L	NE	0 10	.0	10.0 09/21/20	16:27	
LABORATORY CO	NTROL SAMPLE:	3009252						
			Spike	LCS	LCS	% Rec		
Para	neter	Units	Conc.	Result	% Rec	Limits	Qua	alifiers
Total Dissolved Sol	ids	mg/L	400	412	103	84-108		
SAMPLE DUPLICA	TE: 3009253							
			92495653008	Dup		Max		
Para	neter	Units	Result	Result	RPD	RPD		Qualifiers
Total Dissolved Sol	ids	mg/L	2090	213	30	2	10	
SAMPLE DUPLICA	TE: 3009254							
			92495870011	Dup		Max		
Para	neter	Units	Result	Result	RPD	RPD		Qualifiers
Total Dissolved Sol	ids	mg/L	25.0	0 18	.0	33	10 D	6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRAN	CH E NETW	/ORK										
Pace Project No.:	92495	964											
QC Batch:	5676	07		Anal	ysis Metho	d: E	PA 300.0 F	Rev 2.1 19	993				
QC Batch Method:	EPA	300.0 Rev 2	.1 1993	Anal	ysis Descri	ption: 3	300.0 IC Ani	ions					
				Labo	oratory:	F	Pace Analyti	ical Servio	ces - Ashev	/ille			
Associated Lab Sa	mples:	92495964 92495964	001, 9249596400 008)2, 9249596	64003, 924	95964004, §	9249596400	05, 92495	964006, 9	2495964007	7,		
METHOD BLANK:	30080	04			Matrix: W	/ater							
Associated Lab Sa	mples:	92495964 92495964	001, 9249596400 008	02, 9249596	64003, 924	95964004, 9	9249596400	05, 92495	964006, 9	2495964007	7,		
		02100001		Bla	nk	Reporting							
Para	meter		Units	Res	sult	Limit	MDL	-	Analyze	d Qi	ualifiers	i	
Chloride			mg/L	·	ND	1.()	0.60 0	9/19/20 15	5:23			
Fluoride			mg/L		ND	0.10)	0.050 0	9/19/20 15	5:23			
Sulfate			mg/L		ND	1.0)	0.50 0	9/19/20 15	5:23			
LABORATORY CO	NTROL	SAMPLE:	3008005										
Dara	motor		Linita	Spike	LC	S	LCS	% F	Rec	Qualifiara			
	meter		Units		Ke:		% Rec			Quaimers	_		
Chloride			mg/L	{	50	52.3	105	5	90-110				
Fluoride			mg/L	2	5 50	2.1 52.5	100	5	90-110				
Sullate			mg/E	Ň	50	52.5	100	,	30-110				
MATRIX SPIKE & M	MATRIX	SPIKE DUP	LICATE: 3008	8006		3008007							
				MS	MSD								
Doromoto		Linito	92495653007	Spike	Spike	MS	MSD Booult	MS % Rec	MSD % Rec	% Rec	חחם	Max	Qual
Faiamete	;1		Result					% Rec	% Kec				Quai
Chloride		mg/L	4.4	50	50	57.4	58.2	106	5 10 7 10	B 90-110	1	10	
Fluoride		mg/L	0.13	2.5	2.5	2.8	2.8	107	10	9 90-110	1	10	MG
Sunate		mg/∟	334	50	50	309	305		10	5 90-110	I	10	IVIO
MATRIX SPIKE & M	MATRIX	SPIKE DUP	LICATE: 3008	8008		3008009							
			00405004005	MS	MSD	MC	MOD	MO	MOD	0/ D		N 4	
Paramete	r	l Inite	92495964005 Result	Spike	Spike	IVIS Result	NISD Result	MS % Rec	WISD % Rec	% Rec	RbD	RPD	Qual
Chlasida								/01/00	/01100				Qual
Chloride		mg/L	7.9	50 2 F	50 2 F	61.3 27	62.U	107	10	5 90-110	1	10	
Sulfate		mg/L		2.3 50	2.5 50	2.1	2.1	107	U۱ ص	5 50-110 7 00-110	1	10	Me
Guilate		mg/L	230	50	50	290	299	00	, 0		0	10	NO

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



5964 943 A 300.0 Rev 2.1 924959640 484 924959640 	1 1993 09 Units mg/L mg/L mg/L 3009485 Units	Anal Anal Labo Bla Res Spike Conc.	ysis Methoo ysis Descri oratory: Matrix: W Natrix: W ND ND ND ND ND	d: I ption: 3 l'ater Reporting Limit 1.1 0.11 1.1	EPA 300.0 I 300.0 IC An Pace Analyt 	Rev 2.1 19 ions iical Servie 0.60 0 0.050 0 0.50 0	2993 Ces - Ashevil Analyzed 19/22/20 07:0 19/22/20 07:0 19/22/20 07:0	le Qu 03 03 03	ualifiers		
943 A 300.0 Rev 2. 924959640 484 924959640 	1 1993 09 Units mg/L mg/L mg/L 3009485 Units	Anal Anal Labo Bla Res Spike Conc.	ysis Methor ysis Descri pratory: Matrix: W Matrix: W nk sult ND ND ND ND	d: I ption: C l'ater Reporting Limit 1.1 0.1 1.1 2.5	EPA 300.0 I 300.0 IC An Pace Analyt 0 0 0 0 0 0 0	Rev 2.1 19 ions iical Servio 0.60 (0 0.050 (0 0.50 (0 0.50 (0 0.50 (0	Analyzed 09/22/20 07:0 09/22/20 07:0 09/22/20 07:0 09/22/20 07:0	le Qu 03 03 03	Jalifiers		
A 300.0 Rev 2. 924959640 484 924959640 	1 1993 09 09 Units mg/L mg/L mg/L 3009485 Units	Anal Labo Bla Res Spike Conc.	ysis Descri pratory: Matrix: W nk sult ND ND ND ND	ption: 3 l'ater Reporting Limit 1.1 0.11 1.1	300.0 IC An Pace Analyt	ions iical Servie 0.60 (0 0.050 (0 0.50 (0 0.50 (0 0.50 (0 0.50 (0	Analyzed 99/22/20 07:0 99/22/20 07:0 99/22/20 07:0	le Qu 03 03 03	ualifiers		
924959640 484 924959640 	09 Units mg/L mg/L mg/L 3009485 Units	Bla Res Spike Conc.	Matrix: W Matrix: W nk sult ND ND ND ND	iater Reporting Limit 1. 0.1 1.	Pace Analyt	L 0.60 0 0.50 0 0.50 0	Analyzed 99/22/20 07:0 99/22/20 07:0 99/22/20 07:0	le Qı 03 03 03	ualifiers		
924959640 484 924959640 	09 Units mg/L mg/L mg/L 3009485 Units	Bla Res Spike Conc.	Matrix: W nk sult ND ND ND ND	rater Reporting Limit 1.1 0.11 1.1	MD 0 0 LCS	L 0.60 C 0.050 C 0.50 C	Analyzed 19/22/20 07:0 19/22/20 07:0 19/22/20 07:0	Qu 03 03 03	ualifiers		
484 924959640 	09 Units mg/L mg/L mg/L 3009485 Units	Bla Res Spike Conc.	Matrix: W nk sult ND ND ND	ater Reporting Limit 1. 0.1 1. 1.		L 0.60 C 0.050 C 0.50 C	Analyzed 19/22/20 07:0 19/22/20 07:0 19/22/20 07:0	Qu 03 03 03	ualifiers		
924959640	09 Units mg/L mg/L mg/L 3009485 Units	Bla Res Spike Conc.	nk sult ND ND ND	Reporting Limit 1.1 0.11 1.1		L 0.60 (0 0.050 (0 0.50 (0 % F	Analyzed)9/22/20 07:()9/22/20 07:()9/22/20 07:(Qu 03 03 03	ualifiers		
	Units mg/L mg/L mg/L 3009485 Units	Bla Res 	nk sult ND ND ND	Reporting Limit 1. 0.1 1. 1.		L 0.60 (0.050 (0.50 (% F	Analyzed 19/22/20 07:0 19/22/20 07:0 19/22/20 07:0	Qu 03 03 03	ualifiers		
SAMPLE: 3	Units mg/L mg/L mg/L 3009485 Units	Res	ND ND ND ND	Limit 1.(0.1) 1.(2.5		L 0.60 0 0.050 0 0.50 0	Analyzed 09/22/20 07:(09/22/20 07:(09/22/20 07:(Qu 03 03 03	ualifiers		
_ SAMPLE: (mg/L mg/L mg/L 3009485 Units	Spike Conc.		1.0 0.10 1.0		0.60 C 0.050 C 0.50 C	99/22/20 07:0 99/22/20 07:0 99/22/20 07:0 99/22/20 07:0	03 03 03			
_SAMPLE: 3	mg/L mg/L 3009485 Units	Spike Conc.	ND ND LC	0.1) 1.) :S		0.050 0 0.50 0 % F	99/22/20 07:0 99/22/20 07:0 Rec	03 03			
SAMPLE:	mg/L 3009485 Units	Spike Conc.	ND LC	1.1		0.50 C	99/22/20 07:(Rec	03			
L SAMPLE: ;	3009485 Units	Spike Conc.	LC	S	LCS	% F	Rec				
	Units	Spike Conc.	LC	S	LCS	% F	Rec				
	Units	Conc.	Roc		LOO	70 1					
			nes	suit	% Rec	Lin	nits C	Jualifiers			
	ma/l		50	54.8	11		90-110		_		
	mg/L	2	5	27	11	n	90-110				
	mg/L		50	54.9	11	0	90-110				
< SPIKE DUPL	LICATE: 3009	486		3009487							
	02405904014	MS	MSD	MC	MCD	MC	MCD	0/ Dee		Max	
l Inite	92495694011 Result	Spike	Spike	Result	Result	WIS % Rec	WISD % Rec	% Rec	RPD	RPD	Oual
						70 1100					Quai
mg/L	105	50	50	152	155	94	101	90-110	2	10	
mg/L	0.10	2.5	2.5	2.7	2.7	103	5 104 102	90-110	1	10	
mg/L	209	50	50	255	201	92	103	90-110	2	10	
	-ICATE: 3009	9488		3009489	1						
		MS	MSD								
	92495900016	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
mg/L	ND	50	50	52.8	52.5	106	105	90-110	1	10	
mg/L	ND	2.5	2.5	2.6	2.6	105	104	90-110	1	10	
mg/L	ND	50	50	52.6	52.2	105	104	90-110	1	10	
	<pre> SPIKE DUPL Units mg/L mg/L mg/L CSPIKE DUPL Units mg/L mg/L mg/L mg/L </pre>	mg/L mg/L SPIKE DUPLICATE: 3009 92495894011 <u>Units Result</u> <u>mg/L</u> 105 mg/L 0.10 mg/L 209 SPIKE DUPLICATE: 3009 92495900016 <u>Units Result</u> <u>mg/L</u> ND mg/L ND mg/L ND mg/L ND	mg/L 2 mg/L g mg/L g SPIKE DUPLICATE: 3009486 MS 92495894011 Spike Conc. mg/L 105 50 mg/L 0.10 2.5 mg/L 209 50 SPIKE DUPLICATE: 3009488 MS 92495900016 Spike MS 92495900016 Spike Units Result Conc. mg/L ND 50 mg/L ND 50 mg/L ND 50	mg/L 2.5 mg/L 50 SPIKE DUPLICATE: 3009486 92495894011 Spike 92495894011 Spike Spike Conc. Mg/L 105 mg/L 0.10 2.5 mg/L 0.10 2.5 mg/L 209 50 50 SPIKE DUPLICATE: 3009488 Spike MS MS MSD 92495900016 Spike Spike Conc. Mg/L ND Spike Conc. Mg/L ND Mg/L ND	mg/L 2.5 2.7 mg/L 50 54.9 C SPIKE DUPLICATE: 3009486 3009487 MS MSD MSD 92495894011 Spike Spike Units Result Conc. Conc. mg/L 105 50 50 mg/L 0.10 2.5 2.5 mg/L 209 50 50 Version MS MSD 92495900016 Spike Spike MS MSD 3009489 MS MSD Spike 92495900016 Spike Spike Mg/L ND 50 50 mg/L ND 50 50 52.8 mg/L ND 50 50 52.6 mg/L ND <td>mg/L 2.5 2.7 111 mg/L 50 54.9 111 (SPIKE DUPLICATE: 3009486 3009487 </td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>mg/L 2.5 2.7 110 90-110 mg/L 50 54.9 110 90-110 (SPIKE DUPLICATE: 3009486 3009487 92495894011 Spike Spike MS MSD Result % Rec Limits mg/L 105 50 50 152 155 94 101 90-110 mg/L 0.10 2.5 2.5 2.7 2.7 103 104 90-110 mg/L 0.10 2.5 2.5 2.7 2.7 103 104 90-110 mg/L 209 50 50 255 261 92 103 90-110 MS MSD MSD MS MSD 92 103 90-110 (SPIKE DUPLICATE: 3009488 3009489 MS MSD % Rec Limits 92495900016 Spike Spike Spike MS MSD % Rec Limits mg/L ND</td> <td>mg/L 2.5 2.7 110 90-110 mg/L 50 54.9 110 90-110 (SPIKE DUPLICATE: 3009486 3009487 </td> <td>mg/L 2.5 2.7 110 90-110 mg/L 50 54.9 110 90-110 (SPIKE DUPLICATE: 3009486 3009487 MS MSD MSD MS MSD 92495894011 Spike Spike Conc. Result Result % Rec Limits RPD RPD mg/L 105 50 50 152 155 94 101 90-110 2 10 mg/L 0.10 2.5 2.5 2.7 2.7 103 104 90-110 1 10 mg/L 209 50 50 255 261 92 103 90-110 2 10 K SPIKE MSD MSD MSD MSD MSD MSD MSD 92495900016 Spike Spike MS MSD MSD MSD % Rec Limits RPD MAx Mg/L ND 50 50 52</td>	mg/L 2.5 2.7 111 mg/L 50 54.9 111 (SPIKE DUPLICATE: 3009486 3009487	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	mg/L 2.5 2.7 110 90-110 mg/L 50 54.9 110 90-110 (SPIKE DUPLICATE: 3009486 3009487 92495894011 Spike Spike MS MSD Result % Rec Limits mg/L 105 50 50 152 155 94 101 90-110 mg/L 0.10 2.5 2.5 2.7 2.7 103 104 90-110 mg/L 0.10 2.5 2.5 2.7 2.7 103 104 90-110 mg/L 209 50 50 255 261 92 103 90-110 MS MSD MSD MS MSD 92 103 90-110 (SPIKE DUPLICATE: 3009488 3009489 MS MSD % Rec Limits 92495900016 Spike Spike Spike MS MSD % Rec Limits mg/L ND	mg/L 2.5 2.7 110 90-110 mg/L 50 54.9 110 90-110 (SPIKE DUPLICATE: 3009486 3009487	mg/L 2.5 2.7 110 90-110 mg/L 50 54.9 110 90-110 (SPIKE DUPLICATE: 3009486 3009487 MS MSD MSD MS MSD 92495894011 Spike Spike Conc. Result Result % Rec Limits RPD RPD mg/L 105 50 50 152 155 94 101 90-110 2 10 mg/L 0.10 2.5 2.5 2.7 2.7 103 104 90-110 1 10 mg/L 209 50 50 255 261 92 103 90-110 2 10 K SPIKE MSD MSD MSD MSD MSD MSD MSD 92495900016 Spike Spike MS MSD MSD MSD % Rec Limits RPD MAx Mg/L ND 50 50 52

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS



QUALIFIERS

Project: BRANCH E NETWORK

Pace Project No.: 92495964

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

- D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH E NETWORK

Pace Project No.: 92495964

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495964001	BRGWC-35S				
92495964002	BRGWC-34S				
92495964003	BRGWC-33S				
92495964004	BRGWC-17S				
92495964005	BRGWC-36S				
92495964006	BRGWC-37S				
92495964009	BRGWC-38S				
92495964001	BRGWC-35S	EPA 3010A	568100	EPA 6010D	568125
92495964002	BRGWC-34S	EPA 3010A	568100	EPA 6010D	568125
92495964003	BRGWC-33S	EPA 3010A	568100	EPA 6010D	568125
92495964004	BRGWC-17S	EPA 3010A	568100	EPA 6010D	568125
92495964005	BRGWC-36S	EPA 3010A	568100	EPA 6010D	568125
)2495964006	BRGWC-37S	EPA 3010A	568100	EPA 6010D	568125
}2495964007	FB-1	EPA 3010A	568100	EPA 6010D	568125
92495964008	DUP-2	EPA 3010A	568747	EPA 6010D	568813
92495964009	BRGWC-38S	EPA 3010A	568747	EPA 6010D	568813
92495964001	BRGWC-35S	EPA 3005A	567397	EPA 6020B	567512
92495964002	BRGWC-34S	EPA 3005A	567397	EPA 6020B	567512
92495964003	BRGWC-33S	EPA 3005A	567397	EPA 6020B	567512
92495964004	BRGWC-17S	EPA 3005A	567397	EPA 6020B	567512
92495964005	BRGWC-36S	EPA 3005A	567397	EPA 6020B	567512
92495964006	BRGWC-37S	EPA 3005A	567397	EPA 6020B	567512
92495964007	FB-1	EPA 3005A	567397	EPA 6020B	567512
92495964008	DUP-2	EPA 3005A	567397	EPA 6020B	567512
92495964009	BRGWC-38S	EPA 3005A	567743	EPA 6020B	567850
32495964001	BRGWC-35S	EPA 7470A	567375	EPA 7470A	567456
92495964002	BRGWC-34S	EPA 7470A	567375	EPA 7470A	567456
92495964003	BRGWC-33S	EPA 7470A	567375	EPA 7470A	567456
92495964004	BRGWC-17S	EPA 7470A	567375	EPA 7470A	567456
92495964005	BRGWC-36S	EPA 7470A	567375	EPA 7470A	567456
92495964006	BRGWC-37S	EPA 7470A	567375	EPA 7470A	567456
92495964007	FB-1	EPA 7470A	567375	EPA 7470A	567456
92495964008	DUP-2	EPA 7470A	567375	EPA 7470A	567456
92495964009	BRGWC-38S	EPA 7470A	568007	EPA 7470A	568119
92495964001	BRGWC-35S	SM 2450C-2011	567372		
92495964002	BRGWC-34S	SM 2450C-2011	567372		
92495964003	BRGWC-33S	SM 2450C-2011	567372		
92495964004	BRGWC-17S	SM 2450C-2011	567372		
92495964005	BRGWC-36S	SM 2450C-2011	567372		
92495964006	BRGWC-37S	SM 2450C-2011	567372		
92495964007	FB-1	SM 2450C-2011	567372		
92495964008	DUP-2	SM 2450C-2011	567372		
92495964009	BRGWC-38S	SM 2450C-2011	567882		
92495964001	BRGWC-35S	EPA 300.0 Rev 2.1 1993	567607		



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH E NETWORK

Pace Project No.: 92495964

Lab ID	Sample ID	Sample ID QC Batch Method QC Batch		Analytical Method	Analytical Batch
92495964002	BRGWC-34S	EPA 300.0 Rev 2.1 1993	567607		
92495964003	BRGWC-33S	EPA 300.0 Rev 2.1 1993	567607		
92495964004	BRGWC-17S	EPA 300.0 Rev 2.1 1993	567607		
92495964005	BRGWC-36S	EPA 300.0 Rev 2.1 1993	567607		
92495964006	BRGWC-37S	EPA 300.0 Rev 2.1 1993	567607		
92495964007	FB-1	EPA 300.0 Rev 2.1 1993	567607		
92495964008	DUP-2	EPA 300.0 Rev 2.1 1993	567607		
92495964009	BRGWC-38S	EPA 300.0 Rev 2.1 1993	567943		

Sar	nple Condition	Upon Red	eipt	
Face Analytical Client Name	6Alow	<u>9/</u>	WO# : 92495964	
Courier: 🔲 Fed Ex 🗌 UPS 🗌 USPS 🛄 Clier	nt ECommercial	🗌 Pace (92495964	
Custody Seal on Cooler/Box Present: yes	🔲 no Seals	intact: 🛃	yes 🔄 no	
Packing Material: 🗔 Bubble Wrag		Other		
hermometer Used 2/4	Type of Ice: Wet	Blue Non	Samples on Ice, cooling process ha	is begun
Cooler Temperature	Biological Tissue	is Frozen: Ye Comments:	s No Date and Initials of person ex	amining
Chain of Custody Present:		1.		
Chain of Custody Filled Out:		2.		
Chain of Custody Relinquished:		3.		
Sampler Name & Signature on COC:		4.		
Samples Arrived within Hold Time:		5.		
Short Hold Time Analysis (<72hr):		6.		
Rush Turn Around Time Requested:		7.		
Sufficient Volume:		8.		
Correct Containers Used:		9.		
-Pace Containers Used:				
Containers Intact:		10.		
Filtered volume received for Dissolved tests		Ti.		
Sample Labels match COC:		12.		
-Includes date/time/ID/Analysis Matrix:	\mathcal{N}_{-}			
U containers needing preservation have been checked.		13.		
All containers needing preservation are found to be in compliance with EPA recommendation,				
axceptions: VOA, collionm, TOC, O&G, WI-DRO (water)		completed	Lot # of added preservative	
Samples checked for dechlorination:		14.		
leadspace in VOA Vials (>6mm):		15.		-
Frig Blank Present:		16.		
Trip Blank Custody Seals Present				
Pace Trip Blank Lot # (If purchased):				
Client Notification/ Resolution:			Field Data Required? Y	N
Person Contacted:	Date	Time:		
Comments/ Resolution:				
		*		
<u>la persenta per el la local de la secolo de s</u> Aser ante en la secolo de la seco				
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Brolect Monager Poview			Date:	

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003rev.3, 11September2006

Page 33 of 35

Relinquished by/Company: (Signature) Relinquished by/Company: (Signature) Relinquished by/Company: (Signature)	(Menus): As, B, Ba, Be, Ca, Cl. (Co, Cr. Mo		5-9VB	FB-1-270	BRIGHC-S65	BRGWC-175	BR6wc - 335	BRGWC-345	Port	Customer Sample ID	* Matrix Codes (Intert in Matrix box below Product (P), Soli/Solid (SL), Oil (OL), Wige		2	Collected By (senature):	Collected By (prim): Travis Martinet,	rnone: (404) Sub-7,255 Email: Jabraham@southersco.com	prone: (4.49) Son-7239 Email: jabraham@southernco.com		Copy To: Golder	Report To: Joju Abraham	Address: 2480 Maner Road	Company. Georgia Power - Coal Combusio	Pace Analytical
	50,50,50 11,1 11,1		Gw	٤	502	ýw.	Gw	622		Matrix *	r Droking Water (WP), Air (AR), T	[]2 Day [] []5a	lush:	furnaround Date	⁵ urchase Order # Juote #	roject # CCR 3rd						n Residuals	9
Date/I			6	<u> </u>	20	j C	\$	୍ଦ୍ରାଦ	Ì	Grab	(DW), Gro ssue (TS),	ime Day 3 Day [sedite Char		Required:		semi-Ann			S	m		00	in-of-Cust
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Received by/Company	ed (<500 cpm); Y			S.					C	Composite En	other (VVV),	Analysis	Field Filtered (if appli	Immediately Packed	Pace Project Manage keyin herrine@bace	Pace Profiles	T []MT] CT [X][]		ss: Plant Branch	themco.com			(T - Complete all relevan
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All Markey Inner	SHORT HOLDS PR Lab Tracking #: Samples received FEDEX UPS		XX	Xi	« × « ×	×××	×	× × × >	См Ст	letals 6 DS	010/5020,	/7470 - se	etor	nme	nts) emmoorum hyproside, (L	Preservative Types: (1) no 5) methanel. (7) socium bis	•••	Ċo		
80	ESENT (<72 h via: Client (×	×>	• ×	×	×	× >	<u>د</u> دا	nirodie,	/Fluoride/	Sullate						Analy	ric acid, (2) sulf ulfate, (8) sodiu	Y	tainer Preser	ALL S	
MTIA LAB USE o Table # Acctnum: Template: Prologin; PM	ours): Y N N Jourier Pace Courj		×	*	<×	×	X	××	< Ri	adium i	226.228							ses	uric acid, (3) hydraetho m thiosulfate, (9) hexa	1	vative Type **	HADED AREA	
	* 5																		nic acid, (4) sodu ne, (A) ascorbiz a			S are for I	
Trip Blank Receive HCL MeOH T	Tenn Blank Received; J. H Tenn Diank Received; J. H Therm Iober Cooler 1 Tenn Open Accept Cooler 1 Tenn Corr Faces; Cooler 1 Connected Tenn. /							<u> </u>		G7444	pH Singles - Y N NA Suffice Present - Y N NA Load Accesant Strips	Samples in Holding Time V N NA Residual Chlorine Present V N NA Cl Strips: Sample pH Acceptable V N NA	VCA - Headspace Acceptable Y N USDA Regulated Solls Y N NA	Sufficient Volume Y N NA Samples Received on tee Y N NA	Bottles Intact VN NA Correct Bottles V N NA	Custody Signatures Present Y N N Collector Signature Present Y N NJ	Lab Sample Receipt Checklists Custody Seals Present/Infact Y N N	Lab Profile/Line:	om hydroxide, (5) zast acetate, cid, (8) ammonium suffate;		Lab Project Manager:	LAB USE ONLY	

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linquished by/Company; (Signature)	2 mg / Golder	Incuished ho/Company: Gienative)		Vetats): As, B, Ba, Be, Ca, Cd, Co, Cr, M					5KGWC- 385	X	stomer Sample (2)	Product (P), Sad/Solid (SL), OII (OL), WI	Vatria Codes Insert in Matrix box beto			perted by (signature)	drea McClure	rail: Jabraham@southernco.com	one: (404) \$05-7239	one: (404) 505-7239 Yali: Jabraham@southerned.com	py ic: coleer		port To: Joju Abraham	Joress: 2480 Maner Road	mpany: Georgia Power - Coal Combus	Pace Analytical
2	2 -01	7		o, Pb, Sb, Se, LI, Tl, Hg					<u>ل</u> س		Matros Comp	pe (WE), Ar (AR), Tosue	wh Drating Water (DW)	Same D 2 Day 3 Da (Expedite	Rush	Turnaround Date Requ	Quote #	Project # CCR 3rd Semi	Project Name: Plant Br						tion Residuals	Chain-of
ie Jime	0080 0202-81-	Radchem sample(s) screer	Packing Material Used:	Type of Ice Used: V					9-17-2020 /126	Date	/ Collected (or Composite	(15), Bloatsay (8), Water (WI)		kay Next Day Y 4 Eay 5 Day Charges Apply)				Annual	anch E Network	State: Georgia City: Millo	Site Collection Info/Addre		Email To: sesinvoices@sou		Billing Information:	Custody is a LEGAL DOCUME
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HCL Me Non Conformanc	Into Blank R	Contract Contracts Contrac	Temp Blank Received	LAB Sample Tempo							Lab Sample #/ Comments	Scifide Prisent Y N. Load Acesane Scripe:	Sample pH Acceptable pH Strips:	Stamples In Holding Time Residual Chlorine Present Clistops	VOA - Headspace Acceptab	Sufficient volume 11 Samples Received on Ice	Rottles Intact Y N A Correct Bottles Y N	Custody Signatures Present Custemer Signature Present	Custody Seak, Present/Inta	Lab Profile/Line:	 A) ascorbe: acid, [8] Ammonium sudfate, 	nd, (4) sodium hydroxide, (5) zine accuste	and the second s	Tyk Drolart Manapor	re for LAR LISE ONLY	
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Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

October 12, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH BCD ASSESSMENT RADS Pace Project No.: 92496249

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Hung

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder





Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92496249

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 ANAB DOD-ELAP Rad Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694 **Delaware Certification** EPA Region 4 DW Rad Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET **Guam Certification** Hawaii Certification Idaho Certification **Illinois Certification** Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221 Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: 2017020 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991

Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249 Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: 02867 Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92496249

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92496249001	PZ-51S	Water	09/17/20 12:44	09/18/20 10:15
92496249002	PZ-51I	Water	09/17/20 13:02	09/18/20 10:15



SAMPLE ANALYTE COUNT

Project:	BRANCH BCD ASSESSMENT RADS
Pace Project No.:	92496249

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92496249001	PZ-51S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92496249002	PZ-511	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg



SUMMARY OF DETECTION

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92496249

Lab Sample ID Method	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92496249001	PZ-51S					
EPA 9315	Radium-226	0.241 ± 0.236 (0.445) C:80% TNA	pCi/L		09/30/20 09:00	
EPA 9320	Radium-228	0.711 ± 0.513 (1.00) C:65% T:78%	pCi/L		10/06/20 11:53	
Total Radium Calculation	Total Radium	0.952 ± 0.749 (1.45)	pCi/L		10/07/20 15:56	
92496249002	PZ-51I					
EPA 9315	Radium-226	0.798 ± 0.353 (0.410) C:93% T:NA	pCi/L		09/30/20 09:00	
EPA 9320	Radium-228	0.960 ± 0.553 (1.02) C:64% T:77%	pCi/L		10/06/20 11:52	
Total Radium Calculation	Total Radium	1.76 ± 0.906 (1.43)	pCi/L		10/07/20 16:11	



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.:	92496249
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Sample: PZ-51S	Lab ID: 924962	249001 Collected: 09/17/20 12:44	Received:	09/18/20 10:15 N	Aatrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg			_	
Radium-226	EPA 9315	0.241 ± 0.236 (0.445) C:80% T:NA	pCi/L	09/30/20 09:00	13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	0.711 ± 0.513 (1.00) C:65% T:78%	pCi/L	10/06/20 11:53	15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.952 ± 0.749 (1.45)	pCi/L	10/07/20 15:56	7440-14-4	



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BRANCH BCD ASSESSMENT RADS

Pace Proje	ct No.:	92496249
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Sample: PZ-51I	Lab ID: 92496	249002 Collected: 09/17/20 13:02	Received:	09/18/20 10:15 N	Aatrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 9315	0.798 ± 0.353 (0.410) C:93% T:NA	pCi/L	09/30/20 09:00	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 9320	0.960 ± 0.553 (1.02) C:64% T:77%	pCi/L	10/06/20 11:52	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	1.76 ± 0.906 (1.43)	pCi/L	10/07/20 16:11	7440-14-4	



QUALITY CONTROL - RADIOCHEMISTRY

Project:	BRANCH BCD AS	SESSMENT RADS					
Pace Project No.:	92496249						
QC Batch:	415402		Analysis Method:	EPA 9315			
QC Batch Method: EPA 9315			Analysis Description:	: 9315 Total Radium			
Laboratory: Pace Analyt				Pace Analytical	Services - Greensbur	g	
Associated Lab San	nples: 92496249	001, 92496249002					
METHOD BLANK: 2008971			Matrix: Water				
Associated Lab San	nples: 92496249	001, 92496249002					
Parameter Act ± Un		c (MDC) Carr Trac	Units	Analyzed	Qualifiers		
Radium-226		-0.0214 ± 0.170 (0	0.482) C:94% T:NA	pCi/L	09/30/20 08:23		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL - RADIOCHEMISTRY

Project:	BRANCH BCD ASS	SESSMENT RADS	i				
Pace Project No.:	92496249						
QC Batch:	415403		Analysis Method:	EPA 9320			
QC Batch Method:	EPA 9320		Analysis Description:	9320 Radium 22	28		
			Laboratory:	Pace Analytical Services - Greensburg			
Associated Lab San	nples: 924962490	001, 92496249002					
METHOD BLANK: 2008973		Matrix: Water					
Associated Lab San	nples: 924962490	001, 92496249002					
Parameter Act ± Unc		c (MDC) Carr Trac	Units	Analyzed	Qualifiers		
Radium-228		0.789 ± 0.460 (0.8	332) C:67% T:72%	pCi/L	10/06/20 11:47		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: BRANCH BCD ASSESSMENT RADS

Pace Project No.: 92496249

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.


QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:BRANCH BCD ASSESSMENT RADSPace Project No.:92496249

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92496249001	PZ-51S	EPA 9315	415402		
92496249002	PZ-51I	EPA 9315	415402		
92496249001	PZ-51S	EPA 9320	415403		
92496249002	PZ-51I	EPA 9320	415403		
92496249001	PZ-51S	Total Radium Calculation	417460		
92496249002	PZ-511	Total Radium Calculation	417462		

Sam	ple Condition		92496240
Pace Analytical Client Name:	GAPON		
Courier: C Fed Ex UPS USPS Clien	t Decommercial	Pace 9249624	9 Pmi Name
Custody Seal on Cooler/Box Present: yes	no Seals	intact: 🖬 yes 门	no
Packing Material: Bubble Wrap Bubble	Bags None	Other	n na standard an an ann an ann an ann ann an ann. An an an ann an ann an ann an ann an ann an a
Thermometer Used 214	Type of Ice: Wet	Blue None	Samples on ice, cooling process has begun
Cooler Temperature	Biological Tissue	is Frozen: Yes No	Date and Initials of person examining contents:
Temp should be above freezing to 6°C		Comments:	
Chain of Custody Present:	TYES DNO DNA	1,	
Chain of Custody Filled Out:		2.	
Chain of Custody Relinquished:	Pres DNO DN/A	3.	n en la menta en
Sampler Name & Signature on COC:	TTES ONO ON/A	4.	
Samples Arrived within Hold Time:	Tes ONO ON/A	5	
Short Hold Time Analysis (<72hr):	TYes TNO DNA	6.	n na nanan na na na na manan na
Rush Turn Around Time Requested:		7.	
Sufficient Volume:		8	
Correct Containers Used:	Yes ONO ON/A	9.	
-Pace Containers Used:	Yes ONO ON/A		
Containers Intact:	Pres ONO ONIA	10.	
Filtered volume received for Dissolved tests		11.	
Sample Labels match COC:		12.	
-Includes date/time/ID/Analysis Matrix:	\mathcal{N}		"Велисаред Аб" общости во на развително събласти на прогости.
All containers needing preservation have been checked.		13.	
All containers needing preservation are found to be in compliance with EPA recommendation.			
excentions: VOA, coliform, TOC, O&G, WI-DRO (water)	DYes DNo	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:		14.	
Headspace in VOA Viels (S6mm):		15	n an de fill a na Eig "al Tial elè de anno 1
		16	
Trip Black Custody Socia Propert		1	 A series of a second sec
Pace Trip Blank Lot # (if purchased):	2		
			Field Data Required? V / N
Client Notification/ Resolution:	Date	Time:	
Comments/ Resolution:			
			ni, e o Teno o spelein die Briens Snee
Project Manager Review:			Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003rev.3, 11September2006

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Matrix	Itemail	Bpdu-125 mL Plastic Unpreserved (N/A) Iver	BP3U-250 mL Plastic Unpreserved (N/A)	6P2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	RP45-125 mL Plastic H2SO4 (pH < 2) (G-)	action of the stick in the stick of the stick in the stick of the stick in the stick in the stick of the stick in the stick of the stic	And Andrew Acetate & NaCH (>9)	(-D) (21 < He) HOLES (-D) (C-)	gpdC-125 mL Plastic rect: united and the served	WGFU-Wide-mouthed cause price	AG1U-1 liter Amber Unpreserved (N/A) (U-1	ACTH-1 liter Amber HCI (pH < 2)	(N/A) (CI-)	AG3U-250 mL Anucel City	AG1S-1 liter Amber H2SO4 (pH - 2)	- AG35-250 mL Amber H2504 (pH < 2)	AGSAIDG3AJ-250 mL Amber NHACI (N/A)(CI-)	CONTRACT (N/A)	(V/N) EOSSEN NON IT OF THE	AG91-40 mil 401	VG9U-40 mL VOA Unp (14/14	DG9P-40.mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per ktt)-VPH/Gas kit (N/A)	cpsT-125 mL Sterile Plastic (N/A - lab)	Area (N/A - lab)	VII 2	EPER-250 mL Plastic (NH2)2504 (9.3-9.7)	AGOU-100 mL Amber Unpreserved wats (N/A)
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Non Conformance(s): Page 1 YES / NO df 1	Trip Blank Received: Y N P HCL MeOH TSP Othe		Comments	Cooler 1 Therm Corr. Factor: oC Cooler 1 Corrected Tempy. CoC	Therm ID#:	LAB Sample Temperature Info: Temp Blank Received: Y N NA												+2 Radium	124462	Lab Sample # / Comments:	LAB USE ONLY:	pH Strips:Y N NA Sulfide Present Y N NA Lead Acetate Strips:	Ci Strips:	Samples in Holding Time Y N NA	VOA - Headspace Acceptable Y N NA	Sufficient Volume Y N NA Samples Received on Ice Y N NA	Correct Bottles Y N NA	Collector Signature Present Y N NA	Custody Seals Present/Intact Y N NA	Lab Sample Receipt Checklist:	Lab Profile/Line:	ium hydroxide, (S) zinc acetate. acid. (8) ammonium sulfate,		Lab Project Manager:	LAB LISE ONLY		r List Pace Workorder Number or

Page 14 of 17

PACE Analytical Services Ra-228 Analysis

Pace Analytical

Quality Control Sample Performance Assessment

MS/MSD 2

<u>Yellow.</u>	1 MS/MSD 1										
Analyst Must Manually Enter All Fields Highlighted in	Sample Matrix Spike Control Assessment Sample Collection Date: Sample LD. Sample MSI LD.	Spike LD. Spike Concentration (pCt/mL): Spike Volume Used in MS (mL): Spike Volume Used in MS (mL): MS Target Conc.(pCi/L, g, F): MS Target Conc. (pCi/L, g, F): MSD Target Conc. (pCi/L, g, F):	MS Spike Uncertainty (calculated): MSD Spike Uncertainty (calculated):	Sample Result Sample Result Counting Uncertainty (pCl/L, g, F): Sample Matrix Spike Result:	Matrix Spike Result Counting Uncertainty (pCl/L, g, F): Sample Matrix Spike Duplicate Result Matrix Spike Duplicate Result Counting Uncertainty (pCl/L, g, F): MS Numerical Petromance Indicator.	MSD Numerical Performance Indicator: MS Percent Recovery: MSD Percent Recovery: MS Status vs Numerical Indicator: MSD Status vs Numerical Indicator:	MSS Status vs. recovery MSS Status vs. Recovery MS/MSD Upper % Recovery Limits: MS/MSD Lower % Recovery Limits:	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample I.D. Sample MS I.D. Sample MSD I.D. Samole MARY Shilo Aperula	Matrix Spike Result Counting Uncertainty (pCUL, g, F): Sample Matrix Spike Duplicate Result Matrix Spike Duplicate Result Counting Uncertainty (pCIU, g, F):	Duplicate Numerical Performance Indicator (Based on the Percent Recoveries) MS/ MSD Duplicate RPD: MS/ MSD Duplicate Status vs Numerical Indicator:
			Y	LCSD56346 9/30/2020 19-033	24.044 0.10 0.508 4.731	0.057 4.719 0.780 -0.03 60 74%			Enter Duplicate sample IDs if other than	the space below.	92496249001 92496249001DUP
Ra-276	LAL 9/29/2020 56346 DW	2008971 -0.021 -0.170 -0.482 -0.25 -0.25 N/A	CSD (Y or N)?	LCS56346 9/30/2020 19-033	24.044 0.10 0.504 4.774	0.057 5.388 0.860 1.40	NA NA Pass 125% 75%		LCS56346 LCSD56346 5.388 0 860	0.780 0.780 NO	1.129 12.34% N/A
Pace Analytical www.paratak.com	Analyst Date: Worklist Matrix:	Method Blank Assessment MB Sample ID MB concentration: M/B Counting Uncertainty: MB Numerical Performance Indicator: MB Status vs Numerical Indicator: MB Status vs MDC:	Laboratory Control Sample Assessment	Count Date: Spike ID.:	Decay Corrected Spike Concentration (pC/imL): Volume Used (mL): Aliquot Volume (L, g, F): Target Conc. (pCi/L, g, F):	Uncertainty (Calculated): Result (pCi/L, g, F): LCS/LCSD Counting Uncertainty (pCi/L, g, F): Numerical Performance Indicator:	rencent recovery. Status vs Numerical Indicator: Status vs Recovery Limits: Lower % Recovery Limits:	Duplicate Sample Assessment	Sample I.D.: Duplicate Sample I.D. Sample Result (pC/I, g, F): Common Docult Connector Inconduct North	Sarripe reserven counting oncertainty (pociet, 9, F). Sample Duplicate Result (counting Uncertainty (pociet, 9, F): Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator: (Based on the LCS/LCSD Percent Recoveries) Duplicate RPD: Duplicate Status vs Numerical Indicator:

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Pass 25%

Duplicate Status vs RPD: % RPD Limit:

MS/ MSD Duplicate Status vs RPD: % RPD Limit

Comments:

UAM 10/1 /2020

0202/1/01MD

1 of 1

PACE Analytical Services Ra-228 Analysis

Face Analytical

Quality Control Sample Performance Assessment

	MS/MSD 2																					
Yellow.	MS/MSD 1																					
<u>Analyst Must Manually Enter All Fields Highlighted in </u>	Sample Matrix Spike Control Assessment Sample Collection Date: Sample I.D. Sample MSI I.D.	Spike I.D.: MS/MSD Decay Corrected Spike Concentration (pC/imL): Spike Volume Used in MSD (mL): Spike Volume Used in MSD (mL): MSD Aliquot (L, g, F): MSD Target Conc.(pC/i/L, g, F):	MSD Spike Uncertainty (calculated);	Sample Result	Sample Result Counting Uncertainty (pCl/L, g, F): Sample Matrix Spike Result	Matrix Spike Result Counting Uncertainty (pCi/L, g, F): Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F): MS Numerical Performance Indicator:	MSD Numerical Performance Indicator: MS Percent Recovery:	MSD Percent Recovery: MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	MS Status vs Recovery:	MSIASD Upper % Recovery Limits: MS/MSD Upper % Recovery Limits: MS/MSD Lower % Recovery Limits:	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample I.D.	Sample MS I.D.	Sample MSD I.D.	Sattiple matrix Spike Result Comfine Uncertainty (pCM _ g. F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	Duplicate Numerical Performance Indicator: (Rased on the Percent Recoveries) MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Status vs Numerical Indicator:	MS/ MSD Duplicate Status vs RPD: % RPD Limit:
			z	LCSD56346										Enter Duniicate	sample iDs if	other than	the snare helow			92496249001 92496249001		
D- 776	LAL LAL 56346 DW	2008971 -0.021 0.170 0.482 -0.25 -0.25 N/A	LCSD (Y or N)?	LCS56346	9/30/2020 19-033	24.044 0.10	0.504 4.774	0.057 5.388	0.860	112.87%	N/A	Pass 125% 75%		92496249001	92496249001DUP	0.241	0.234	0.344	See Below #	-0.992 60 82%	N/A	Fail**** 25%
Pace Analytical www.previute.com	Analyst Date: Worklist Mathx:	Method Blank Assessment MB Sample ID MB concentration: M/B Counting Uncertainty: MB MDC: MB Numerical Performance Indicator: MB Status vs Numerical Indicator: MB Status vs MDC:	"aboratory Control Sample Assessment		Count Date: Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL): Volume Used (mL):	Aliquot Volume (L, g, F): Target Conc. (pCi/L, g, F):	Uncertainty (Calculated): Result (nCi/I, o. F):	LCS/LCSD Counting Uncertainty (PC/I.1, g, F): Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator:	Status vs Recovery Upper % Recovery Limits: I ower % Recovery Limits:	Duplicate Sample Assessment	. U alume2	Duplicate Sample I.D.	Sample Result (pCI/L, g, F):	Sample Result Counting Uncertainty (pUrL, g, F): Semale Dunisate Desult / DOM	Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator	Duplicate Status vs Numerical Indicator	Duplicate Status vs RPD: % RPD Limit:

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

***Bate

weekeene propped due to unacceptable predistor. NIA UAM 10 [11] Z.S.C.O

> TAR DW QC Printed: 10/1/2020 6:34 AM

UAM 10/1/2020

or or / 1/cin/

1 01 1

PACE Analytical Services Ra-228 Analysis

0

Quality Control Sample Performance Assessment

1 MS/MSD 2				
in Yellow. MS/MSD				
Analyst Must Manually Enter All Fields Highlighted i Sample Matrix Spike Control Assessment Sample Collection Date Sample LD	 Sample MSD ID MS/MSD Decay Corrected Spike Concentration (p.C.imd.) Spike Volume Used in MSD (mL). Spike Volume Used in MSD (mL), MS Aliquot (L, g, F), MSD Aliquot (L, g, F), MSMSD Upper % Recovery: Limits, MSMSD Lower % Recovery: Limits, MSMSD Lower % Recovery: Limits, 	INDIMOR COMEL A SECONDI LINE	Matrix Spike/Matrix Spike Duplicate Sample Assessment	 Sample I.D. Sample MS I.D. Sample MSI I.D. Sample MATK Soli I.D. Sample Matrix Solite No. Sample Matrix Solite Result Matrix Spike Duplicate Result Matrix Spike Duplicate Result F) Based on the Percent Recoveries) MS/ MSD Duplicate RPD: MS/ MSD Duplicate Status vs Numerical Indicator: MS/ MSD Duplicate Status vs RPD: MS/ MSD Duplicate Status vs RPD:
	LCSD56347			Enter Duplicate sample IDs if other than LCS/LCSD LCS/LCSD the space below. 92496249001 92496249001 00P
Ra-228 VAL 9/29/2020 56347	2008973 0.789 0.789 0.460 0.460 0.322 3.36 Fair 10/6/2020 20-030 20-030 0.814 4.687 0.10 0.814 4.687 0.814 4.687 0.814 1.522 1.522 1.522 1.522 1.522 1.522 1.522 1.522 1.522 1.522 1.522 0.300 8.664 0.814 1.5222 1.5222 1.52			92496249001 92496249001DUP 0.711 0.513 0.545 0.545 0.545 0.545 101.60% Pass Fail************************************
Pace Analytical Test: Test: Analyst: Date: Worklist: Matrix:	Aethod Blank Assessment MB concentration MB concentration MB concentration MB MB CCU MB Numerical Performance Indicator MB MDC: MB MC: MB MC: MC: MB MC: MB MC: MC: MB MC: MC: MB MC: MC: MC: MB MC: MC: MC: MC: MC: MC: MC: MC: MC: MC:		uplicate Sample Assessment	Sample I.D.: Duplicate Sample I.D. Sample Result (pC/i/L. g, F): Sample Result 2 Sigma CSU (pC/i/L. g, F): Sample Duplicate Result 2 Sigma CSU (pC/i/L. g, F): Arre sample and/or duplicate Result 2, F); Arre sample and/or duplicate Result 2, F); Duplicate Numerical Performance Indicator Duplicate Status vs Numericat Indicator Duplicate Status vs RPD: Duplicate Status vs RPD: Duplicate Status vs RPD: Duplicate Status vs RPD: Status vs RPD:

Duplicate Status vs Numerical Indicator: Duplicate Status vs RPD: % RPD Limit:

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

TJ ->=

torepert NI & arceptuble Comments: "If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped. "If all sample results are below MDC, the batch is acceptable, otherwise this batch must be reprepped due to LCS failure. OMfailure.

Ra-228 NELAC DW2 Printed: 10/7/2020 10:19 AM

Page 17 of 17



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

October 01, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: BRANCH BCD ASSESSMENT Pace Project No.: 92496260

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Charlotte
- Pace Analytical Services Peachtree Corners, GA

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tep Paper

Tyler Forney for Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder



REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92496260

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



SAMPLE SUMMARY

Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92496260

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92496260001	PZ-51S	Water	09/17/20 12:44	09/18/20 10:15
92496260002	PZ-51I	Water	09/17/20 13:02	09/18/20 10:15



SAMPLE ANALYTE COUNT

Project: BRANCH BCD ASSESSMENT Pace Project No.: 92496260

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92496260001	PZ-51S	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	FFP	1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92496260002	PZ-511	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	FFP	1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	BRJ	3

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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



SUMMARY OF DETECTION

Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92496260

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92496260001	PZ-51S					
	рН	5.77	Std. Units		09/18/20 11:29	
EPA 6010D	Calcium	7.7	mg/L	1.0	09/25/20 19:05	
EPA 6020B	Antimony	0.00043J	mg/L	0.0030	09/23/20 19:53	
EPA 6020B	Barium	0.033	mg/L	0.010	09/23/20 19:53	
EPA 6020B	Boron	0.0063J	mg/L	0.10	09/24/20 14:02	
EPA 6020B	Cobalt	0.0062	mg/L	0.0050	09/23/20 19:53	
SM 2450C-2011	Total Dissolved Solids	101	mg/L	10.0	09/21/20 16:29	
EPA 300.0 Rev 2.1 1993	Chloride	4.6	mg/L	1.0	09/22/20 13:00	
EPA 300.0 Rev 2.1 1993	Fluoride	0.062J	mg/L	0.10	09/22/20 13:00	
EPA 300.0 Rev 2.1 1993	Sulfate	0.53J	mg/L	1.0	09/22/20 13:00	
92496260002	PZ-51I					
	рН	4.93	Std. Units		09/18/20 11:29	
EPA 6010D	Calcium	168	mg/L	1.0	09/25/20 19:22	
EPA 6020B	Barium	0.015	mg/L	0.010	09/23/20 19:59	
EPA 6020B	Beryllium	0.000096J	mg/L	0.0030	09/24/20 17:27	
EPA 6020B	Boron	0.43	mg/L	0.10	09/24/20 17:27	
EPA 6020B	Cadmium	0.033	mg/L	0.0025	09/23/20 19:59	
EPA 6020B	Chromium	0.00098J	mg/L	0.010	09/23/20 19:59	
EPA 6020B	Cobalt	0.022	mg/L	0.0050	09/23/20 19:59	
EPA 6020B	Lead	0.00036J	mg/L	0.0050	09/23/20 19:59	
EPA 6020B	Lithium	0.021J	mg/L	0.030	09/24/20 17:27	
SM 2450C-2011	Total Dissolved Solids	1600	mg/L	10.0	09/21/20 16:29	
EPA 300.0 Rev 2.1 1993	Chloride	10.5	mg/L	1.0	09/22/20 13:15	
EPA 300.0 Rev 2.1 1993	Sulfate	1030	mg/L	21.0	09/22/20 19:09	



Project: BRANCH BCD ASSESSMENT

Pace Project No .:

ct No.: 92496260

Sample: PZ-51S	Lab ID:	92496260001	Collecte	ed: 09/17/20	0 12:44	Received: 09/	/18/20 10:15 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica	I Method:							
	Pace Ana	alytical Services	s - Charlotte	9					
рН	5.77	Std. Units			1		09/18/20 11:29		
6010D ATL ICP	Analytica	I Method: EPA	6010D Pre	paration Met	thod: E	PA 3010A			
	Pace Ana	alytical Services	s - Peachtre	e Corners, C	GΑ				
Calcium	7.7	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:05	7440-70-2	
6020 MET ICPMS	Analytica	I Method: EPA	6020B Pre	paration Met	thod: El	PA 3005A			
	Pace Ana	alytical Services	s - Peachtre	e Corners, C	GΑ				
Antimony	0.00043J	ma/L	0.0030	0.00028	1	09/23/20 13:53	09/23/20 19:53	7440-36-0	
Arsenic	ND	ma/L	0.0050	0.00078	1	09/23/20 13:53	09/23/20 19:53	7440-38-2	
Barium	0.033	mg/L	0.010	0.00071	1	09/23/20 13:53	09/23/20 19:53	7440-39-3	
Bervllium	ND	mg/L	0.0030	0.000046	1	09/23/20 13:53	09/24/20 14:02	7440-41-7	
Boron	0.0063J	mg/L	0.10	0.0052	1	09/23/20 13:53	09/24/20 14:02	7440-42-8	
Cadmium	ND	ma/L	0.0025	0.00012	1	09/23/20 13:53	09/23/20 19:53	7440-43-9	
Chromium	ND	ma/L	0.010	0.00055	1	09/23/20 13:53	09/23/20 19:53	7440-47-3	
Cobalt	0.0062	ma/L	0.0050	0.00038	1	09/23/20 13:53	09/23/20 19:53	7440-48-4	
Lead	ND	ma/L	0.0050	0.000036	1	09/23/20 13:53	09/23/20 19:53	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/23/20 13:53	09/24/20 14:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/23/20 13:53	09/23/20 19:53	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/23/20 13:53	09/23/20 19:53	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/23/20 13:53	09/23/20 19:53	7440-28-0	
7470 Mercury	Analvtica	I Method: EPA	7470A Pre	paration Met	hod: El	PA 7470A			
· · · · · · ·	Pace Ana	alytical Services	s - Peachtre	' e Corners, C	GA				
Mercury	ND	mg/L	0.00050	0.000078	1	09/22/20 11:15	09/23/20 09:44	7439-97-6	
2540C Total Dissolved Solids	Analytica	I Method: SM 2	450C-2011						
	Pace Ana	alytical Services	s - Peachtre	e Corners, C	GΑ				
Total Dissolved Solids	101	mg/L	10.0	10.0	1		09/21/20 16:29		
300.0 IC Anions 28 Days	Analytica	I Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	alytical Services	s - Asheville)					
Chloride	4.6	mg/L	1.0	0.60	1		09/22/20 13:00	16887-00-6	
Fluoride	0.062J	mg/L	0.10	0.050	1		09/22/20 13:00	16984-48-8	
Sulfate	0.53J	mg/L	1.0	0.50	1		09/22/20 13:00	14808-79-8	



Project: BRANCH BCD ASSESSMENT

Pace Project No.:

No.: 92496260

Sample: PZ-51I	Lab ID:	92496260002	Collecte	ed: 09/17/20) 13:02	Received: 09/	18/20 10:15 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytica Pace Ana	l Method: alytical Services	- Charlotte	9					
рН	4.93	Std. Units			1		09/18/20 11:29		
6010D ATL ICP	Analytica Pace Ana	l Method: EPA 6 alytical Services	6010D Pre - Peachtre	paration Met e Corners, C	hod: El GA	PA 3010A			
Calcium	168	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:22	7440-70-2	
6020 MET ICPMS	Analytica Pace Ana	l Method: EPA 6 alytical Services	6020B Pre - Peachtre	paration Met e Corners, C	hod: El GA	PA 3005A			
Antimony Arsenic Barium Beryllium Boron Cadmium Chromium Cobalt Lead Lithium Molybdenum Selenium Thallium 7470 Mercury	ND 0.015 0.000096J 0.43 0.033 0.00098J 0.022 0.00036J 0.021J ND ND ND	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0030 0.0050 0.010 0.0030 0.0025 0.010 0.0050 0.0050 0.030 0.010 0.010 0.0010 7470A Pre	0.00028 0.00078 0.00071 0.000046 0.0052 0.00012 0.00055 0.00038 0.000036 0.00081 0.00069 0.0016 0.00014 paration Met	1 1 1 1 1 1 1 1 1 1 1 1	09/23/20 13:53 09/23/20 13:53	09/23/20 19:59 09/23/20 19:59 09/23/20 19:59 09/24/20 17:27 09/24/20 17:27 09/23/20 19:59 09/23/20 19:59 09/23/20 19:59 09/23/20 19:59 09/23/20 19:59 09/23/20 19:59	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-42-8 7440-43-9 7440-43-9 7440-48-4 7439-92-1 7439-93-2 7439-98-7 7782-49-2 7440-28-0	
	Pace Ana	alytical Services	- Peachtre	e Corners, C	GA .				
Mercury	ND	mg/L	0.00050	0.000078	1	09/22/20 11:15	09/23/20 09:46	7439-97-6	
2540C Total Dissolved Solids	Analytica Pace Ana	l Method: SM 2 alytical Services	450C-2011 - Peachtre	e Corners, C	BA				
Total Dissolved Solids	1600	mg/L	10.0	10.0	1		09/21/20 16:29		
300.0 IC Anions 28 Days	Analytica Pace Ana	l Method: EPA 3 alytical Services	300.0 Rev 2 s - Asheville	2.1 1993 9					
Chloride Fluoride Sulfate	10.5 ND 1030	mg/L mg/L mg/L	1.0 0.10 21.0	0.60 0.050 10.5	1 1 21		09/22/20 13:15 09/22/20 13:15 09/22/20 19:09	16887-00-6 16984-48-8 14808-79-8	



FIOJECI.	DIVENCET DOD AG											
Pace Project No.:	92496260											
QC Batch:	568747		Analy	sis Metho	:bc	EPA 6010)					
QC Batch Method:	EPA 3010A		Analy	Analysis Description:		6010D ATL						
			Labo	ratory:		Pace Anal	ytical Sei	rvices - Peac	htree Corne	ers, GA		
Associated Lab Sa	mples: 92496260	001, 9249626000	2									
METHOD BLANK:	3013294			Matrix: V	Vater							
Associated Lab Sa	mples: 92496260	001, 9249626000	2									
			Blan	nk	Reporting	9						
Para	meter	Units	Resu	ult	Limit	M)L	Analyze	d Q	ualifiers	;	
Calcium		ma/l				10	0.070	00/25/20 1	Q·16			
Calcium		ing/∟		ND		1.0	0.070	09/23/20 1	0.10			
		ing/L		ND		1.0	0.070	09/23/20 1	0.10			
LABORATORY CO	NTROL SAMPLE:	3013295				1.0	0.070	09/23/20 1	0.10			
LABORATORY CO	NTROL SAMPLE:	3013295	Spike	L	cs	LCS	%	% Rec				
LABORATORY CO	NTROL SAMPLE:	3013295 Units	Spike Conc.	L Re	CS esult	LCS % Rec	%L	% Rec	Qualifiers			
LABORATORY CO Para Calcium	NTROL SAMPLE:	3013295 Units mg/L	Spike Conc.	L 	CS esult 0.98J	LCS % Rec	98	% Rec _imits 	Qualifiers			
LABORATORY CO Para Calcium MATRIX SPIKE & I	NTROL SAMPLE: meter MATRIX SPIKE DUF	3013295 Units mg/L PLICATE: 3013	Spike Conc.	L 	CS esult 0.98J 30132	LCS % Rec	98	% Rec Limits	Qualifiers			
LABORATORY CO Para Calcium MATRIX SPIKE & I	NTROL SAMPLE: meter MATRIX SPIKE DUF	3013295 Units mg/L PLICATE: 3013	Spike Conc. 296 MS		CS esult 0.98J 30132	LCS % Rec	98	% Rec imits	Qualifiers			
LABORATORY CO Para Calcium MATRIX SPIKE & N	NTROL SAMPLE: meter MATRIX SPIKE DUF	3013295 Units mg/L PLICATE: 3013 92495904004	Spike Conc. 296 MS Spike	L Re 1 MSD Spike	CS esult 0.98J 30132 MS	LCS % Rec 97 MSD	98 	% Rec Limits 80-120	Qualifiers % Rec		Max	
LABORATORY CO Para Calcium MATRIX SPIKE & M Paramete	NTROL SAMPLE: meter MATRIX SPIKE DUF	3013295 Units mg/L PLICATE: 3013 92495904004 Result	Spike Conc. 296 MS Spike Conc.	L L Re 1 MSD Spike Conc.	CS esult 0.98J 30132 MS Result	LCS % Rec 97 MSD Result	98 98 MS % Rei	63/23/20 1 % Rec Limits 80-120 MSD c % Rec	Qualifiers % Rec Limits	RPD	Max RPD	Qual

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92496

Project No.: 9	2496260
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QC Batch:	5684	17		Analysis Meth	nod:	EPA 6020B				
QC Batch Method:	EPA	3005A		Analysis Des	cription:	6020 MET				
				Laboratory:		Pace Analytical Services - Peachtree Corners, GA				
Associated Lab San	nples:	924962600	001, 92496260002			,				
METHOD BLANK: 3011604				Matrix:	Water					
Associated Lab Samples: 92496260001, 92496260002										
				Blank	Reporting					
Paran	neter		Units	Result	Limit	MDL	Analyzed	Qualifiers		
Antimony			mg/L	ND	0.003	0.00028	09/23/20 18:33			
Arsenic			mg/L	ND	0.005	0.00078	09/23/20 18:33			
Barium			mg/L	ND	0.01	0 0.00071	09/23/20 18:33			
Beryllium			mg/L	ND	0.003	0.000046	09/23/20 18:33			
Boron			mg/L	ND	0.1	0 0.0052	09/23/20 18:33			
Cadmium			mg/L	ND	0.002	0.00012	09/23/20 18:33			
Chromium			mg/L	ND	0.01	0 0.00055	09/23/20 18:33			
Cobalt			mg/L	ND	0.005	0.00038	09/23/20 18:33			
Lead			mg/L	ND	0.005	0.000036	09/23/20 18:33			
Lithium			mg/L	ND	0.03	0.00081	09/23/20 18:33			
Molybdenum			mg/L	ND	0.01	0 0.00069	09/23/20 18:33			
Selenium			mg/L	ND	0.01	0 0.0016	09/23/20 18:33			
Thallium			mg/L	ND	0.001	0 0.00014	09/23/20 18:33			

LABORATORY CONTROL SAMPLE: 3011605

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/L	0.1	0.10	105	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.10	102	80-120	
Boron	mg/L	1	1.0	104	80-120	
Cadmium	mg/L	0.1	0.10	101	80-120	
Chromium	mg/L	0.1	0.10	105	80-120	
Cobalt	mg/L	0.1	0.10	105	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.11	106	80-120	
Molybdenum	mg/L	0.1	0.10	103	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPI		3011607										
		92495876001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony Arsenic	mg/L mg/L	ND ND	0.1 0.1	0.1 0.1	0.10 0.097	0.099 0.095	101 97	99 95	75-125 75-125	2 1	20 20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92496260

MATRIX SPIKE & MATRIX SPIK	E DUPI	LICATE: 30110	606 MS	MSD	3011607							
		92495876001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	mg/L	0.030	0.1	0.1	0.13	0.13	96	95	75-125	1	20	
Beryllium	mg/L	0.00012J	0.1	0.1	0.098	0.095	98	95	75-125	2	20	
Boron	mg/L	0.0065J	1	1	1.0	0.98	100	97	75-125	3	20	
Cadmium	mg/L	0.00016J	0.1	0.1	0.10	0.098	100	98	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	103	103	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	101	101	75-125	1	20	
Lead	mg/L	0.00065J	0.1	0.1	0.098	0.099	97	99	75-125	2	20	
Lithium	mg/L	0.0014J	0.1	0.1	0.10	0.10	101	100	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.097	0.096	96	95	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD A	SSESSMENT										
Pace Project No.:	92496260											
QC Batch:	568004		Analy	sis Metho	d:	EPA 7470A						
QC Batch Method:	EPA 7470A		Analy	sis Descri	ption:	7470 Mercu	iry					
			Laboi	ratory:		Pace Analy	tical Servi	ces - Peach	tree Corne	rs, GA		
Associated Lab Sar	mples: 92496260	0001, 9249626000	2									
METHOD BLANK:	3009596			Matrix: W	ater							
Associated Lab Sar	mples: 92496260	0001, 9249626000	2									
			Blan	k	Reporting							
Para	neter	Units	Resu	ult	Limit	MD	L	Analyzed	Qı	ualifiers		
Mercury		mg/L		ND	0.0005	50 0.0	00078 (09/23/20 08	:40			
LABORATORY CO	NTROL SAMPLE:	3009597										
			Spike	LC	S	LCS	% F	Rec				
Para	neter	Units	Conc.	Res	sult	% Rec	Lin	nits	Qualifiers	_		
Mercury		mg/L	0.002	5	0.0025	9	9	80-120				
MATRIX SPIKE & M	ATRIX SPIKE DU	PLICATE: 3009	598		300959	9						
			MS	MSD								
		92496275006	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	r Unit	s Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Mercury	mg/	L ND	0.0025	0.0025	0.0025	0.0024	98	3 94	75-125	5	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRANCH BCD AS	SSESSMENT							
Pace Project No .:	92496260								
QC Batch:	567882		Analysis Mo	ethod:	SM 2450C-2011				
QC Batch Method:	SM 2450C-2011		Analysis Description:		2540C Total Dissolved Solids				
			Laboratory	: I	Pace Analytica	al Services - Pe	achtree	Corners, GA	
Associated Lab Sam	ples: 92496260	0001, 92496260002							
METHOD BLANK:	3009251		Matrix	x: Water					
Associated Lab Sam	ples: 92496260	0001, 92496260002							
			Blank	Reporting					
Param	eter	Units	Result	Limit	MDL	Analy	zed	Qualifiers	
Total Dissolved Solid	ls	mg/L	ND) 10.	0	10.0 09/21/20	16:27		
LABORATORY CON	TROL SAMPLE:	3009252							
			Spike	LCS	LCS	% Rec			
Param	eter	Units	Conc.	Result	% Rec	Limits	Qual	ifiers	
Total Dissolved Solid	ls	mg/L	400	412	103	84-108			
SAMPLE DUPLICAT	E: 3009253								
			92495653008	Dup		Max			
Param	eter	Units	Result	Result	RPD	RPD		Qualifiers	
Total Dissolved Solid	ls	mg/L	2090	213	0	2	10		
SAMPLE DUPLICAT	E: 3009254								
			92495870011	Dup		Max			
Param	eter	Units	Result	Result	RPD	RPD		Qualifiers	
Total Dissolved Solid	ls	mg/L	25.0) 18.	0	33	10 D6	i	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	BRAN	CH BCD AS	SESSMENT										
Pace Project No.:	92496	260											
QC Batch:	5679	43		Anal	ysis Metho	d: I	EPA 300.0 I	Rev 2.1	1993				
QC Batch Method:	EPA	300.0 Rev 2	.1 1993	Anal	ysis Descri	ption:	300.0 IC An	ions					
				Labo	oratory:	ĺ	Pace Analy	tical Serv	/ices - Ashevil	le			
Associated Lab Sar	mples:	924962600	001, 92496260002	2									
METHOD BLANK:	30094	84			Matrix: W	ater							
Associated Lab Sar	mples:	924962600	001, 92496260002	2									
David			11-26-	Bla	nk	Reporting	MD			0			
Para	neter		Units	Res	ult	Limit	MD	L	Analyzed	Qi	alifiers		
Chloride			mg/L		ND	1.	0	0.60	09/22/20 07:0	03			
Fluoride			mg/L		ND	0.1	0	0.050	09/22/20 07:0	03			
Sulfate			mg/L		ND	1.	0	0.50	09/22/20 07:0	03			
LABORATORY CO	NTROL	SAMPLE:	3009485										
				Spike	LC	S	LCS	%	Rec				
Parar	neter		Units	Conc.	Res	sult	% Rec	Li	mits C	Qualifiers			
Chloride			mg/L	Ę	50	54.8	11	0	90-110		_		
Fluoride			mg/L	2	.5	2.7	11	0	90-110				
Sulfate			mg/L	Ę	50	54.9	11	0	90-110				
MATRIX SPIKE & N			11CATE: 3009/	186		3009487	,						
				MS	MSD	0000407							
			92495894011	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	r	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride		mg/L	105	50	50	152	155	9	94 101	90-110	2	10	
Fluoride		mg/L	0.10	2.5	2.5	2.7	2.7	10	03 104	90-110	1	10	
Sulfate		mg/L	209	50	50	255	261	ę	92 103	90-110	2	10	
MATRIX SPIKE & M	IATRIX	SPIKE DUP	LICATE: 30094	188		3009489)						
				MS	MSD								
			92495900016	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	r	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride		mg/L	ND	50	50	52.8	52.5	10	06 105	90-110	1	10	
Fluoride		mg/L	ND	2.5	2.5	2.6	2.6	10	05 104	90-110	1	10	
Sulfate		mg/L	ND	50	50	52.6	52.2	10	05 104	90-110	1	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92496260

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRANCH BCD ASSESSMENT

Pace Project No.: 92496260

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92496260001	 PZ-51S				
92496260002	PZ-511				
92496260001	PZ-51S	EPA 3010A	568747	EPA 6010D	568813
92496260002	PZ-511	EPA 3010A	568747	EPA 6010D	568813
92496260001	PZ-51S	EPA 3005A	568417	EPA 6020B	568454
92496260002	PZ-511	EPA 3005A	568417	EPA 6020B	568454
92496260001	PZ-51S	EPA 7470A	568004	EPA 7470A	568115
92496260002	PZ-511	EPA 7470A	568004	EPA 7470A	568115
92496260001	PZ-51S	SM 2450C-2011	567882		
92496260002	PZ-511	SM 2450C-2011	567882		
92496260001	PZ-51S	EPA 300.0 Rev 2.1 1993	567943		
92496260002	PZ-511	EPA 300.0 Rev 2.1 1993	567943		

San	ple Condition	Upon Rece	
Pace Analytical	C A D		10#:92496260
Client Name:	OH You	1e/ II	
Courier: Fed Ex UPS USPS Clien	t Commercial	Pace Othe 9	2496260 1 Jul 10. Sub
Custody Seal on Cooler/Box Present:		intact: Tyes	Proj. Name:
Packing Material: Bubble Wrap Bubble	Bags ANaga		
Thermometer Lised 214	Type of Ice: Wet		Samples on ice, cooling process has begun
	Biological Tissue	is Frozen: Yes No	Date and Initials of person examining
Temp should be above freezing to 6°C		Comments:	contents: <u>4//// F-O(44</u>
Chain of Custody Present:	Yes DNO DNA	1.	
Chain of Custody Filled Out:		2.	
Chain of Custody Relinquished:		3.	a no a second second states in the product of a second
Sampler Name & Signature on COC:		4.	
Samples Arrived within Hold Time:		5	
Short Hold Time Analysis (<72hr):		6.	
Rush Turn Around Time Requested:		7.	
Sufficient Volume:	Tres DNO DN/A	8.	
Correct Containers Used:	Yes No DNA	9.	
-Pace Containers Used:	AYes ONO ON/A		
Containers Intact:	PYes DNO DNIA	10.	
Filtered volume received for Dissolved tests	OYes ONO DATA	11.	
Sample Labels match COC:		12.	
-Includes date/time/ID/Analysis Matrix:			
All containers needing preservation have been checked.	DIYes ONO ON/A	13.	4 (4) (4) (1) (2) (2) (4) (2) (2) (4) (2) (2) (4) (4) (2) (2) (2) (4) (4) (4) (2) (2) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4
All containers needing preservation are found to be in compliance with EPA recommendation.		Initial when	Lot the added
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	Yes No	completed	preservative
Samples checked for dechlorination:		14.	
Headspace in VOA Vials (>6mm):		15	
Trip Blank Present:		16.	
Trip Blank Custody Seals Present			
Pace Trip Blank Lot # (if purchased):			
Client Notification/ Resolution:			Field Data Required? Y / N
Person Contacted:	Date/	Time:	
Comments/ Resolution:			
		e ^t e terrere noue ne rerere noue ne rererere	
Project Manager Review:			Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003rev.3, 11September2006

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neunquistieg by/company (signature)	nelinquisned by/company (signature)	the they /bolde	Relinguished by/Company: (Signature)			(Metals) AS, B, Ba, Be, La, LO, LO, Lr, MO									11-27	07 E12	0	Customer Sample ID		 Matrix Codes (Insert in Matrix box belo Product (P), Soil/Solid (SL), Oll (OL), Wig 				Xry	Andrea McClure	Collected By (print): Travis Martinez,	Phone: (404) 506-7239	phone: (404) 506-7239 Email: jabraham@southernco.com	Capy To: Golder	vebore to: solo veraliziti	Atlanta, GA 30339	Address: 2480 Maner Road	Company: Georgia Power - Coal Combust	Pace Analytical
		ר				, Pb, Sb, Se, U, Tl, H					-				0.00	64		Matrix *		w): Orinking Water ve (WP), Air (AR), Ti	(Ex	1 17 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Rush.		Quote #	Purchase Order #	Project Name Pla						Ch tion Residuals	CHA
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lime	lime	8-2020 08	lime -	ladchem sample(s)	acking Material U	Type of Ice Used:									1-11-2020	9-17-2020	Date	Collected (or Co Start)		ound Water (GW), , Bioassay (B), Wat	raes Apply)	Next Day				nual	h BCD Assessment	State: Georgia Ci	Site Collection Inf	Email to: scsinvoi		Sector Sector	stody is a LEGAL D	-CUSTODY A
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Received by/Con	Retelved by/Con	Plus	Received bullon	1 (<500 cpm):		t Blue D											Date	Composit		iter (WW), 3ther (OT)	Analysis	[] Yes [Field Filtered (i	Immediately Pa	kevin.herring@	Pare Propert M	Pace Profiles	geville Time Zc	: Plant Branch	hernco.com	-		T - Complete all r	cal Request
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Non Conformance(s): Fage 1 YES / NO of 1	Trip Blank Received: Y N I HCL MeOH TSP Othe		Cooler 1 Corrected Temps	Cooler 1 Therm Corr. FactoroC	Therm ID#:	LAB Sample Temperature Info										+2 Radium	9291212	Lab Sample # / Comments:		DAMpie pH Acceptable Y N NA pH Skrips: Sulfide Present Y N NA Lead Acetate Skrips:	CI Strips:	USDA Regulated Solis Y N NA Samples in Holding Time Y N NA	VOA - Headspace Acceptable Y N NA	Samples Received on Ice Y N NA	Correct Bottles YN NA	Collector Signature Present Y N NA	Custody Seals Present/Intact Y N NA	Lab Profile/Line: Lab Sample Receipt Checklist:	id. (8] ammonium sulfate,	n hydroxide, (5) zinc acetate.	Lab Project Manager:	AB USE ONLY		Jst Pace Workorder Number or re

Page 18 of 18



Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

October 29, 2020

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

RE: Project: Plant Branch CCR-Ash Pond Pace Project No.: 92501802

Dear Kelley Sharpe:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Peachtree Corners, GA

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Maiya tarks

Maiya Parks maiya.parks@pacelabs.com (770)734-4200 Project Manager

Enclosures

cc: Ben Hodges, Georgia Power Warren Johnson, ARCADIS - Atlanta





CERTIFICATIONS

Project: Plant Branch CCR-Ash Pond

Pace Project No.: 92501802

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



SAMPLE SUMMARY

Project: Plant Branch CCR-Ash Pond

Pace Project No.: 92501802

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92501802001	LR-1	Water	10/22/20 12:10	10/22/20 15:14
92501802002	LR+8	Water	10/22/20 12:25	10/22/20 15:14
92501802003	LR+9	Water	10/22/20 12:30	10/22/20 15:14
92501802004	LR+10	Water	10/22/20 12:38	10/22/20 15:14



SAMPLE ANALYTE COUNT

Project:Plant Branch CCR-Ash PondPace Project No.:92501802

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92501802001	 LR-1	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	КН	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		EPA 9040C	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92501802002	LR+8	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	КН	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		EPA 9040C	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92501802003	LR+9	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	КН	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		EPA 9040C	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92501802004	LR+10	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	КН	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		EPA 9040C	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A

PASI-A = Pace Analytical Services - Asheville

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



Project: Plant Branch CCR-Ash Pond

Pace Project No.: 92501802

Sample: LR-1	Lab ID: 925	01802001	Collected:	10/22/2	0 12:10	Received: 10	/22/20 15:14 N	latrix: Water	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Met	hod: EPA 60)10D Prepar	ation Me	thod: El	PA 3010A			
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
Sodium	4.4	mg/L		1.0	1	10/23/20 14:00	10/24/20 00:13	7440-23-5	
Calcium	3.7	mg/L		1.0	1	10/23/20 14:00	10/24/20 00:13	7440-70-2	
Magnesium	2.0	mg/L		0.050	1	10/23/20 14:00	10/24/20 00:13	7439-95-4	
Potassium	2.7	mg/L		0.20	1	10/23/20 14:00	10/27/20 13:38	7440-09-7	M1
6020 MET ICPMS	Analytical Met	hod: EPA 60	20B Prepar	ation Me	thod: El	PA 3005A			
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
Boron	ND	mg/L		0.040	1	10/23/20 14:04	10/26/20 13:50	7440-42-8	
Cadmium	ND	mg/L	0	.00050	1	10/23/20 14:04	10/26/20 13:50	7440-43-9	
Cobalt	ND	mg/L		0.0050	1	10/23/20 14:04	10/26/20 13:50	7440-48-4	
2540C Total Dissolved Solids	Analytical Met	hod: SM 24	50C-2011						
	Pace Analytica	al Services -	Peachtree C	corners, (GA				
Total Dissolved Solids	59.0	mg/L		10.0	1		10/23/20 16:53		
9040 pH	Analytical Met	hod: EPA 90	040C						
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
pH at 25 Degrees C	7.1	Std. Units	;	0.10	1		10/23/20 14:57		H3,H6
2320B Alkalinity	Analytical Met	hod: SM 23	20B-2011						
	Pace Analytica	al Services -	Asheville						
Alkalinity,Bicarbonate (CaCO3)	24.2	mg/L		5.0	1		10/28/20 13:19		
Alkalinity, Total as CaCO3	24.2	mg/L		5.0	1		10/28/20 13:19		
300.0 IC Anions 28 Days	Analytical Met	hod: EPA 30	0.0 Rev 2.1	1993					
	Pace Analytica	al Services -	Asheville						
Chloride	3.3	mg/L		1.0	1		10/25/20 22:08	16887-00-6	
Fluoride	ND	mg/L		0.10	1		10/25/20 22:08	16984-48-8	
Sulfate	2.1	mg/L		1.0	1		10/25/20 22:08	14808-79-8	



Project: Plant Branch CCR-Ash Pond

Pace Project No.: 92501802

Sample: LR+8	Lab ID: 925	01802002	Collected:	10/22/2	0 12:25	Received: 10	/22/20 15:14 N	latrix: Water	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Met	hod: EPA 60	10D Prepar	ation Me	thod: E	PA 3010A			
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
Sodium	4.9	mg/L		1.0	1	10/23/20 14:00	10/24/20 00:31	7440-23-5	
Calcium	4.2	mg/L		1.0	1	10/23/20 14:00	10/24/20 00:31	7440-70-2	
Magnesium	2.1	mg/L		0.050	1	10/23/20 14:00	10/24/20 00:31	7439-95-4	
Potassium	2.8	mg/L		0.20	1	10/23/20 14:00	10/27/20 13:43	7440-09-7	
6020 MET ICPMS	Analytical Met	hod: EPA 60	20B Prepar	ation Me	thod: E	PA 3005A			
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
Boron	ND	mg/L		0.040	1	10/23/20 14:04	10/26/20 14:12	7440-42-8	
Cadmium	ND	mg/L	0	.00050	1	10/23/20 14:04	10/26/20 14:12	7440-43-9	
Cobalt	ND	mg/L		0.0050	1	10/23/20 14:04	10/26/20 14:12	7440-48-4	
2540C Total Dissolved Solids	Analytical Met	hod: SM 245	50C-2011						
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
Total Dissolved Solids	60.0	mg/L		10.0	1		10/23/20 16:53		
9040 pH	Analytical Met	hod: EPA 90	40C						
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
pH at 25 Degrees C	7.2	Std. Units		0.10	1		10/23/20 15:14		H3,H6
2320B Alkalinity	Analytical Met	hod: SM 232	20B-2011						
	Pace Analytica	al Services -	Asheville						
Alkalinity,Bicarbonate (CaCO3)	25.6	mg/L		5.0	1		10/28/20 13:25		
Alkalinity, Total as CaCO3	25.6	mg/L		5.0	1		10/28/20 13:25		
300.0 IC Anions 28 Days	Analytical Met	hod: EPA 30	0.0 Rev 2.1	1993					
	Pace Analytica	al Services -	Asheville						
Chloride	3.7	mg/L		1.0	1		10/25/20 22:54	16887-00-6	
Fluoride	ND	mg/L		0.10	1		10/25/20 22:54	16984-48-8	
Sulfate	2.5	mg/L		1.0	1		10/25/20 22:54	14808-79-8	



Project: Plant Branch CCR-Ash Pond

Pace Project No.: 92501802

Sample: LR+9	Lab ID: 925	01802003	Collected:	10/22/2	0 12:30	Received: 10	/22/20 15:14 N	latrix: Water	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Met	hod: EPA 60	10D Prepar	ation Me	thod: E	PA 3010A			
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
Sodium	4.9	mg/L		1.0	1	10/23/20 14:00	10/24/20 00:35	7440-23-5	
Calcium	4.3	mg/L		1.0	1	10/23/20 14:00	10/24/20 00:35	7440-70-2	
Magnesium	2.1	mg/L		0.050	1	10/23/20 14:00	10/24/20 00:35	7439-95-4	
Potassium	2.9	mg/L		0.20	1	10/23/20 14:00	10/27/20 13:48	7440-09-7	
6020 MET ICPMS	Analytical Met	hod: EPA 60	20B Prepar	ation Me	thod: E	PA 3005A			
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
Boron	ND	mg/L		0.040	1	10/23/20 14:04	10/26/20 14:18	7440-42-8	
Cadmium	ND	mg/L	0	.00050	1	10/23/20 14:04	10/26/20 14:18	7440-43-9	
Cobalt	ND	mg/L		0.0050	1	10/23/20 14:04	10/26/20 14:18	7440-48-4	
2540C Total Dissolved Solids	Analytical Met	hod: SM 245	50C-2011						
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
Total Dissolved Solids	57.0	mg/L		10.0	1		10/23/20 16:53		
9040 pH	Analytical Met	hod: EPA 90	40C						
	Pace Analytica	al Services -	Peachtree C	orners, (GA				
pH at 25 Degrees C	7.2	Std. Units		0.10	1		10/23/20 15:18		H3,H6
2320B Alkalinity	Analytical Met	hod: SM 232	20B-2011						
	Pace Analytica	al Services -	Asheville						
Alkalinity,Bicarbonate (CaCO3)	25.8	mg/L		5.0	1		10/28/20 13:31		
Alkalinity, Total as CaCO3	25.8	mg/L		5.0	1		10/28/20 13:31		
300.0 IC Anions 28 Days	Analytical Met	hod: EPA 30	0.0 Rev 2.1	1993					
	Pace Analytica	al Services -	Asheville						
Chloride	3.8	mg/L		1.0	1		10/25/20 23:10	16887-00-6	
Fluoride	ND	mg/L		0.10	1		10/25/20 23:10	16984-48-8	
Sulfate	2.6	mg/L		1.0	1		10/25/20 23:10	14808-79-8	



Project: Plant Branch CCR-Ash Pond

Pace Project No.: 92501802

Sample: LR+10	Lab ID: 925	01802004	Collected: 1	0/22/20) 12:38	B Received: 10	/22/20 15:14 N	latrix: Water	
Parameters	Results	Units	Report L	_imit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Met	hod: EPA 60	010D Preparat	ion Met	hod: E	PA 3010A			
	Pace Analytic	al Services -	Peachtree Co	rners, G	6A				
Potassium	2.8	mg/L		0.20	1	10/23/20 14:00	10/27/20 13:54	7440-09-7	
Sodium	5.1	mg/L		1.0	1	10/23/20 14:00	10/24/20 00:49	7440-23-5	
Calcium	4.5	mg/L		1.0	1	10/23/20 14:00	10/24/20 00:49	7440-70-2	
Magnesium	2.1	mg/L	().050	1	10/23/20 14:00	10/24/20 00:49	7439-95-4	
6020 MET ICPMS	Analytical Met	hod: EPA 60	020B Preparat	ion Met	hod: E	PA 3005A			
	Pace Analytic	al Services -	Peachtree Co	rners, G	βA				
Boron	ND	ma/L	(0.040	1	10/23/20 14:04	10/26/20 14:24	7440-42-8	
Cadmium	ND	mg/L	0.0	0050	1	10/23/20 14:04	10/26/20 14:24	7440-43-9	
Cobalt	ND	mg/L	0.	0050	1	10/23/20 14:04	10/26/20 14:24	7440-48-4	
2540C Total Dissolved Solids	Analytical Met	hod: SM 24	50C-2011						
	Pace Analytic	al Services -	Peachtree Co	rners, G	A				
Total Dissolved Solids	59.0	mg/L		10.0	1		10/23/20 16:53		
9040 pH	Analytical Met	hod: EPA 90	040C						
	Pace Analytic	al Services -	Peachtree Co	rners, G	6A				
pH at 25 Degrees C	7.1	Std. Units	5	0.10	1		10/23/20 15:20		H3,H6
2320B Alkalinity	Analytical Met	hod: SM 232	20B-2011						
	Pace Analytic	al Services -	Asheville						
Alkalinity,Bicarbonate (CaCO3)	26.5	mg/L		5.0	1		10/28/20 13:37		
Alkalinity, Total as CaCO3	26.5	mg/L		5.0	1		10/28/20 13:37		
300.0 IC Anions 28 Days	Analytical Met	hod: EPA 30	0.0 Rev 2.1 19	993					
	Pace Analytic	al Services -	Asheville						
Chloride	4.0	mg/L		1.0	1		10/25/20 23:25	16887-00-6	
Fluoride	ND	mg/L		0.10	1		10/25/20 23:25	16984-48-8	
Sulfate	2.6	mg/L		1.0	1		10/25/20 23:25	14808-79-8	



i iojeci.	Plant Branch CCR	-Ash Pond						
Pace Project No.:	92501802							
QC Batch:	575392		Analysis M	ethod:	EF	PA 6010D		
QC Batch Method:	EPA 3010A		Analysis D	escription:	60	10D ATL		
			Laboratory	:	Pa	ace Analytical	Services - Pea	achtree Corners, GA
Associated Lab Sar	mples: 92501802	001, 9250180200	2, 92501802003,	925018020)4			
METHOD BLANK:	3045814		Matri	x: Water				
Associated Lab Sa	mples: 92501802	001, 9250180200	2, 92501802003,	925018020)4			
			Blank	Reportir	ng			
Para	meter	Units	Result	Limit		Analyze	d Quali	fiers
Calcium		mg/L	N		1.0	10/24/20 00):04	
Magnesium		mg/L	NE) (.050	10/24/20 00	0:04	
Potassium		mg/L	NE)	0.20	10/27/20 13	3:27	
Sodium		mg/L	NE)	1.0	10/24/20 00	0:04	
LABORATORY CO	NTROL SAMPLE:	3045815						
			Spike	LCS		LCS	% Rec	
Para	meter	Units	Conc.	Result	ç	% Rec	Limits	Qualifiers
Calcium		mg/L	1	.98J		98	80-120	
Magnesium		mg/L	1	1.0		101	80-120	
		mg/L	1	1.0		101	80-120	
Potassium			4	10		102	80-120	

Parameter	Units	92501802001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	3.7	1	1	4.5	4.9	85	124	75-125	8	20	
Magnesium	mg/L	2.0	1	1	2.9	3.1	92	115	75-125	8	20	
Potassium	mg/L	2.7	1	1	3.8	4.1	116	137	75-125	6	20	M1
Sodium	mg/L	4.4	1	1	5.3	5.6	83	119	75-125	7	20	

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Project:	Plant Branch CCR	-Ash Pond										
Pace Project No.:	92501802											
QC Batch:	575391		Analy	ysis Metho	od: E	EPA 6020B						
QC Batch Method:	EPA 3005A		Analy	ysis Descr	iption: 6	6020 MET						
			Labo	ratory:	F	Pace Analy	ical Servic	es - Peach	tree Corne	rs, GA		
Associated Lab Sa	mples: 92501802	001, 9250180200	2, 9250180	02003, 925	501802004							
METHOD BLANK:	3045807			Matrix: W	/ater							
Associated Lab Sa	mples: 92501802	001, 9250180200	2, 9250180	2003, 925	501802004							
			Blar	nk	Reporting							
Para	meter	Units	Res	ult	Limit	Anal	yzed	Qualifier	S			
Boron		mg/L		ND	0.040	0 10/26/2	0 13:38					
Cadmium		mg/L		ND	0.00050	0 10/26/2	0 13:38					
Cobalt		mg/L		ND	0.0050	0 10/26/2	0 13:38					
LABORATORY CO	NTROL SAMPLE:	3045808										
			Spike	LC	CS	LCS	% R	Rec				
Para	meter	Units	Conc.	Re	sult	% Rec	Lim	its	Qualifiers			
Boron		mg/L		1	0.98	9	8	80-120		_		
Cadmium		mg/L	0.	.1	0.099	9	9	80-120				
Cobalt		mg/L	0.	.1	0.097	9	7	80-120				
MATRIX SPIKE & I	MATRIX SPIKE DUF	LICATE: 3045	809		3045810							
			MS	MSD								
		92501802001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	er Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Boron	mg/L	ND	1	1	0.95	1.0	94	99	75-125	5	20	
Cadmium	mg/L	ND	0.1	0.1	0.094	0.095	94	95	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.092	0.095	92	94	75-125	3	20	

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Project:	Plant Branch CCR	-Ash Pond					
Pace Project No.:	92501802						
QC Batch:	575357		Analysis M	ethod:	SM 2450C-201	11	
QC Batch Method:	SM 2450C-2011		Analysis D	escription:	2540C Total Di	ssolved Solids	
			Laboratory	:	Pace Analytica	I Services - Pea	achtree Corners, GA
Associated Lab Sar	nples: 92501802	001, 92501802002	2, 92501802003,	92501802004			
METHOD BLANK:	3045601		Matri	x: Water			
Associated Lab Sar	nples: 92501802	001, 92501802002	2, 92501802003,	92501802004			
			Blank	Reporting			
Parar	neter	Units	Result	Limit	Analyze	d Quali	fiers
Total Dissolved Soli	ds	mg/L	NE	D 10	.0 10/23/20 1	6:52	
LABORATORY CO	NTROL SAMPLE:	3045602					
			Spike	LCS	LCS	% Rec	
Parar	neter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Soli	ds	mg/L	400	404	101	84-108	
SAMPLE DUPLICA	TE: 3045603						
			92501618001	Dup		Max	
Parar	neter	Units	Result	Result	RPD	RPD	Qualifiers
Total Dissolved Soli	ds	mg/L	375	5 39	0	4	10

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Project:	Project: Plant Branch CCR-Ash Pond							
Pace Project No.:	92501802							
QC Batch:	575360		Analysis Meth	nod:	EPA 9040C			
QC Batch Method:	EPA 9040C		Analysis Desc	cription:	9040 pH			
			Laboratory:		Pace Analytical Se	ervices - Peac	htree Corners, GA	
Associated Lab Sa	mples: 925018020	001, 9250180200	2, 92501802003, 92	2501802004				
SAMPLE DUPLICA	TE: 3045620							
			92501802001	Dup		Max		
Para	meter	Units	Result	Result	RPD	RPD	Qualifiers	
pH at 25 Degrees (2	Std. Units	7.1	7	.1 0		9 H3,H6	

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Project:	Plant E	Branch CCR	-Ash Pond											
Pace Project No.:	925018	802												
QC Batch:	5762	97		Analy	sis Metho	d:	SM	2320B-2	011					
QC Batch Method:	SM 2	320B-2011		Analy	/sis Descri	ption:	232	0B Alkaliı	nity					
				Labo	ratory:		Pac	e Analyti	cal Servic	es - Ashevi	lle			
Associated Lab Sar	mples:	92501802	001, 9250180200	02, 9250180	2003, 925	01802004								
METHOD BLANK:	30498	50			Matrix: W	ater								
Associated Lab Sar	mples:	92501802	001, 9250180200	02, 9250180	2003, 925	01802004								
				Blar	nk	Reporting								
Parar	neter		Units	Res	ult	Limit		Analy	zed	Qualifier	s			
Alkalinity, Total as C	CaCO3		mg/L		ND	5	5.0	10/28/20	12:39					
Alkalinity, Bicarbona	te (CaC	O3)	mg/L		ND	5	5.0	10/28/20	12:39					
LABORATORY CO	NTROL	SAMPLE:	3049851											
				Spike	LC	S	L	CS	% R	ec				
Parar	neter		Units	Conc.	Res	sult	%	Rec	Lim	its	Qualifiers			
Alkalinity, Total as C	CaCO3		mg/L	5	0	52.4		105		80-120				
MATRIX SPIKE & N	ATRIX	SPIKE DUP	LICATE: 3049	9852		304985	53							
				MS	MSD									
_			92500569012	Spike	Spike	MS	N	MSD	MS	MSD	% Rec		Max	
Paramete	r	Units	Result	Conc.	Conc.	Result	R	esult	% Rec	% Rec	Limits	RPD	RPD	Qual
Alkalinity, Total as C	CaCO3	mg/L	ND	50	50	51.8	3	51.6	104	103	80-120	0	25	
MATRIX SPIKE & N	AIRIX	SPIKE DUP	LICATE: 3049	9854	MOD	304985	5							
			02501837009	IVIJ Sniko	IVIJU Sniko	MS	N		MS	MSD	% Rec		Max	
Paramete	r	Units	Result	Conc.	Conc.	Result	R	esult	% Rec	% Rec	Limits	RPD	RPD	Qual
Alkalinity Tatal as C						105		107					 	
Aikainity, Total as C	acus	mg/L	146	50	50	195)	197	99	104	00-120		20	

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Page Project No.: 92501802 QC Batch: 575544 Analysis Method:: EPA 300.0 Rev 2.1 1993 Analysis Method:: EPA 300.0 Rev 2.1 1993 Analysis Description:: 300.0 IC Anions Dec Analytical Services - Asheville Associated Lab Samples:: 92501802002, 92501802002, 92501802004 METHOD BLANK: 3046842 Matrix: Water Associated Lab Samples:: 92501802002, 92501802002, 92501802004 Qualifiers Parameter Units Result Limit Analyzic2 2 1:37 Qualifiers Fluoride mg1 ND 1.0 10/25/20 21:37 Qualifiers Suifate mg1 ND 1.0 10/25/20 21:37 Qualifiers Chioride mg1 ND 1.0 10/25/20 21:37 Qualifiers Chioride mg1 Spike LCS % Rec Limits Qualifiers Suifate mg1 Spike MSD 50 52.4 106 90-110 MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3046847 Spike MSD MSD % Rec Limits <t< th=""><th>Project:</th><th>PI</th><th>ant Branch CCR</th><th>-Ash Pond</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	Project:	PI	ant Branch CCR	-Ash Pond										
QC Batch: 575544 Analysis Method: EPA 300.0 Rev 2.1 1993 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Method:: EPA 300.0 Rev 2.1 1993 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Method:: EPA 300.0 Rev 2.1 1993 Associated Lab Samples: 92501802001, 92501802002, 92501802003, 92501802004 Pace Analytical Services - Asheville METHOD BLANK: 3046842 Matrix: Water Associated Lab Samples: 92501802001, 92501802002, 92501802003, 92501802004 Qualifiers Qualifiers Parameter Units Result Init Analyzic 221:37 Qualifiers Suifate mgL ND 1.0 10/25/20 21:37 Qualifiers LABORATORY CONTROL SAMPLE: 3046843 Spike LCS % Rec Limits Qualifiers LaBORATORY CONTROL SAMPLE: 3046843 Spike Conc. Result 105 90-110 Suifate mgL 50 52.4 105 90-110 1 10 MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3046944 So 565.5 57.1	Pace Project	No.: 92	2501802											
QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: Laboratory: 300.0 I C Anions Pace Analytical Services - Asheville Associated Lab Samples: 92501802001, 92501802002, 92501802003, 92501802004 Varian et al.	QC Batch:		575544		Analy	ysis Metho	d:	EPA 300.0	Rev 2.1 19	93				
Laboratory: Pace Analytical Services - Asheville Associated Lab Samples: 92501802001, 92501802002, 92501802003, 92501802003 METHOD BLANK: 3046842 Matrix: Water Associated Lab Samples: 92501802001, 92501802003, 92501802003, 92501802003 Analyzed Qualifiers Parameter Units Reporting Analyzed Qualifiers Fluoride mg/L ND 1.0 10/25/20 21:37 Qualifiers Sulfate mg/L ND 1.0 10/25/20 21:37 Qualifiers Sulfate mg/L Softe LCS % Rec LImits Qualifiers Sulfate mg/L Softe LCS X.2 ND 1.0 10/25/20 21:37 MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3046843 LSS X.2 ND 1.0 10/25/20 21:37 MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3046847 Spike MSD MSD MSD 90-110 1 10 MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3046847 Spike MSD MSD MSD<	QC Batch Me	ethod:	EPA 300.0 Rev 2	.1 1993	Analy	ysis Descri	ption:	300.0 IC A	nions					
Associated Lab Samples: 92501802002, 92501802003, 92501802004 Matrix: Water Associated Lab Samples: 92501802002, 92501802003, 92501802004 Parameter Units Result Limit Analyzed Qualifiers Parameter Units Result ND 1.0 10/25/20 21:37 Suifate mg/L ND 1.0 10/25/20 21:37 Qualifiers LABORATORY CONTROL SAMPLE: 3046843 LCS % Rec Limits Qualifiers Parameter Units Spike Conc. Result % Rec Limits Qualifiers Chloride mg/L 50 52.4 105 90-110 Suifate mg/L 50 52.4 105 90-110 MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3046844 3046845 Mark MSD MSD MSD MSD MSD MSD % Rec Limits RPD Max Parameter Units Result MSD MSD MSD MSD MSD MSD % Rec Limits RPD Max					Labo	ratory:		Pace Anal	ytical Servic	es - Ashevi	lle			
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Fluoridemg/L0.096J2.52.52.72.810510890-110210Sulfatemg/L2245050270271929390-110010	Chloride		mg/L	6.0	50	50	59.5	60.3	107	109	90-110	1	10	
Sulfate mg/L 224 50 50 270 271 92 93 90-110 0 10	Fluoride		mg/L	0.096J	2.5	2.5	2.7	2.8	105	108	90-110	2	10	
	Sulfate		mg/L	224	50	50	270	271	92	93	90-110	0	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant Branch CCR-Ash Pond

Pace Project No.: 92501802

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

- H3 Sample was received or analysis requested beyond the recognized method holding time.
- H6 Analysis initiated outside of the 15 minute EPA required holding time.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch CCR-Ash Pond

Pace Project No.: 92501802

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92501802001	 LR-1	EPA 3010A	575392	EPA 6010D	575424
92501802002	LR+8	EPA 3010A	575392	EPA 6010D	575424
92501802003	LR+9	EPA 3010A	575392	EPA 6010D	575424
92501802004	LR+10	EPA 3010A	575392	EPA 6010D	575424
92501802001	LR-1	EPA 3005A	575391	EPA 6020B	575422
92501802002	LR+8	EPA 3005A	575391	EPA 6020B	575422
92501802003	LR+9	EPA 3005A	575391	EPA 6020B	575422
92501802004	LR+10	EPA 3005A	575391	EPA 6020B	575422
92501802001	LR-1	SM 2450C-2011	575357		
92501802002	LR+8	SM 2450C-2011	575357		
92501802003	LR+9	SM 2450C-2011	575357		
92501802004	LR+10	SM 2450C-2011	575357		
92501802001	LR-1	EPA 9040C	575360		
92501802002	LR+8	EPA 9040C	575360		
92501802003	LR+9	EPA 9040C	575360		
92501802004	LR+10	EPA 9040C	575360		
92501802001	LR-1	SM 2320B-2011	576297		
92501802002	LR+8	SM 2320B-2011	576297		
92501802003	LR+9	SM 2320B-2011	576297		
92501802004	LR+10	SM 2320B-2011	576297		
92501802001	LR-1	EPA 300.0 Rev 2.1 1993	575544		
92501802002	LR+8	EPA 300.0 Rev 2.1 1993	575544		
92501802003	LR+9	EPA 300.0 Rev 2.1 1993	575544		
92501802004	LR+10	EPA 300.0 Rev 2.1 1993	575544		

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All of a grant of a g	0#:92501802			ADDITIONAL COMMENTS						=			LR+10	LR+9	L7+8	LR-1	One Character per box. We (A-Z, 0-9 / , -) At Sample ids must be unique Tissue		MATRIX		(404)500-4050 [* ex	JOHHODGE@SOUTHERNCO.COM		r: Georgia Power Company	1 Cilent Information:	
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Pace Analytical (Client Name:	G	<u>A</u>	Por	Wer	WO# : 92	25018	02
ourier: 🗌 Fed Ex 🗌 UPS racking #:		nt 🗆 Co	mmer	cial [Pace Other	PM: MP CLIENT: GR-A	Due Date rcadAtl	: 10/29/20
ustody Seal on Cooler/Box I	Present: ves	9 no	5 9	Seals i	ntact: 🗌 yes			
acting Material: DBubble	Wran Bubble	Baos [-] No	one 🗲	FOther Z	PIOC		
	HPZILL		lce:	X	Blue None	Samples on ic	e, cooling process	has begun
coler Temperature	10.8	Biologi	ical Ti	issue i	s Frozen: Yes	Date and contents	nitials of person s: LOW IC	examining
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nain of Custody Filled Out.	2 2	Aleres .			3			
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sampler Name & Signature on	<u> </u>	<u> </u>			5			
Samples Arrived within Hold T					6			
Short Hold Time Analysis (<	rznr):		2040 2140		7.540,0 10	and an		36)
Rush Turn Around Time Req	uested:				1. Stunde			
Sufficient Volume:					o	·		10
Correct Containers Used;		C Lives			9.			
-Pace Containers Used:		<u>Uves</u>			40			·····
Containers Intact:		- Tres			10.			
Filtered volume received for D	issolved tests	∐Yes		AHALD	11.			
Sample Labels match COC:		Tes	_⊡No _	LIN/A	12.			
-Includes date/time/ID/Ana	lysis Matrix:	<u>_w</u>				•		
All containers needing preservation		Ores	No	⊡n/A	13.			
All containers needing preservation compliance with EPA recommend	on are found to be in dation.	Gres	⊡No	⊡n/A	Initial when	Lot # of add		
exceptions: VOA, coliform, TOC, O&	G, WI-DRO (water)	⊡Yes	No		completed	preservative		
Samples checked for dechlor	ination:	□ Yes		Dw/	14.			
Headspace in VOA Vials (>6	mm):	⊡Yes		G	15.			
Trip Blank Present:		⊡Yes			16.			
Trip Blank Custody Seals Pre	esent	□Yes			A			
Pace Trip Blank Lot # (if purc	:hased):							
Client Netification/ Resolut	ion:					Field Data	Required?	Y / N
Derson Contacted	JOII.			Date	/Time:			
Comments/ Resolution:								
	C1						<u> </u>	8
	(6)							

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

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November 11, 2020

Joju Abraham Georgia Power-CCR 2480 Maner Road Atlanta, GA 30339

RE: Project: PLANT BRANCH Pace Project No.: 92502483

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 28, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services Asheville
- Pace Analytical Services Charlotte
- Pace Analytical Services Peachtree Corners, GA

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kein Stury

Kevin Herring kevin.herring@pacelabs.com 1(704)875-9092 HORIZON Database Administrator

Enclosures

cc: Daniela Herrera, Golder Ben Hodges, Georgia Power Jimmy Jones, Golder Associates Inc. Kristen Jurinko Julie Lehrman, Golder Associates Inc. Ms. Lauren Petty, Southern Co. Services Carolyn Powrozek, Golder Dawn Prell, Golder Associates Inc. Tim Richards, Golder Associates - Atlanta Brian Steele, Golder





Pace Analytical Services, LLC 110 Technology Parkway Peachtree Corners, GA 30092 (770)734-4200

CERTIFICATIONS

Project: PLANT BRANCH

Pace Project No.: 92502483

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 Louisiana/NELAP Certification # LA170028 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222

North Carolina Certification #: 381 South Carolina Certification #: 98011001 Virginia Certification #: 460204



SAMPLE SUMMARY

Project: PLANT BRANCH

Pace Project No.: 92502483

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92502483001	PZ-50D	Water	10/27/20 09:40	10/28/20 09:00
92502483002	PZ-51D	Water	10/27/20 12:45	10/28/20 09:00
92502483003	PZ-51I	Water	10/27/20 14:10	10/28/20 09:00
92502483004	FB	Water	10/27/20 10:00	10/28/20 09:00
92502483005	EB	Water	10/27/20 11:20	10/28/20 09:00
92502483006	FD	Water	10/27/20 00:00	10/28/20 09:00



SAMPLE ANALYTE COUNT

Project: PLANT BRANCH

Pace Project No.: 92502483

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92502483001	PZ-50D	EPA 6010D	DRB	4
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92502483002	PZ-51D	EPA 6010D	DRB	4
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92502483003	PZ-511	EPA 6010D	DRB	4
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92502483004	FB	EPA 6010D	DRB	4
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92502483005	EB	EPA 6010D	DRB	4
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92502483006	FD	EPA 6010D	DRB	4
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	1
		EPA 300.0 Rev 2.1 1993	CDC	3

PASI-A = Pace Analytical Services - Asheville PASI-C = Pace Analytical Services - Charlotte PASI-GA = Pace Analytical Services - Peachtree Corners, GA



SUMMARY OF DETECTION

Project: PLANT BRANCH

Pace Project No.: 92502483

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92502483001	PZ-50D					
	Performed by	CUSTOME R			10/28/20 15:41	
	рН	6.47	Std. Units		10/28/20 15:41	
EPA 6010D	Potassium	9.7	mg/L	0.20	11/04/20 21:28	
EPA 6010D	Sodium	31.9	mg/L	1.0	11/04/20 21:28	
EPA 6010D	Calcium	159	mg/L	1.0	11/04/20 21:28	
EPA 6010D	Magnesium	49.2	mg/L	0.050	11/04/20 21:28	
EPA 6020B	Boron	0.15	mg/L	0.10	10/28/20 18:43	
EPA 6020B	Cobalt	0.0037J	mg/L	0.0050	10/28/20 18:43	
SM 2450C-2011	Total Dissolved Solids	914	mg/L	20.0	10/28/20 18:53	
SM 2320B-2011	Alkalinity, Total as CaCO3	90.2	mg/L	5.0	11/10/20 14:52	
EPA 300.0 Rev 2.1 1993	Chloride	5.6	mg/L	1.0	10/30/20 13:08	
EPA 300.0 Rev 2.1 1993	Fluoride	0.28	mg/L	0.10	10/30/20 13:08	
EPA 300.0 Rev 2.1 1993	Sulfate	492	mg/L	11.0	10/31/20 00:28	
92502483002	PZ-51D					
	Performed by	CUSTOME R			10/28/20 15:41	
	рН	6.79	Std. Units		10/28/20 15:41	
EPA 6010D	Potassium	8.7	mg/L	0.20	11/04/20 21:33	
EPA 6010D	Sodium	25.2	mg/L	1.0	11/04/20 21:33	
EPA 6010D	Calcium	132	mg/L	1.0	11/04/20 21:33	
EPA 6010D	Magnesium	32.5	mg/L	0.050	11/04/20 21:33	
EPA 6020B	Boron	0.029J	mg/L	0.10	10/28/20 19:01	
EPA 6020B	Cobalt	0.00041J	mg/L	0.0050	10/28/20 19:01	
SM 2450C-2011	Total Dissolved Solids	680	mg/L	20.0	10/28/20 18:53	
SM 2320B-2011	Alkalinity, Total as CaCO3	116	mg/L	5.0	11/10/20 15:03	
EPA 300.0 Rev 2.1 1993	Chloride	6.3	mg/L	1.0	10/30/20 13:22	
EPA 300.0 Rev 2.1 1993	Fluoride	0.21	mg/L	0.10	10/30/20 13:22	
EPA 300.0 Rev 2.1 1993	Sulfate	357	mg/L	8.0	10/31/20 00:42	
92502483003	PZ-51I					
	Performed by	CUSTOME R			10/28/20 15:41	
	рН	5.49	Std. Units		10/28/20 15:41	
EPA 6010D	Potassium	10.9	mg/L	0.20	11/04/20 21:38	
EPA 6010D	Sodium	42.6	mg/L	1.0	11/04/20 21:38	
EPA 6010D	Calcium	183	mg/L	1.0	11/04/20 21:38	
EPA 6010D	Magnesium	111	mg/L	0.050	11/04/20 21:38	
EPA 6020B	Boron	0.37	mg/L	0.10	10/28/20 19:06	
EPA 6020B	Cadmium	0.0051	mg/L	0.0025	10/28/20 19:06	
EPA 6020B	Cobalt	0.020	mg/L	0.0050	10/28/20 19:06	
SM 2450C-2011	Total Dissolved Solids	1200	mg/L	50.0	10/28/20 18:53	
SM 2320B-2011	Alkalinity, Total as CaCO3	22.9	mg/L	5.0	11/10/20 15:28	
EPA 300.0 Rev 2.1 1993	Chloride	11.0	mg/L	1.0	10/30/20 13:37	
EPA 300.0 Rev 2.1 1993	Sulfate	893	mg/L	20.0	10/31/20 00:57	
92502483004	FB					
EPA 6020B	Boron	0.0054J	mg/L	0.10	10/28/20 19:29	



SUMMARY OF DETECTION

Project: PLANT BRANCH

Pace Project No.: 92502483

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92502483005	EB					
EPA 6010D	Potassium	0.067J	mg/L	0.20	11/04/20 21:59	В
92502483006	FD					
EPA 6010D	Potassium	10.8	mg/L	0.20	11/04/20 22:04	
EPA 6010D	Sodium	42.4	mg/L	1.0	11/04/20 22:04	
EPA 6010D	Calcium	183	mg/L	1.0	11/04/20 22:04	
EPA 6010D	Magnesium	111	mg/L	0.050	11/04/20 22:04	
EPA 6020B	Boron	0.32	mg/L	0.10	10/28/20 19:41	
EPA 6020B	Cadmium	0.0043	mg/L	0.0025	10/28/20 19:41	
EPA 6020B	Cobalt	0.018	mg/L	0.0050	10/28/20 19:41	
SM 2450C-2011	Total Dissolved Solids	1390	mg/L	50.0	10/28/20 18:55	
SM 2320B-2011	Alkalinity, Total as CaCO3	23.0	mg/L	5.0	11/10/20 15:45	
EPA 300.0 Rev 2.1 1993	Chloride	11.0	mg/L	1.0	10/30/20 15:47	
EPA 300.0 Rev 2.1 1993	Sulfate	892	mg/L	20.0	10/31/20 01:11	



Project: PLANT BRANCH

Pace Project No.: 92502483

Sample: PZ-50D	Lab ID:	92502483001	Collecte	d: 10/27/20	0 09:40	Received: 10/	28/20 09:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Pace Ana	Method: lytical Service:	s - Charlotte						
Performed by					1		10/28/20 15:41		
рН	6.47	Std. Units			1		10/28/20 15:41		
6010D ATL ICP	Analytical Pace Ana	Method: EPA	6010D Prep s - Peachtree	aration Met Corners, C	hod: E 3A	PA 3010A			
Potassium Sodium Calcium Magnesium	9.7 31.9 159 49.2	mg/L mg/L mg/L mg/L	0.20 1.0 1.0 0.050	0.056 0.26 0.070 0.0076	1 1 1 1	11/04/20 09:30 11/04/20 09:30 11/04/20 09:30 11/04/20 09:30	11/04/20 21:28 11/04/20 21:28 11/04/20 21:28 11/04/20 21:28	7440-09-7 7440-23-5 7440-70-2 7439-95-4	
6020 MET ICPMS	Analytical Pace Ana	Method: EPA lytical Services	6020B Prep s - Peachtree	aration Met Corners, C	hod: E 3A	PA 3005A			
Boron Cadmium Cobalt	0.15 ND 0.0037J	mg/L mg/L mg/L	0.10 0.0025 0.0050	0.0052 0.00012 0.00038	1 1 1	10/28/20 13:12 10/28/20 13:12 10/28/20 13:12	10/28/20 18:43 10/28/20 18:43 10/28/20 18:43	7440-42-8 7440-43-9 7440-48-4	
2540C Total Dissolved Solids	Analytical Pace Ana	Method: SM 2 lytical Services	2450C-2011 s - Peachtree	e Corners, C	S A				
Total Dissolved Solids	914	mg/L	20.0	20.0	1		10/28/20 18:53		
2320B Alkalinity	Analytical Pace Ana	Method: SM 2 lytical Services	2320B-2011 s - Asheville						
Alkalinity, Total as CaCO3	90.2	mg/L	5.0	5.0	1		11/10/20 14:52		
300.0 IC Anions 28 Days	Analytical Pace Ana	Method: EPA	300.0 Rev 2. s - Asheville	1 1993					
Chloride Fluoride Sulfate	5.6 0.28 492	mg/L mg/L mg/L	1.0 0.10 11.0	0.60 0.050 5.5	1 1 11		10/30/20 13:08 10/30/20 13:08 10/31/20 00:28	16887-00-6 16984-48-8 14808-79-8	



Project: PLANT BRANCH

Pace Project No.: 92502483

Sample: PZ-51D	Lab ID:	92502483002	2 Collecte	d: 10/27/2	0 12:45	Received: 10/	28/20 09:00 M	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Pace Ana	Method: lytical Services	s - Charlotte						
Performed by					1		10/28/20 15:41		
рН	6.79	Std. Units			1		10/28/20 15:41		
6010D ATL ICP	Analytical Pace Ana	Method: EPA lytical Services	6010D Prep s - Peachtree	e Corners, 0	thod: El GA	PA 3010A			
Potassium Sodium Calcium Magnesium	8.7 25.2 132 32.5	mg/L mg/L mg/L mg/L	0.20 1.0 1.0 0.050	0.056 0.26 0.070 0.0076	1 1 1 1	11/04/20 09:30 11/04/20 09:30 11/04/20 09:30 11/04/20 09:30	11/04/20 21:33 11/04/20 21:33 11/04/20 21:33 11/04/20 21:33	7440-09-7 7440-23-5 7440-70-2 7439-95-4	
6020 MET ICPMS	Analytical Pace Ana	Method: EPA lytical Services	6020B Prep s - Peachtree	e Corners, 0	thod: El GA	PA 3005A			
Boron Cadmium Cobalt	0.029J ND 0.00041J	mg/L mg/L mg/L	0.10 0.0025 0.0050	0.0052 0.00012 0.00038	1 1 1	10/28/20 13:12 10/28/20 13:12 10/28/20 13:12	10/28/20 19:01 10/28/20 19:01 10/28/20 19:01	7440-42-8 7440-43-9 7440-48-4	
2540C Total Dissolved Solids	Analytical Pace Ana	Method: SM 2 lytical Services	2450C-2011 s - Peachtree	e Corners, (GA				
Total Dissolved Solids	680	mg/L	20.0	20.0	1		10/28/20 18:53		
2320B Alkalinity	Analytical Pace Ana	Method: SM 2 lytical Services	2320B-2011 s - Asheville						
Alkalinity, Total as CaCO3	116	mg/L	5.0	5.0	1		11/10/20 15:03		
300.0 IC Anions 28 Days	Analytical Pace Ana	Method: EPA lytical Services	300.0 Rev 2 s - Asheville	.1 1993					
Chloride Fluoride Sulfate	6.3 0.21 357	mg/L mg/L mg/L	1.0 0.10 8.0	0.60 0.050 4.0	1 1 8		10/30/20 13:22 10/30/20 13:22 10/31/20 00:42	16887-00-6 16984-48-8 14808-79-8	



Project: PLANT BRANCH

Pace Project No.: 92502483

Sample: PZ-511	Lab ID:	92502483003	B Collecte	d: 10/27/20) 14:10	Received: 10/	28/20 09:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Pace Ana	Method: lytical Services							
Performed by	CUSTOME				1		10/28/20 15:41		
рН	5.49	Std. Units			1		10/28/20 15:41		
6010D ATL ICP	Analytical Pace Ana	Method: EPA	6010D Prep s - Peachtree	paration Met e Corners, C	hod: E	PA 3010A			
Potassium Sodium Calcium Magnesium	10.9 42.6 183 111	mg/L mg/L mg/L mg/L	0.20 1.0 1.0 0.050	0.056 0.26 0.070 0.0076	1 1 1 1	11/04/20 09:30 11/04/20 09:30 11/04/20 09:30 11/04/20 09:30	11/04/20 21:38 11/04/20 21:38 11/04/20 21:38 11/04/20 21:38	7440-09-7 7440-23-5 7440-70-2 7439-95-4	
6020 MET ICPMS	Analytical Pace Ana	Method: EPA lytical Services	6020B Prep s - Peachtree	e Corners, C	hod: E ∋A	PA 3005A			
Boron Cadmium Cobalt	0.37 0.0051 0.020	mg/L mg/L mg/L	0.10 0.0025 0.0050	0.0052 0.00012 0.00038	1 1 1	10/28/20 13:12 10/28/20 13:12 10/28/20 13:12	10/28/20 19:06 10/28/20 19:06 10/28/20 19:06	7440-42-8 7440-43-9 7440-48-4	
2540C Total Dissolved Solids	Analytical Pace Ana	Method: SM 2 lytical Services	2450C-2011 s - Peachtre	e Corners, C	θA				
Total Dissolved Solids	1200	mg/L	50.0	50.0	1		10/28/20 18:53		
2320B Alkalinity	Analytical Pace Ana	Method: SM 2 lytical Services	2320B-2011 s - Asheville						
Alkalinity, Total as CaCO3	22.9	mg/L	5.0	5.0	1		11/10/20 15:28		
300.0 IC Anions 28 Days	Analytical Pace Ana	Method: EPA lytical Services	300.0 Rev 2 s - Asheville	.1 1993					
Chloride Fluoride Sulfate	11.0 ND 893	mg/L mg/L ma/L	1.0 0.10 20.0	0.60 0.050 10.0	1 1 20		10/30/20 13:37 10/30/20 13:37 10/31/20 00:57	16887-00-6 16984-48-8 14808-79-8	



Project: PLANT BRANCH

Pace Project No.: 92502483

Sample: FB	Lab ID:	92502483004	Collecte	d: 10/27/20	0 10:00	Received: 10/	28/20 09:00 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical	Method: EPA 6	010D Prep	paration Me	thod: El	PA 3010A			
	Pace Anal	ytical Services	- Peachtree	e Corners, 0	GA				
Potassium	ND	mg/L	0.20	0.056	1	11/04/20 09:30	11/04/20 21:54	7440-09-7	
Sodium	ND	mg/L	1.0	0.26	1	11/04/20 09:30	11/04/20 21:54	7440-23-5	
Calcium	ND	mg/L	1.0	0.070	1	11/04/20 09:30	11/04/20 21:54	7440-70-2	
Magnesium	ND	mg/L	0.050	0.0076	1	11/04/20 09:30	11/04/20 21:54	7439-95-4	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prep	paration Met	thod: El	PA 3005A			
	Pace Anal	ytical Services	- Peachtree	e Corners, 0	GA				
Boron	0.0054J	mg/L	0.10	0.0052	1	10/28/20 13:12	10/28/20 19:29	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/28/20 13:12	10/28/20 19:29	7440-43-9	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/28/20 13:12	10/28/20 19:29	7440-48-4	
2540C Total Dissolved Solids	Analytical	Method: SM 24	50C-2011						
	Pace Anal	ytical Services	- Peachtree	e Corners, 0	GA				
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/28/20 18:54		
2320B Alkalinity	Analytical	Method: SM 23	320B-2011						
	Pace Anal	ytical Services	- Asheville						
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		11/10/20 15:37		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	.1 1993					
	Pace Anal	ytical Services	- Asheville						
Chloride	ND	mg/L	1.0	0.60	1		10/30/20 13:51	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/30/20 13:51	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/30/20 13:51	14808-79-8	



Project: PLANT BRANCH

Pace Project No.: 92502483

Sample: EB	Lab ID:	92502483005	Collecte	d: 10/27/20	0 11:20	Received: 10/	/28/20 09:00 M	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical	Method: EPA 6	010D Prep	paration Me	thod: E	PA 3010A			
	Pace Anal	ytical Services	- Peachtre	e Corners, (GΑ				
Potassium	0.067J	mg/L	0.20	0.056	1	11/04/20 09:30	11/04/20 21:59	7440-09-7	В
Sodium	ND	mg/L	1.0	0.26	1	11/04/20 09:30	11/04/20 21:59	7440-23-5	
Calcium	ND	mg/L	1.0	0.070	1	11/04/20 09:30	11/04/20 21:59	7440-70-2	
Magnesium	ND	mg/L	0.050	0.0076	1	11/04/20 09:30	11/04/20 21:59	7439-95-4	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prep	paration Met	thod: El	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, 0	GΑ				
Boron	ND	mg/L	0.10	0.0052	1	10/28/20 13:12	10/28/20 19:35	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/28/20 13:12	10/28/20 19:35	7440-43-9	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/28/20 13:12	10/28/20 19:35	7440-48-4	
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011						
	Pace Anal	ytical Services	- Peachtre	e Corners, 0	GA				
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/28/20 18:54		
2320B Alkalinity	Analytical	Method: SM 23	320B-2011						
	Pace Anal	ytical Services	- Asheville						
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		11/10/20 15:41		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	.1 1993					
	Pace Anal	ytical Services	- Asheville						
Chloride	ND	mg/L	1.0	0.60	1		10/30/20 15:04	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/30/20 15:04	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/30/20 15:04	14808-79-8	



Project: PLANT BRANCH

Pace Project No.: 92502483

Sample: FD	Lab ID:	92502483006	Collecte	ed: 10/27/2	00:00	Received: 10/	28/20 09:00 M	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical	Method: EPA 6	010D Prep	paration Me	thod: E	PA 3010A			
	Pace Anal	ytical Services	- Peachtre	e Corners, (GA				
Potassium	10.8	mg/L	0.20	0.056	1	11/04/20 09:30	11/04/20 22:04	7440-09-7	
Sodium	42.4	mg/L	1.0	0.26	1	11/04/20 09:30	11/04/20 22:04	7440-23-5	
Calcium	183	mg/L	1.0	0.070	1	11/04/20 09:30	11/04/20 22:04	7440-70-2	
Magnesium	111	mg/L	0.050	0.0076	1	11/04/20 09:30	11/04/20 22:04	7439-95-4	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prep	paration Met	thod: E	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, (GΑ				
Boron	0.32	mg/L	0.10	0.0052	1	10/28/20 13:12	10/28/20 19:41	7440-42-8	
Cadmium	0.0043	mg/L	0.0025	0.00012	1	10/28/20 13:12	10/28/20 19:41	7440-43-9	
Cobalt	0.018	mg/L	0.0050	0.00038	1	10/28/20 13:12	10/28/20 19:41	7440-48-4	
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011						
	Pace Anal	ytical Services	- Peachtre	e Corners, (GΑ				
Total Dissolved Solids	1390	mg/L	50.0	50.0	1		10/28/20 18:55		
2320B Alkalinity	Analytical	Method: SM 23	320B-2011						
	Pace Anal	ytical Services	- Asheville						
Alkalinity, Total as CaCO3	23.0	mg/L	5.0	5.0	1		11/10/20 15:45		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville						
Chloride	11.0	mg/L	1.0	0.60	1		10/30/20 15:47	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/30/20 15:47	16984-48-8	
Sulfate	892	mg/L	20.0	10.0	20		10/31/20 01:11	14808-79-8	



Project:	PLANT	BRANCH											
Pace Project No .:	925024	83											
QC Batch:	57782	28		Anal	ysis Metho	d: E	EPA 6010D						
QC Batch Method:	EPA 3	010A		Anal	ysis Descri	iption: 6	6010D ATL						
				Labo	oratory:	F	Pace Analy	tical Servic	es - Peacht	ree Corne	rs, GA		
Associated Lab San	nples:	925024830	001, 9250248300	02, 9250248	33003, 925	02483004, 9	925024830	05, 925024	483006				
METHOD BLANK:	305710	4			Matrix: W	/ater							
Associated Lab San	nples:	925024830	01, 9250248300	2, 9250248	33003, 925	02483004, 9	925024830	05, 925024	483006				
				Bla	nk	Reporting							
Paran	neter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	alifiers		
Calcium			mg/L		ND	1.(0	0.070 1	1/04/20 20:2	25			
Magnesium			mg/L		ND	0.050	0 (0.0076 1 ⁻	1/04/20 20:2	25			
Potassium			mg/L		0.060J	0.20	0	0.056 1	1/04/20 20:2	25			
Sodium			mg/L		ND	1.0	0	0.26 1	1/04/20 20:2	25			
	NTROLS	SAMPLE:	3057105										
				Spike	LC	CS	LCS	% R	ec				
Paran	neter		Units	Conc.	Re	sult	% Rec	Lim	its C	Qualifiers			
Calcium			mg/L		1	1.0	10	3	80-120		_		
Magnesium			mg/L		1	1.0	10	3	80-120				
Potassium			mg/L		1	1.1	10	9	80-120				
Sodium			mg/L		1	1.1	11	1 8	80-120				
MATRIX SPIKE & M			UCATE: 3057	106		3057107							
				MS	MSD	0007107							
			92502714002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	r	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Calcium		mg/L	ND	1	1	1.5	1.5	101	103	75-125	1	20	
Magnesium		mg/L	0.54	1	1	1.6	1.6	103	107	75-125	2	20	
Potassium		mg/L	1.2	1	1	2.2	2.3	104	116	75-125	5	20	
Sodium		mg/L	2.0	1	1	3.0	3.0	102	103	75-125	0	20	
MATRIX SPIKE & M			LICATE: 3057	108		3057109							
				MS	MSD								
			92502714004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	r	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Calcium		mg/L	1.5	1	1	180	178	17900	17700	75-125	1	20	M1
Magnesium		mg/L	0.76	1	1	110	109	10900	10800	75-125	1	20	M1
Potassium		mg/L	2.6	1	1	11.8	11.7	915	913	75-125	0	20	M1
Sodium		mg/L	3.3	1	1	42.8	42.3	3940	3900	75-125	1	20	M1

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REPORT OF LABORATORY ANALYSIS

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Project:	PLANT	BRANCH											
Pace Project No.:	925024	83											
QC Batch:	57637	72		Anal	ysis Meth	od:	EPA 6020B						
QC Batch Method:	EPA 3	3005A		Anal	ysis Desc	ription:	6020 MET						
				Labo	oratory:		Pace Analy	tical Serv	ices - Peach	tree Corne	rs, GA		
Associated Lab Sa	mples:	925024830	01, 9250248300	2, 9250248	33003, 92	502483004,	925024830	05, 9250	2483006				
METHOD BLANK:	305023	32			Matrix: \	Water							
Associated Lab Sa	mples:	925024830	01, 9250248300	2, 9250248	33003, 92	502483004,	925024830	05, 9250	2483006				
				Bla	nk	Reporting							
Para	meter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	ualifiers		
Boron			mg/L		ND	0.1	0	0.0052	10/28/20 17:	52			
Cadmium			mg/L		ND	0.002	50	.00012	10/28/20 17:	52			
Cobalt			mg/L		ND	0.005	0 0	.00038	10/28/20 17:	52			
LABORATORY CO	NTROLS	SAMPLE:	3050233										
				Spike	L	CS	LCS	%	Rec				
Para	meter		Units	Conc.	Re	esult	% Rec	Lir	mits (Qualifiers			
Boron			mg/L		1	0.98	ç		80-120		_		
Cadmium			mg/L	0	.1	0.10	10	0	80-120				
Cobalt			mg/L	0	.1	0.098	ç	8	80-120				
MATRIX SPIKE & M	MATRIX		ICATE: 3050	234		3050235							
			210/112. 0000	MS	MSD	0000200	,						
			92502483003	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	er	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Boron		mg/L	0.37	1	1	1.2	1.2	7	9 83	75-125	3	20	
Cadmium		mg/L	0.0051	0.1	0.1	0.10	0.10	9	9 100	75-125	1	20	
Cobalt		mg/L	0.020	0.1	0.1	0.12	0.12	9	8 95	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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Project:	PLANT BRANCH							
Pace Project No.:	92502483							
QC Batch:	576299		Analysis Me	ethod:	SM 2450C-201	1		
QC Batch Method:	SM 2450C-2011		Analysis De	scription:	2540C Total Dis	solved Solids		
			Laboratory:		Pace Analytical	Services - Pea	achtree Corners,	, GA
Associated Lab Sar	mples: 92502483	001, 9250248300	2, 92502483003,	92502483004,	92502483005,	92502483006		
METHOD BLANK:	3049857		Matrix	: Water				
Associated Lab Sar	mples: 92502483	001, 9250248300	2, 92502483003,	92502483004,	92502483005,	92502483006		
			Blank	Reporting				
Para	neter	Units	Result	Limit	MDL	Analyz	zed Qual	ifiers
Total Dissolved Sol	ids	mg/L	ND	10	0 10	0.0 10/28/20	11:28	
LABORATORY CO	NTROL SAMPLE:	3049858						
			Spike	LCS	LCS	% Rec		
Para	neter	Units	Conc.	Result	% Rec	Limits	Qualifiers	
Total Dissolved Sol	ids	mg/L	400	406	102	84-108		
SAMPLE DUPLICA	TE: 3049859							
			92502386001	Dup		Max		
Para	neter	Units	Result	Result	RPD	RPD	Qualifier	ſS
Total Dissolved Sol	ids	mg/L	285	30	0	5	10	
SAMPLE DUPLICA	TE: 3053735							
			92502714018	Dup		Max		
Para	neter	Units	Result	Result	RPD	RPD	Qualifier	rs
Total Dissolved Sol	ids	mg/L	232	26	2	12	10 D6	

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Project:	PLANT	BRANCH											
Pace Project No.: 9	925024	483											
QC Batch:	5789	02		Anal	ysis Metho	d:	SM 2320B-	2011					
QC Batch Method:	SM 2	320B-2011		Anal	ysis Descri	ption:	2320B Alka	linity					
				Labo	oratory:		Pace Analy	tical Servi	ces - Ashevi	lle			
Associated Lab Samp	ples:	925024830	001, 9250248300	02, 9250248	33003, 925	02483004	, 925024830	05, 92502	483006				
METHOD BLANK: 3	306305	52			Matrix: W	ater							
Associated Lab Samp	ples:	925024830	001, 9250248300)2, 9250248	33003, 925	02483004	, 925024830	05, 92502	483006				
			-	Bla	nk	Reporting							
Parame	eter		Units	Res	ult	Limit	MD	L	Analyzed	Qu	ualifiers		
Alkalinity, Total as Ca	ICO3		mg/L		ND	5	5.0	5.0 1	1/10/20 13:	25			
LABORATORY CON	TROL	SAMPLE:	3063053										
				Spike	LC	S	LCS	% F	Rec				
Parame	eter		Units	Conc.	Res	sult	% Rec	Lin	nits (Qualifiers			
Alkalinity, Total as Ca	ICO3		mg/L		50	53.6	10	7	80-120		_		
				054		306305	5						
WATKIN SFIRE & WP		SFIRE DUF	LICATE. 5005	MS	MSD	300303	5						
			92503383001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter		Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Alkalinity, Total as Ca	CO3	mg/L	ND	50	50	56.8	56.6	105	104	80-120	0	25	
MATRIX SPIKE & MA	ATRIX	SPIKE DUP	LICATE: 3063	056		306305	7						
			00500400000	MS	MSD	MC	MCD	MC	MOD	0/ D = -		Max	
Parameter		Linite	92002483002 Result	оріке Сорс	оріке Сорс	IVIS Result	NISD Result	MO % Rec	MSD % Rec	% KeC	חספ	PDD	Qual
						itesuit		/0 KeC					Qual
Alkalinity, Total as Ca	CO3	mg/L	116	50	50	164	162	95	92	80-120	1	25	

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Project:	PLAN	IT BRANCH											
Pace Project No	.: 92502	2483											
QC Batch:	576	824		Anal	ysis Metho	d: I	EPA 300.0 I	Rev 2.1 19	93				
QC Batch Metho	d: EPA	300.0 Rev 2.	1 1993	Anal	ysis Descri	ption:	300.0 IC An	ions					
				Labo	oratory:	I	Pace Analy	tical Servic	es - Ashevil	le			
Associated Lab	Samples:	925024830	001, 9250248300	02, 9250248	33003, 925	02483004,	925024830	05, 925024	483006				
METHOD BLAN	K: 30527	721			Matrix: W	ater							
Associated Lab	Samples:	925024830	01, 9250248300	02, 9250248	33003, 925	02483004,	925024830	05, 925024	483006				
				Bla	nk	Reporting							
Pa	rameter		Units	Res	ult	Limit	MD	L	Analyzed	Qu	alifiers		
Chloride			mg/L		ND	1.	0	0.60 1	0/30/20 12:3	39			
Fluoride			mg/L		ND	0.1	0	0.050 1	0/30/20 12:3	39			
Sulfate			mg/L		ND	1.	0	0.50 1	0/30/20 12::	39			
LABORATORY	CONTROL	SAMPLE:	3052722										
				Spike	LC	S	LCS	% R	ес				
Pa	rameter		Units	Conc.	Res	sult	% Rec	Lim	its C	Qualifiers			
Chloride			mg/L		50	50.6	10	1	90-110				
Fluoride			mg/L	2	.5	2.5	9	8	90-110				
Sulfate			mg/L	Ę	50	49.3	9	9	90-110				
MATRIX SPIKE	& MATRIX		ICATE: 3052	723		3052724							
				MS	MSD								
			92502483004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Param	eter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride		mg/L	ND	50	50	50.0	50.1	100	100	90-110	0	10	
Fluoride		mg/L	ND	2.5	2.5	2.5	2.5	99	100	90-110	1	10	
Sulfate		mg/L	ND	50	50	48.2	48.3	96	96	90-110	0	10	
MATRIX SPIKE	& MATRIX		LICATE: 3052	2725		3052726	;						
_				MS	MSD								
			92502483005	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Param	eter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride		mg/L	ND	50	50	50.1	50.3	100	101	90-110	0	10	
Fluoride		mg/L	ND	2.5	2.5	2.3	2.4	93	97	90-110	4	10	
Sulfate		mg/L	ND	50	50	48.2	48.4	96	97	90-110	1	10	

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QUALIFIERS

Project: PLANT BRANCH

Pace Project No.: 92502483

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

- D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT BRANCH Pace Project No.: 92502483

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92502483001	PZ-50D				
92502483002	PZ-51D				
92502483003	PZ-511				
92502483001	PZ-50D	EPA 3010A	577828	EPA 6010D	577926
92502483002	PZ-51D	EPA 3010A	577828	EPA 6010D	577926
92502483003	PZ-511	EPA 3010A	577828	EPA 6010D	577926
92502483004	FB	EPA 3010A	577828	EPA 6010D	577926
92502483005	EB	EPA 3010A	577828	EPA 6010D	577926
92502483006	FD	EPA 3010A	577828	EPA 6010D	577926
92502483001	PZ-50D	EPA 3005A	576372	EPA 6020B	576467
92502483002	PZ-51D	EPA 3005A	576372	EPA 6020B	576467
92502483003	PZ-511	EPA 3005A	576372	EPA 6020B	576467
92502483004	FB	EPA 3005A	576372	EPA 6020B	576467
92502483005	EB	EPA 3005A	576372	EPA 6020B	576467
92502483006	FD	EPA 3005A	576372	EPA 6020B	576467
92502483001	PZ-50D	SM 2450C-2011	576299		
92502483002	PZ-51D	SM 2450C-2011	576299		
92502483003	PZ-511	SM 2450C-2011	576299		
92502483004	FB	SM 2450C-2011	576299		
92502483005	EB	SM 2450C-2011	576299		
92502483006	FD	SM 2450C-2011	576299		
92502483001	PZ-50D	SM 2320B-2011	578902		
92502483002	PZ-51D	SM 2320B-2011	578902		
92502483003	PZ-511	SM 2320B-2011	578902		
92502483004	FB	SM 2320B-2011	578902		
92502483005	EB	SM 2320B-2011	578902		
92502483006	FD	SM 2320B-2011	578902		
92502483001	PZ-50D	EPA 300.0 Rev 2.1 1993	576824		
92502483002	PZ-51D	EPA 300.0 Rev 2.1 1993	576824		
92502483003	PZ-511	EPA 300.0 Rev 2.1 1993	576824		
92502483004	FB	EPA 300.0 Rev 2.1 1993	576824		
92502483005	EB	EPA 300.0 Rev 2.1 1993	576824		
92502483006	FD	EPA 300.0 Rev 2.1 1993	576824		

Sat	nnle Co	ondi	ition	Upon Receil		1
Para Anahrtical		n	<u>.</u>	WC	H 92502483	
Client Name	:_प	H	_ <u>_</u> Y0			
Courier: 🔲 Fed Ex 🗌 UPS 🗌 USPS 🖉 Clie Tracking #:	nt 🗆 Co	omme	rcial	Pace Other	2483 Proj. Due Date: Prof. Name	
Custody Seal on Cooler/Box Present: 🗌 yes	0 no)	Seals	intact: 🗌 yes 🔲	no	
Packing Material: Bubble Wrap Bubble	Bags (one 4	Fother ZIPIC	20	
THE 214	Type of	f Ice:	Det	Blue None	Samples on ice, cooling process has be	egyn
Cooler Temperature <u>3.1</u> Femp should be above freezing to 6°C	Biologi	ical T	issue	Is Frozen: Yes No Comments:	Date and Initials of person examinant contents: 10 28	
Chain of Custody Present:	Gives (□No		1.		
Chain of Custody Filled Out:	Otros 1	□No		2.		
Chain of Custody Relinquished:	dres 1			3.		
Sampler Name & Signature on COC:	Gyes 1			4		
Samples Arrived within Hold Time:	Gros 1			5		
Short Hold Time Analysis (<72hr):	□Yes d	GHO		6		
Rush Turn Around Time Requested:	QYes	QNO		7.		
Sufficient Volume:	Gres			8.		
Correct Containers Used:	(Txes	□ No		9.		
-Pace Containers Used:	E ttes	□ N₀	□n/A			
Containers Intact:	4 Yes			10.	·	
Filtered volume received for Dissolved tests	□Yes	No	E AHA	11.		
Sample Labels match COC:	Oves	□No	□n/A	12.		
-Includes date/time/ID/Analysis Matrix:	W					
All containers needing preservation have been checked.	Gres	□ No		13.		
All containers needing preservation are found to be in compliance with EPA recommendation.	Gres	۵No		tailiel when	It at that added	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	Yes			completed	preservative	
Samples checked for dechlorination:	□Yes	No	(ANTA	14.		
Headspace in VOA Vials (>6mm):			(Latra	15.		
Trip Blank Present:	QYes		GN/A	16.		
Trip Blank Custody Seals Present	□Yes		GNIA			
Pace Trip Blank Lot # (if purchased):						
Client Notification/ Resolution:					Field Data Required? Y /	N
Person Contacted:			Date	/Time:		
Comments/ Resolution:						
Project Manager Review:					Date:	
					When we the the Marth Coroline DEUN	-

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHN Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

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Pace Analytical	Document Name: Bottle Identification For Document No. F-CAR-CS-043-Rev.	n (BIF) Docum	hent Issued: March 14, 2019 Page 1 of 1 Issuing Authority ce Carolinas Quality Office	
Checkmark top half of box if verified and within the accept samples.	pH and/or dechlorination is ance range for preservation	Project * WO# PM: KLH	: 92502483 1 Due Date: 11 GA-GA Power	/11/20
Partix artix Partix Partix Partix Pa	Intervention BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml plastic HH03 [pl + 2] BP3N-250 ml pl mpc (pl + 2] Date press BP3N-250 ml pl mpc (pl + 2] Date press BP3N-250 ml pl mpc (pl + 2] Date press BP3N-250 ml pl mpc (pl + 2] Date press BP3N-250 ml pl mpc (pl + 2] Date press BP3N-250 ml pl mpc (pl + 2] Date press BP3N-250 ml pl mpc (pl + 2] Date press BP3N-250 ml pl mpc (pl + 2] Date press BP3N-250 ml pl mpc (pl + 2] Date press BP3N-250 ml pl mpc (pl + 2] Date press <	AG32-1 Inc. 1 AG32-250 mL Amber H2SO4 (pH < 2) AG34(pG334)-250 mL Amber H2SO4 (pH < 2) AG34(pG334)-250 mL Amber NH4CI (N/A)(Cl·) DG9H-40 mL VOA HCI (N/A) CC ACT VOA UND (N/A) AG34(pG34)-250 mL Amber NH4CI (N/A)(Cl·) AG34(pG34)-250 mL Amber NH4CI (N/A)(Cl·) Amber NH4CI (N/A)(N/A)(Cl·) Amber NH4CI (N/A)(N/A)(Cl·) Amber NH4CI (N/A)(N/A)(N/A)(Cl·) Amber NH4CI (N/A)(N/A)(N/A)(N/A)(N/A)(N/A)(N/A)(N/A)	voak (e vlais per ki1)-5035 kit (N/A) NOAK (e vlais per ki1)-5035 kit (N/A) VOAK (e vlais per ki1)-5035 kit (N/A) V/GK (3 vlais per ki1)-5035 kit (N/A) Samples reservation djusted Amount of Previne Plastic (N/A – Jab) Sp21-250 mL Sterlie Plastic (N/A – Jab) Sp21-250 mL Sterlie Plastic (N/A – Jab)	DENNIS Centification viais (N/A)

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					ADDITIONAL COMMENTS							1-0	EB	FB	PZ-51I	PZ-51D	PZ-50D	SAMPLE ID One Character per box. (A-Z, 0-9 /) Sampie Ids must be unique			d Due Date:	karlin_minkara@golder.com	100, Suite 300, Atlanta, GA 30341	5170 Peachtree Road	Golder Associates (GA Power)	A Client Information:	Pace Aratylizai
			Herein /Conto	RELINOUISH													Convergion Marcial Ward Ward Ward Ward Freedoward Pro Seresson Occ Seresson Occ Sereson Occ Seresson Occ Seresson Occ Seresson Occ Sere	MATRIXC CODED		Project #:	Purchase Or		Copy To:	Required Pr Report To:	Section B		
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Page 22 of 22



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