REPORT

2019 First Annual Groundwater Monitoring and Corrective Action Report

Georgia Power Company - Plant Branch
Ash Pond E

Submitted to:

Georgia Power Company
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Submitted by:

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166625418

August 2019

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Figures & Tables

Appendices

Certification Statement

This *2019 First Annual Groundwater Monitoring & Corrective Action Report*, *Georgia Power Company Plant Branch Ash Pond E* (AP-E) has been prepared in compliance with the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10 by a qualified groundwater scientist with Golder Associates.

Golder Associates Inc.

Rachel P. Kirkman, PG
Georgia Registered Professional Geologist No. 1756

1.0 INTRODUCTION

In accordance with the Georgia Environmental Protection Division (GA EPD) Rules of Solid Waste Management 391-3-4-.10(6)(a)-(c), this *2019 First Annual Groundwater Monitoring and Corrective Action Report* has been prepared to document groundwater monitoring activities conducted at Georgia Power Company's (GPC's) Plant Branch Ash Pond E, referred to as AP-E. To specify groundwater monitoring requirements, GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (US EPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) § 257.90 through 257.91 and 257.93 through 257.94. This report documents the activities completed to establish the groundwater monitoring program and actions through June 2019 in accordance with § 257.90(e) and Georgia EPD rule 391-3-4-.10(6)(a).

Plant Branch ceased producing electricity prior to April 2015. Therefore, Ash Pond E is not subject to the Federal CCR Rule. A CCR Unit Solid Waste Handling Permit application for AP-E was submitted to GA EPD in November 2018 and is currently under review.

1.1 Site Description and Background

Plant Branch is located in Putnam County, GA, approximately 8 miles north of Milledgeville. 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.

Plant Branch formerly operated as a coal-fired power plant since the 1960's until its retirement in 2015. Plant Branch is no longer active and is currently being decommissioned. During its operation, five ash ponds were used for management of the CCR on the plant property. These CCR 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 1960's 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 fully lined landfill located on the plant property. This report documents the groundwater monitoring program at the unit AP-E.

1.2 Regional Geology 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. Information presented in this section is based on published literature, discussion with local geologic experts, and experience working in this geologic terrain.

The site is located within the Piedmont Physiographic Province of central Georgia, which is characterized by gently rolling hills and narrow valleys, with locally pronounced linear ridges. Overall, the property slopes gently east and south toward Beaverdam Creek and Lake Sinclair. 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 deeply weathered due to the humid climate and bedrock is typically overlain by a variably thick blanket of residual soils and saprolite. The overall depth of weathering in the Piedmont/Blue Ridge is generally about 20 to 60 feet; however, the depth of weathering along discontinuities and/or very feldspathic rock units may extend to depths greater than 100 feet. Because of such variations in rock types and structure, the depth of weathering can vary significantly over short horizontal distances.

The near surface conditions were determined based upon available boring and monitoring well installation logs. Based on our review of this information, 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.

1.3 Groundwater Monitoring Well Network

Pursuant to § 257.91 of the CCR rule and 391-3-4-.10(6), a groundwater monitoring system was installed within the uppermost aquifer at AP-E. Wells placed in upgradient, and downgradient locations based on groundwater flow direction as determined by the potentiometric surface elevation contour maps.

A network of 12 monitoring wells were installed between 2014 to 2018 for groundwater monitoring in proximity to AP-E. Table 1, Monitoring Well Network Summary includes the pertinent construction details for the AP-E monitoring well network at Plant Branch.

Based on the site hydrogeology, the monitoring system is designed to monitor groundwater flow in the overburden, the transition-zone, and the upper bedrock as a single inter-connected aquifer system. Wells suffixed with an “S” are installed in overburden (saprolitic soil), an “I” indicates transitionally weathered rock (transition zone), and “D” indicates upper bedrock. Groundwater in the overburden, partially weathered rock, fractured bedrock, and the materials comprise a single uppermost aquifer based on site hydrogeologic conditions.

2.0 GROUNDWATER MONITORING ACTIVITIES

As required by § 257.90(e) and 391-3-4-.10(6), the following section describes monitoring-related activities performed during the preceding year. Because this is the first annual groundwater monitoring and corrective action report, it also describes activities performed prior to June 2019 to establish the groundwater monitoring program. Groundwater sampling was performed in accordance with § 257.93 and EPD rule 391-3-4-.10(6)(a). Samples were collected from each well in the certified monitoring system for the CCR unit. The location of each of these monitoring wells is shown on Figure 2.

Pursuant to § 257.90(e)(3), Table 2, Groundwater Sampling Event Summary, presents a summary of groundwater sampling events completed for AP-E.

2.1 Monitoring Well Installation and Maintenance

In accordance with §257.91 and 391-3-4-.10(6), a groundwater monitoring system was installed that (1) consists of a sufficient number of wells, (2) installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer, and (3) meets the performance standards of §257.91(a). In summary, monitoring well-related activities included the following:

- Installation of a groundwater monitoring system for AP-E. The monitoring well network and pertinent construction details is presented on Table 1.
- Installation of dedicated sampling equipment in many of the AP-E monitoring wells.

- Visual inspection of well conditions prior to sampling, recording the site conditions, and performing exterior maintenance to perform sampling under safe and clean conditions.
- Well redevelopment when well yield is reduced or turbid.

2.1.1 Background Monitoring

In accordance with § 257.94(b) and Georgia EPD rule 391-3-4-.10(6)(a), a minimum of eight (8) independent samples were collected from the monitoring well network for AP-E and analyzed for the constituents listed in Appendix III and IV to 40 CFR 257. Data reports for the background sampling are included in Appendix A, Analytical Results & Field Data Forms. Tables A-1 through A-12, Analytical Data Summary presents a tabulation of the background data for each well.

2.1.2 Initial Detection Monitoring

Following completion of the eight (8) independent sampling events, groundwater samples were collected in March 2019 and analyzed for Appendix III constituents as part of the first semi-annual detection monitoring event. Pursuant to §257.90(e)(3) and 391-3-4-.10(6), data reports for the March 2019 sampling event are included in Appendix A.

3.0 SAMPLE METHODOLOGY AND ANALYSIS

Sampling events completed during 2018 - 2019 for AP-E represent both background data collection and detection monitoring events. The March 2019 sampling event represents the first detection monitoring event for AP-E at Plant Branch.

3.1 Groundwater Elevation Measurement

Prior to each sampling event, groundwater elevations were recorded from the monitoring well network. Groundwater elevations are summarized in Table 3, Summary of Groundwater Elevations. The March 2019 elevation data were used to develop potentiometric surface elevation contour map (Figure 3, AP-E Potentiometric Surface Elevation Contour Map – March 2019). The general direction of groundwater flow across AP-E is to the east-northeast and east-southeast towards Beaverdam Creek and other natural streams onsite. This groundwater flow pattern is consistent with previous observations.

3.2 Groundwater Gradient and Flow Velocity

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 hydraulic gradient was calculated between well pairs shown on Table 4, Groundwater Flow Velocity Calculations – 2018/2019. An effective porosity of 0.20 was used based on the default values for effective porosity recommended by USEPA for a silty sand-type soil (USEPA, 1996).

Horizontal flow velocity was calculated using the commonly used derivative of Darcy's Law:

Where:

V = Groundwater flow velocity

K = Average hydraulic conductivity of the aquifer $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{day}\right)$

n_e = Effective porosity

Using this equation, groundwater flow velocities are calculated for various areas of the site and are tabulated on Table 4. Table 4 presents the velocities calculated using groundwater elevation data from the March 2019 sampling event.

As presented on Table 4 groundwater flow velocity at the site ranges from approximately 0.07 to 0.28 feet per day (or approximately 25 to 100 feet per year) across AP-E. These calculated groundwater flow velocities across the site are consistent with historical calculations. The observed groundwater flow velocities calculated for this monitoring event are also 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-E at Plant Branch.

3.3 Groundwater Sampling

Groundwater samples were collected in accordance with §257.93(a) and 391-3-4-.10(6). Monitoring wells were purged and sampled using low-flow sampling procedures. Dedicated and/or non-dedicated low-flow pneumatic bladder pumps or peristaltic pumps were used to purge and sample the wells. During the purging of each well, field measurements of temperature, specific conductance, dissolved oxygen (DO), pH, and oxidation-reduction potential (ORP), were recorded using a SmarTroll® (In-Situ® field instrument) along with a separate turbidity meter to verify stabilization.

Groundwater samples were collected when the following general stabilization criteria were met:

- 0.1 standard units for pH
- 5% for specific conductance
- ±10% for DO where DO>0.5 mg/L; if DO<0.5 mg/L, no stabilization criteria apply
- Turbidity measurements less than 5 NTU

Any deviation from stabilization criteria, if applicable, is identified on field sampling forms. Following well stabilization, unfiltered samples were collected directly into appropriately preserved laboratory supplied sample containers, placed in iced coolers, and submitted to the laboratory following standard chain-of-custody protocol. Field information forms generated directly from the SmarTroll® as well as chain-of-custody records are included in Appendix A.

Where sample turbidity was greater than 5 NTU and all other stabilization criteria were met, samplers continued purging for up to 3 additional hours in order to reduce the turbidity to 5 NTU or less. When turbidity remained above 5 NTU but was less than 10 NTU, and all other parameters are stabilized, the well was sampled. Where turbidity remained above 10 NTU, an additional unfiltered sample was collected followed by a filtered sample that has passed through an in-line 0.45-micron filter attached to the discharge (sample collection) tube. The unfiltered sample data are used for compliance monitoring and in the statistical analysis database. Filtered sample data are used to assess the impacts of turbidity on groundwater quality. Additional details regarding filtered samples are recorded on the field information form and filtered samples are clearly identified as “filtered” on the laboratory reports.

3.4 Laboratory Analyses

Groundwater samples were collected for both Appendix III and Appendix IV parameters for background monitoring. Groundwater samples collected in March 2019 for detection monitoring event were analyzed for Appendix III monitoring parameters only. Analytical methods used for groundwater monitoring parameters can be found on the attached analytical data reports in Appendix A.

Laboratory analyses for background and detection monitoring events were performed by Pace Analytical (Pace) in Atlanta, Georgia and Greensburg, Pennsylvania. Pace is accredited by National Environmental Laboratory Accreditation Program (NELAP) and maintain a NELAP certification for all parameters analyzed for this project. NELAP certification for Pace from 2016 through 2019 are provided in Appendix A. Groundwater data and chain of custody records for the monitoring events are presented in Appendix A.

3.5 Quality Assurance and Quality Control

During each sampling event, quality assurance/quality control samples (QA/QC) are collected at a rate of one sample per every 10 samples. Equipment blanks (where non-dedicated sampling equipment is used), field blanks, and duplicate samples were also collected during each sampling event. QA/QC sample data was evaluated during data validation and is included in Appendix A.

Groundwater quality data in this report was independently validated in accordance with USEPA guidance (USEPA, 2011) and the analytical methods. Data validation generally consisted of reviewing sample integrity, holding times, laboratory method blanks, laboratory control samples, matrix spikes/matrix spike duplicate recoveries and relative percent differences, post digestions spikes, laboratory and field duplicate relative percent difference (RPDs), field and equipment blanks, and reporting limits. Where appropriate, validation qualifiers and flags are applied to the data using USEPA procedures as guidance (USEPA, 2017). Data validation summary reports prepared by Environmental Standards and Golder are included in Appendix A. Flagged data are identified in the statistical analysis reports described in the following section.

4.0 STATISTICAL ANALYSES

Statistical analysis of Appendix III groundwater monitoring data was performed pursuant to § 257.93 following the established statistical method for AP-E.

4.1 Statistical Method

The selected statistical method for AP-E 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, March 2009, USEPA 530/R-09-007 (Unified Guidance). 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 Unified Guidance (2009) document.

Groundwater quality data were evaluated through use of interwell prediction limits for Appendix III parameters. Using this method, upgradient well data was pooled to establish a background statistical limit. Data from the March 2019 detection monitoring event are compared to the statistical limit to determine whether any concentrations exceed background levels. The selected statistical method uses an optional 1-of-2 verification resample plan. When an initial statistically significant increase (SSI) or questionable result occurs, a second sample may be collected to verify the initial result or determine if the result was an outlier.

If resampling is performed and the initial finding is not verified by resampling, the resampled value replaced the initial finding. When the resample confirms the initial finding, both values remain in the database and an SSI is declared. The Sen's Slope/Mann Kendall trend test was used to statistically evaluate concentration levels over time and determine whether concentrations are increasing, decreasing, or stabilizing.

Table 4.1.1 Plant Branch AP-E Statistical Method Summary provides a summary of the statistical methodology used at AP-E for the first detection monitoring conducted in March 2019 and will be used for any routine detection monitoring in the future.

TABLE 4.1.1 PLANT BRANCH AP-E STATISTICAL METHOD SUMMARY

Monitoring Well Network	Upgradient Wells	BRGWA-2S, BRGWA-2I, BRGWA-5S, BRGWA-5I, BRGWA-6S
	Downgradient Wells	BRGWC-17S, BRGWC-33S, BRGWC- 34S, BRGWC-35S, BRGWC-36S, BRGWC-37S, and BRGWC-38S
CCR Monitoring Parameters	Appendix III (Detection Monitoring)	Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS
	Appendix IV (Assessment Monitoring)	Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium (226+228)
	Data Screening on Proposed Background	Evaluate outliers, trends, and seasonality when sufficient data are available
	Statistical Limits	Interwell statistical limits will be applied on a constituent basis, depending on the appropriateness of the method as determined by the Analysis of Variance.
	Prediction Limits	Parametric when data follow a normal or transformed normal distribution and when less than 50% non-detects, utilizing Kaplan Meier non-detect adjustment when applicable; nonparametric when data sets contain greater than 50% non-detects or when data are not normally or transformed-normally distributed.
	Confidence Intervals	Used in Assessment and Corrective Action monitoring.
	No Statistical Testing	Statistical testing is not required for parameters with 100% non-detects.
	Verification Resample Plan	1-of-2 with minimum of 8 samples per well for interwell testing.
	Optional	▪ Initial statistical exceedance warrants independent resampling within 90 days. ▪ If resample passes, well/parameter is not a confirmed statistically significant increase (SSI). ▪ If resample exceeds, well/parameter has a confirmed SSI. ▪ If no resample is collected, the original result is deem verified.

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

- Statistical analyses are not performed on analytes containing 100% non-detects (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.

4.2 Statistical Analysis Results

Analytical data from the first semi-annual detection monitoring event in March 2019 at AP-E have been statistically analyzed in accordance with the site's Statistical Analysis Plan. Verification resampling to confirm initial SSIs was not performed; therefore, initial SSIs are considered verified. The statistical results of the March 2019 monitoring event are included in Appendix B, Statistical Analyses.

Review of the Sanitas™ results presented in Table 4.2.1 AP-E Inter-Well Prediction Limit Statistically Significant Increase Summary and in Appendix B indicates that the following verified SSIs were noted following the March 2019 sampling event:

TABLE 4.2.1 AP-E Inter-Well Prediction Limit Statistically Significant Increase Summary

Appendix III Parameter	AP-E Monitoring Wells
Boron	BRGWC-33S, BRGWC-34S, BRGWC-35S, BRGWC-36S, BRGWC-38S
Calcium	BRGWC-17S, BRGWC-33S, BRGWC-34S, BRGWC-35S, BRGWC-36S, BRGWC-38S
Chloride	BRGWC-17S, BRGWC-33S, BRGWC-34S, BRGWC-35S, BRGWC-36S, BRGWC-38S
Fluoride	BRGWC-38S
pH	BRGWC-33S, BRGWC-34S, BRGWC-36S, BRGWC-38S
Sulfate	BRGWC-17S, BRGWC-33S, BRGWC-34S, BRGWC-35S, BRGWC-36S, BRGWC-38S
Total Dissolved Solids	BRGWC-17S, BRGWC-33S, BRGWC-34S, BRGWC-35S, BRGWC-36S, BRGWC-38S

Pursuant to § 257.94(e) and Georgia EPD rule 391-3-4-.10(6)(a), within 90 days from determining an SSI, GPC will either (1) prepare a demonstration that a source other than the AP-E was the cause, or (2) implement assessment monitoring per §257.95 and Georgia EPD rule 391-3-4-.10(6)(a).

4.3 Appendix IV Background Data

Background data collection for Appendix IV monitoring constituents was performed concurrent with Appendix III data collection. Pursuant to § 257.95 and Georgia EPD rule 391-3-4-.10(6)(a), Appendix IV groundwater quality data is statistically analyzed and compared to groundwater protection standards if assessment monitoring is

implemented. Plant Branch has completed detection monitoring per § 257.94 and Georgia EPD rule 391-3-4-.10(6)(a). As of June 2019, the site has not initiated assessment monitoring and therefore, statistical analysis of the Appendix IV data has not been performed

5.0 MONITORING PROGRAM STATUS

Plant Branch AP-E is currently in detection monitoring. Table 2 presents the status of each well within the certified monitoring network for AP-E. SSIs of Appendix III parameters have been identified. GPC will address the reported SSIs in accordance with the requirements, and options, of § 257.94(e)(1-3) and (f) and Georgia EPD rule 391-3-4-.10(6)(a).

6.0 CONCLUSIONS AND FUTURE ACTIONS

This *2019 First Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Plant Branch AP-E* has been prepared to fulfill the requirements of Georgia EPD Rules of Solid Waste Management 391-3-4-.10(6).

Statistical evaluations of the groundwater monitoring data for AP-E identified SSIs of Appendix III groundwater monitoring parameters. In accordance with § 257.94(e)(1-2) and Georgia EPD rule 391-3-4-.10(6)(a), GPC will prepare an alternate source demonstration or initiate an assessment monitoring program within 90 days. The next scheduled sampling event is scheduled for August/September 2019.

7.0 REFERENCES

Golder Associates, 2018. Geologic and Hydrogeologic Summary Report, Georgia Power – Plant Branch, Putnam County, Georgia, October 2018.

Golder Associates, 2018. CCR Pond E Site Acceptability and Hydrogeologic Assessment Report, Georgia Power – Plant Branch, Putnam County, Georgia, Geosyntec, November 2018.

USEPA, 1996. Soil Guidance Manual,

USEPA, 2001, Data Validation Standard Operating Procedures and Quality Assurance Manual, November.

USEPA. 2015. Federal Register. Volume 80. No. 74 Friday April 17, 2015. Part II. Environmental Protection Agency. 40 CFR Parts 257and 261. Hazardous and Solid Waste Management System; Disposal of Coal

Combustion Residuals from Electric Utilities; Final Rule. [EPA-HQ-RCRA–2009–0640; FRL–9919–44– OSWER]. RIN–2050–AE81.

USEPA. 2017. National Functional Guidelines for Inorganic Superfund Methods Data Review. Office of Superfund Remediation and Technology Innovation. OLEM 9355.0-135 [EPA-540-R-2017-001]. Washington. DC. January.

FIGURES & TABLES

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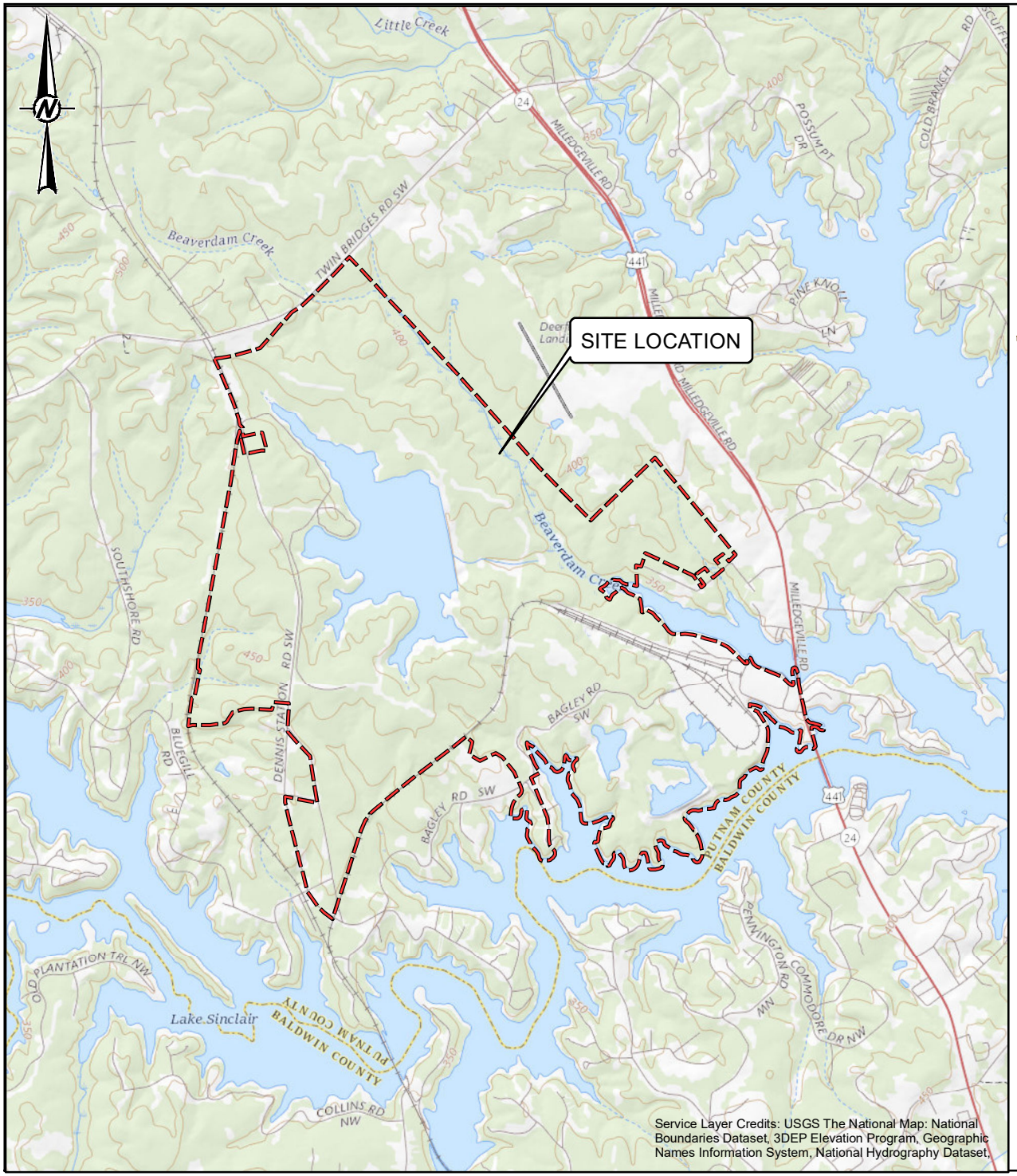

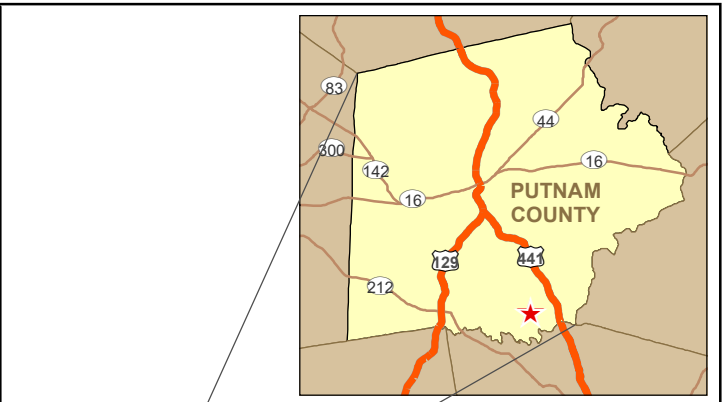

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CLIENT
GEORGIA POWER COMPANY
PLANT BRANCH

Georgia Power

PROJECT
GROUNDWATER MONITORING

TITLE
SITE LOCATION MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2019-03-15
PREPARED	DJC
DESIGN	DLP
REVIEW	DLP
APPROVED	RPK

PROJECT No.	CONTROL	Rev.	FIGURE
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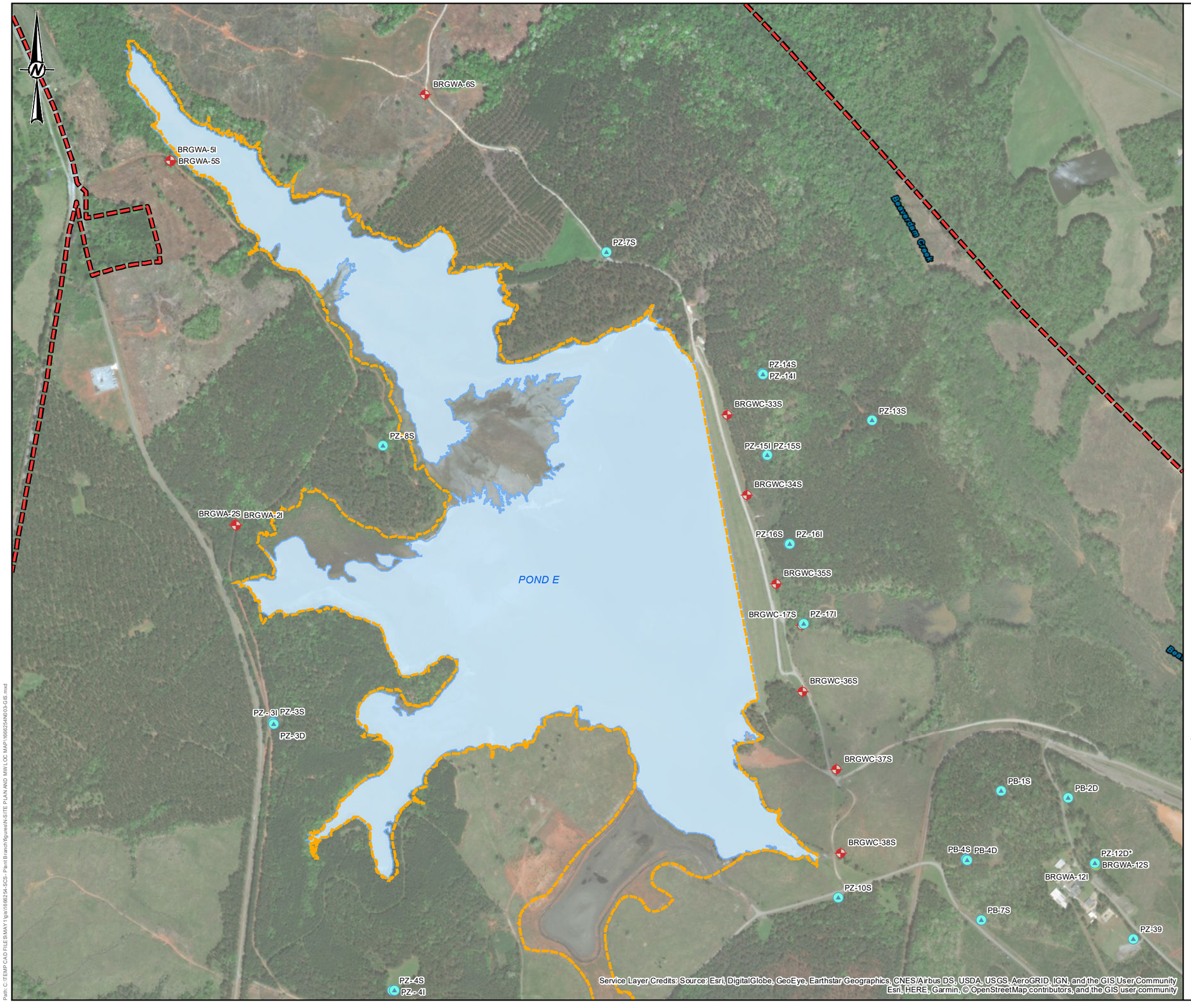

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE ASH POND BOUNDARY
- APPROXIMATE SURFACE WATER LIMITS
- POND E MONITORING WELL
- PIEZOMETER

REFERENCE

1. SERVICE LAYER CREDITS: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY ESRI, HERE, GARMIN, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

2. COORDINATE SYSTEM: NAD 1983 STATE PLAN GEORGIA WEST (U.S. FEET).

3. BORING/PIEZOMETER LOCATIONS AND PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES.

800 400 0 800
Feet

CLIENT
GEORGIA POWER COMPANY
PLANT BRANCH

Georgia Power

PROJECT
GROUNDWATER MONITORING PROGRAM

TITLE
SITE PLAN AND MONITORING WELL LOCATION MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2019-07-01
PREPARED	DJC
DESIGN	DLP
REVIEW	DLP
APPROVED	RPK

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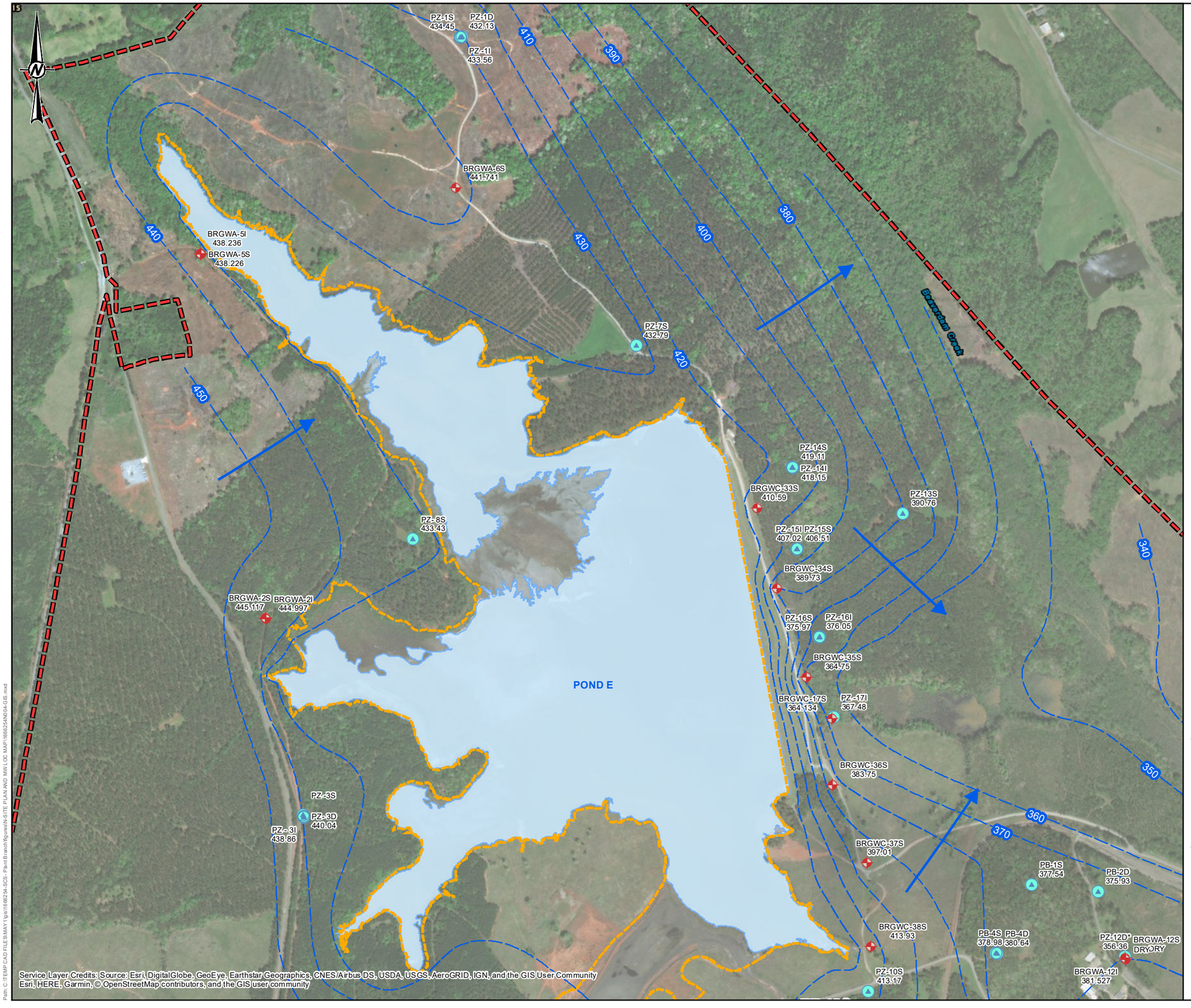

LEGEND

- ESTIMATED GROUNDWATER SURFACE CONTOUR (feet MSL)
- PROPERTY BOUNDARY
- APPROXIMATE ASH POND BOUNDARY
- APPROXIMATE SURFACE WATER LIMITS
- POND E MONITORING WELL (ELEVATION feet AMSL)
- PIEZOMETER (ELEVATION feet AMSL)
- GROUNDWATER FLOW DIRECTION

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.

REFERENCE

1. SERVICE LAYER CREDITS: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY ESRI, HERE, GARMIN, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
2. COORDINATE SYSTEM: NAD 1983 STATE PLAN GEORGIA WEST (U.S. FEET).
3. BORING/PIEZOMETER LOCATIONS AND PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES.

KEY MAP

800 400 0 800
Feet

CLIENT
GEORGIA POWER COMPANY
PLANT BRANCH

Georgia Power

PROJECT
GROUNDWATER MONITORING PROGRAM

TITLE
POND E POTENTIOMETRIC SURFACE ELEVATION CONTOUR MAP MARCH 18, 2019

CONSULTANT
GOLDER

YYYY-MM-DD	2019-07-01
PREPARED	DJC
DESIGN	DLP
REVIEW	DLP
APPROVED	RPK

PROJECT No.	CONTROL	Rev.	FIGURE
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TABLE 1
MONITORING WELL NETWORK SUMMARY (AP-E)
Georgia Power - Plant Branch
Milledgeville, GA

Well-ID	Location	Geologic Unit Screened [3]	Latitude	Longitude	Ground Surface Elevation (feet msl)[1]	Top of Casing Elevation (feet msl)[1]	Total Depth (feet bgs)[2]	Top of Screen Elevation (feet msl)[1]	Screen Tip Elevation (feet msl)[1]	Screen Length	Installed By	PG/PE Oversight	Bond Certification Number	Date of Installation
POND E														
BRGWA-2S	Upgradient E	Saprolite	33.205938	-83.338280	454.94	458.02	44.6	420.34	410.34	10.0	SCS	W.Shaughnessy	4993104	4/2/2014
BRGWA-2I	Upgradient E	Amphibolite Gneiss	33.205916	-83.338260	454.89	457.85	64.3	400.59	390.59	10.0	SCS	W.Shaughnessy	4993104	3/14/2014
BRGWA-5S	Upgradient E	Saprolite	33.214293	-83.339970	445.23	448.53	40.0	415.23	405.23	10.0	SCS	W.Shaughnessy	4993104	4/3/2014
BRGWA-5I	Upgradient E	Amphibolite Gneiss	33.214313	-83.339989	445.51	448.44	61.2	394.31	384.31	10.0	SCS	W.Shaughnessy	4993104	4/3/2014
BRGWA-6S	Upgradient E	Saprolite	33.215775	-83.333001	460.16	463.631	49.7	420.46	410.46	10.0	SCS	W.Shaughnessy	4993104	4/1/2014
BRGWC-17S	Downgradient E	Alluvium	33.203526	-83.322836	366.57	370.25	7.1	364.47	359.47	5.0	SCS	W.Shaughnessy	4993104	3/13/2014
BRGWC-33S	Downgradient E	Saprolite/TWR/Biotite Gneiss	33.208371	-83.324829	414.14	416.92	26.0	398.14	388.14	10.0	Cascade	R.Kirkman	K08315607	7/26/2016
BRGWC-34S	Downgradient E	Saprolite	33.206518	-83.324304	389.04	392.06	23.0	376.04	366.04	10.0	Cascade	R.Kirkman	K08315607	7/25/2016
BRGWC-35S	Downgradient E	Saprolite	33.204484	-83.323523	363.68	366.54	27.0	346.68	336.68	10.0	Cascade	R.Kirkman	K08315607	7/23/2016
BRGWC-36S	Downgradient E	Saprolite	33.201997	-83.322831	382.94	386.00	28.7	364.24	354.24	10.0	Cascade	R.Kirkman	K08315607	7/26/2016
BRGWC-37S	Downgradient E	Saprolite/TWR	33.200202	-83.321916	444.2	447.23	63.6	390.60	380.60	10.0	Cascade	R.Kirkman	K08315607	7/24/2016
BRGWC-38S	Downgradient E	Saprolite/TWR	33.198278	-83.321817	429.55	432.33	37.8	401.75	391.75	10.0	Cascade	R.Kirkman	K08315607	7/22/2016

Notes:
1. feet msl = feet mean sea level
2. feet bgs = feet below ground surface
3. TWR = Transitionally Weathered Rock

TABLE 2
GROUNDWATER SAMPLING EVENT SUMMARY
Georgia Power Company - Plant Branch Pond E
Milledgeville, GA

Well ID	Hydraulic Location	Summary of Sampling Events											Status of Monitoring Well
		August-September 2016	November 2016	February 2017	April 2017	May 2017	June 2017	September 2017	February 2018	June 2018	December 2018	March 2019	
Purpose of Sampling Event		Background	Background	Background	Background	Background	Background	Background	Background	Background	Background	Detection	
ASH POND E (AP-E)													
BRGWA-2S	Upgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWA-2I	Upgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWA-5S	Upgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWA-5I	Upgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWA-6S	Upgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWC-17S	Downgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWC-33S	Downgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWC-34S	Downgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWC-35S	Downgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWC-36S	Downgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWC-37S	Downgradient	--	--	BG01	BG02	BG03	BG04	BG05	BG06	BG07	BG08	D01	Detection
BRGWC-38S	Downgradient	BG01	BG02	BG03	--	--	BG04	BG05	BG06	BG07	BG08	D01	Detection

Notes:

BG## = Background Event Number

D## = Detection Event Number

GOLDER

TABLE 3
Summary of Groundwater Elevations
Georgia Power Company- Plant Branch
Milledgeville, Georgia

Well-ID	Top of Casing Elevation (feet msl)[1]	GROUNDWATER ELEVATIONS (FEET MSL)										
		8/30/2016	11/21/2016	2/17/2017	6/12/2017	9/25/2017	2/7/2018	2/13/2018	6/25/2018	9/18/2018	12/17/2018	3/18/2019
POND BCD												
BRGWA-12S	439.69	391.26	341.94	389.54	388.88	388.42	387.14	387.43	387.01	DRY	386.87	DRY
BRGWA-12I	439.43	390.64	341.60	389.57	388.80	388.47	425.03	387.40	386.99	386.50	386.14	381.53
BRGWA-23S	428.42	395.74	361.06	394.05	392.90	392.61	390.71	390.74	390.08	389.57	389.28	392.22
BRGWC-25I	357.46	348.30	338.59	349.86	349.53	349.01	349.60	349.75	348.57	347.66	349.45	350.46
BRGWC-27I	367.99	363.35	357.29	364.60	364.91	364.63	364.40	364.23	362.54	360.67	362.95	365.40
BRGWC-29I	353.30	343.46	333.29	344.15	344.30	343.72	343.73	344.06	343.48	343.05	343.94	344.48
BRGWC-30I	352.33	347.85	343.69	348.42	348.13	348.36	348.11	348.16	347.63	347.61	348.09	348.24
BRGWC-32S	406.51	372.01	335.50	370.37	371.86	372.10	371.12	371.05	370.65	369.37	368.58	371.71
BRGWC-45	384.61	NA	NA	NA	NA	NA	373.67	373.55	374.86	372.77	374.49	374.96
BRGWC-47	411.32	NA	NA	NA	NA	NA	385.72	385.59	385.68	384.27	384.52	388.07
BRGWC-50	381.53	NA	NA	NA	NA	NA	343.47	346.10	343.70	343.45	343.73	344.48
BRGWC-52I	383.83	NA	NA	NA	NA	NA	NA	NA	NA	344.6	344.9	345.84
POND E												
BRGWA-2S	458.02	439.6	419.5	442.40	443.20	442.31	443.65	443.75	442.82	440.63	443.97	445.12
BRGWA-2I	457.85	439.7	419.6	442.15	443.00	442.14	443.45	443.61	442.74	440.63	443.67	445.00
BRGWA-5S	448.53	436.0	422.5	436.76	436.18	435.44	435.91	435.87	436.30	435.22	436.42	438.23
BRGWA-5I	448.44	435.9	422.5	436.74	436.17	435.49	435.91	435.86	436.32	435.24	436.42	438.24
BRGWA-6S	463.63	438.5	411.0	439.65	437.92	437.74	435.11	437.60	438.12	436.36	438.74	441.74
BRGWC-17S	370.25	364.7	358.8	364.60	364.17	364.11	364.05	364.39	363.66	363.95	364.52	364.13
BRGWC-33S	416.92	408.7	400.9	410.10	409.30	408.84	409.32	409.39	409.35	408.87	410.39	410.59
BRGWC-34S	392.06	389.3	386.7	389.68	389.52	389.36	389.59	389.67	389.32	389.36	389.80	389.73
BRGWC-35S	366.54	364.4	362.2	364.44	364.40	364.34	364.44	364.51	364.39	364.37	364.79	364.75
BRGWC-36S	386.00	384.3	382.4	384.20	383.94	383.80	383.42	383.47	383.30	383.30	383.64	383.75
BRGWC-37S	447.23	400.6	352.9	398.18	399.72	396.98	395.84	395.82	395.88	395.79	395.33	397.01
BRGWC-38S	432.33	412.2	391.0	413.61	412.05	411.47	411.78	411.69	412.15	410.79	412.53	413.93

TABLE 3
Summary of Groundwater Elevations
Georgia Power Company- Plant Branch
Milledgeville, Georgia

Well-ID	Top of Casing Elevation (feet msl)[1]	GROUNDWATER ELEVATIONS (FEET MSL)										
		8/30/2016	11/21/2016	2/17/2017	6/12/2017	9/25/2017	2/7/2018	2/13/2018	6/25/2018	9/18/2018	12/17/2018	3/18/2019
PIEZOMETERS												
PZ-1S	470.22	431.8	392.5	430.72	431.72	431.53	431.25	431.12	432.68	NA	432.04	434.45
PZ-1I	469.85	431.4	391.9	430.16	431.11	430.22	430.47	430.53	431.88	NA	431.19	433.56
PZ-1D	468.56	429.1	389.1	428.71	429.58	429.30	429.13	429.05	430.39	NA	429.93	432.13
PZ-3S	494.63	DRY	DRY	DRY	451.05	451.09	DRY	DRY	DRY	NA	DRY	DRY
PZ-3I	493.60	469.4	418.1	441.46	440.69	440.11	439.38	439.54	439.21	NA	439.00	438.86
PZ-3D	491.59	442.1	393.5	441.91	441.55	441.18	440.60	440.76	440.36	NA	440.09	440.04
PZ-4S	487.08	DRY	DRY	DRY	451.90	433.88	DRY	DRY	DRY	NA	DRY	DRY
PZ-4I	487.22	451.6	414.6	449.32	449.23	449.01	449.90	449.61	450.89	NA	451.14	453.22
PZ-7S	456.87	429.6	400.0	428.15	428.69	427.97	428.24	428.03	429.93	NA	429.46	432.79
PZ-8S	457.37	428.4	397.4	429.74	430.30	429.89	431.33	431.15	431.38	NA	431.13	433.43
PZ-9S	474.02	438.9	402.8	437.06	436.32	435.67	434.42	434.50	451.84	NA	433.48	434.89
PZ-10S	438.95	412.3	384.5	412.83	411.85	411.41	411.31	411.24	411.72	NA	411.87	413.17
PZ-11S	398.97	381.1	361.6	381.14	379.68	378.74	377.73	377.46	376.47	NA	375.11	377.64
PZ-12D	439.17	361.2	282.0	362.18	359.97	351.36	349.45	348.93	360.34	NA	355.20	356.36
PZ-13S	415.13	387.0	356.7	387.14	387.37	386.42	387.03	386.92	388.25	NA	387.62	390.76
PZ-14S	435.51	415.5	395.8	418.16	417.20	416.53	417.17	417.24	417.41	NA	418.68	419.11
PZ-14I	434.91	416.3	397.8	416.78	417.26	416.76	417.37	417.55	417.12	NA	417.49	418.15
PZ-15S	415.77	405.6	395.7	406.37	406.08	405.88	406.21	406.36	405.82	NA	406.52	406.51
PZ-15I	415.90	406.1	396.6	406.86	406.56	406.36	406.70	406.82	406.34	NA	407.01	407.02
PZ-16S	386.97	373.9	360.6	375.04	374.59	374.20	374.84	374.99	374.43	NA	370.39	375.97
PZ-16I	386.89	374.0	360.7	375.12	374.66	374.25	374.90	375.09	374.49	NA	375.45	376.05
PZ-17I	370.07	366.4	362.8	367.34	366.98	366.57	366.95	367.27	366.44	NA	367.33	367.48
PZ-18S	367.27	346.6	325.1	347.09	346.99	346.53	346.86	346.85	346.43	NA	346.72	347.38
PZ-18I	366.75	346.2	324.9	346.71	346.92	346.19	346.47	346.51	346.07	NA	346.38	346.99
PZ-19S	376.31	360.3	342.6	361.89	362.04	361.15	362.41	362.33	361.13	NA	359.91	364.24
PZ-19I	376.73	360.1	341.8	361.69	362.02	362.24	362.20	362.09	360.95	NA	359.77	364.04
PZ-20S	370.71	355.1	339.1	357.44	356.69	356.17	356.68	356.79	355.46	NA	356.84	357.90
PZ-20I	370.64	355.3	339.6	357.63	356.89	356.35	356.86	356.97	355.63	NA	357.03	358.05
PZ-21S	363.60	353.4	342.7	355.09	354.71	354.22	354.81	354.99	353.73	NA	354.64	355.73

TABLE 3
Summary of Groundwater Elevations
Georgia Power Company- Plant Branch
Milledgeville, Georgia

Well-ID	Top of Casing Elevation (feet msl)[1]	GROUNDWATER ELEVATIONS (FEET MSL)										
		8/30/2016	11/21/2016	2/17/2017	6/12/2017	9/25/2017	2/7/2018	2/13/2018	6/25/2018	9/18/2018	12/17/2018	3/18/2019
PIEZOMETERS												
PZ-21I	363.97	353.3	342.1	354.93	354.57	354.05	354.67	354.84	353.56	NA	354.49	355.57
PZ-23I	427.90	395.2	361.0	393.75	392.87	392.40	390.70	388.76	390.02	NA	389.17	391.95
BRGWC-24S	354.00	339.5	324.6	339.81	340.08	339.76	339.93	340.10	339.79	339.36	NA	340.16
PZ-26I	370.93	348.6	325.4	349.21	349.02	348.82	349.09	348.98	348.83	NA	348.95	350.56
PZ-28I	364.88	350.0	334.7	352.36	351.62	351.06	351.58	351.73	350.36	NA	351.76	352.79
PZ-31S	376.94	352.8	326.9	352.38	352.42	352.12	352.16	352.13	351.77	NA	350.81	353.04
PZ-39	434.70	388.3	340.3	385.77	DRY	385.79	385.76	385.77	385.77	NA	385.75	385.74
PZ-40S	356.06	NA	NA	340.18	340.33	340.11	340.17	340.25	340.66	339.80	NA	340.56
PZ-41S	357.23	NA	NA	340.13	340.22	340.07	340.10	340.15	340.04	339.77	NA	340.50
PZ-42S	361.69	NA	NA	340.90	340.40	340.58	340.45	340.66	341.06	340.75	NA	341.53
PZ-43	383.75	NA	NA	NA	NA	NA	353.02	NA	353.78	NA	353.75	358.05
PZ-44	383.12	NA	NA	NA	NA	NA	358.14	NA	358.83	NA	358.90	360.97
PZ-46	384.70	NA	NA	NA	NA	NA	375.58	375.61	375.52	NA	376.09	376.15
PZ-48	421.05	NA	NA	NA	NA	NA	390.41	390.37	390.09	NA	390.14	392.79
PZ-49	385.06	NA	NA	NA	NA	NA	377.17	380.58	376.47	NA	376.85	376.26
PZ-51S	380.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	341.6	342.25
PZ-51I	380.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	342.5	343.19
Temporary Landfill Piezometers												
PB-1S	403.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	377.54
PB-2D	416.76	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	375.93
PB-4S	411.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	378.98
PB-4D	412.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	380.64
PB-7S	402.86	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	375.94
PB-8S	401.69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	377.43
PB-8D	401.77	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	376.99
PB-10S	400.94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	388.04
PB-10D	400.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	387.82
PB-13S	373.38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	363.69
PB-13D	373.83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	363.26

Note: feet msl = feet mean sea level

GOLDER

TABLE 4.
GROUNDWATER VELOCITY CALCULATIONS - 2018/2019
Georgia Power - Plant Branch Ash Pond AP-E
Milledgeville, GA

Flow Paths	Groundwater Elevation (feet msl)	Δ h (feet)[1]	Δ l (feet)[2]	Hydraulic Gradient (Δ h/Δ l)	Average Hydraulic Conductivity, K (feet per day)[5]	Assumed Effective Porosity (n_e)[6]	Average Linear Groundwater Velocity	
							(feet per day)[4]	(feet per year)[4]
Pond E February 13, 2018								
BRGWA-5S / BRGWC-33S	435.87 409.39	26.48	5108.0	0.0052	2.73 to 5.47	0.2	0.07 to 0.14	25.8 to 51.8
PZ-4I / BRGWC-38S	449.61 411.69	37.92	3904.0	0.010	2.73 to 5.47	0.2	0.13 to 0.27	48.4 to 97.0
Pond E December 17,2018								
BRGWA-5S / BRGWC-33S	436.42 410.39	26.03	5108.0	0.005	2.73 to 5.47	0.2	0.07 to 0.14	25.4 to 50.9
PZ-4I / BRGWC-38S	451.14 412.53	38.61	3904.0	0.010	2.73 to 5.47	0.2	0.13 to 0.27	49.3 to 98.7
Pond E March 18, 2019								
BRGWA-5S / BRGWC-33S	438.23 410.59	27.64	5108.0	0.005	2.73 to 5.47	0.2	0.07 to 0.15	27.0 to 54.0
PZ-4I / BRGWC-38S	453.22 413.93	39.29	3904.0	0.010	2.73 to 5.47	0.2	0.14 to 0.28	50.1 to 100.5

Notes:

1. Δ H = Change in groundwater elevation.
2. Δ L = Distance along flow path.
3. I = Δ H / Δ L.
4. Velocity = $(I * K)/n_e$.
5. Hydraulic conductivity range based on historic aquifer performance tests (revised 4/2019).
6. Effective porosity based on default values for effective porosity recommended by USEPA for a silty sand-type soil (USEPA, 1996)

GOLDER

APPENDIX A

ANALYTICAL DATA SUMMARY, ANALYTICAL RESULTS, FIELD DATA FORMS & DATA VALIDATION SUMMARIES

Table A-1
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWA-2S							
			8/31/2016	11/16/2016	2/21/2017	6/13/2017	9/26/2017	2/13/2018	6/26/2018	12/18/2018
APPENDIX III	Boron	N/R	ND	ND (0.0109 J)	ND	ND	ND	ND	ND	ND
	Calcium	N/R	4.09	4.25	4.02	3.84	3.31	3.94	3.6	3.8
	Chloride	(250)	2.0	1.8	1.8	1.7	1.8	1.7	2.2	1.9
	Fluoride	4	ND (0.05 J)	ND (0.04 J)	ND (0.05 J)	ND (0.04 J)	ND	ND	ND (0.048 J)	ND
	Sulfate	(250)	ND (0.38 J)	ND (0.36 J)	1.5	ND (0.67 J)	ND (0.62 J)	ND	ND (0.69 J)	ND (0.72 J)
	TDS	(500)	88	41	ND	53	45	63	71	78
APPENDIX IV	Antimony	0.006	ND	ND	ND	ND (0.0011 J)	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND	ND	ND	ND	ND (0.00082 J)
	Barium	2	ND (0.0099 J)	0.0102	ND (0.0094 J)	ND (0.0094 J)	ND (0.0096 J)	0.0102	ND (0.0093 J)	0.01
	Beryllium	0.004	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium	0.005	ND	ND	ND	ND	ND	ND	ND	ND
	Chromium	0.1	ND (0.0034 J)	ND (0.0029 J)	ND (0.0036 J)	ND (0.0038 J)	ND (0.0045 J)	ND	ND (0.0080 J)	0.012
	Cobalt	0.006*	ND (0.0034 J)	ND (0.0030J)	ND (0.0028 J)	ND (0.0025 J)	ND (0.0020 J)	ND	ND (0.0019 J)	ND (0.0032 J)
	Lead	0.015*	ND	ND	ND	ND	ND (0.00007 J)	ND	ND	ND
	Lithium	0.04*	ND	ND	ND	ND	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND	ND	ND (0.00019 J)	ND	ND
	Molybdenum	0.1*	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	0.620 U	0.430 U	0.960 U	0.645 U	0.299 U	1.01 U	1.26	0.44 U
	Selenium	0.05	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-2
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWA-2I							
			8/31/2016	11/16/2016	2/21/2017	6/12/2017	9/26/2017	2/13/2018	6/26/2018	12/18/2018
APPENDIX III	Boron	N/R	ND (0.0072 J)	ND (0.0117 J)	ND (0.0088 J)	ND (0.0133 J)	ND (0.0093 J)	ND (0.0141 J)	ND (0.012 J)	ND (0.0086 J)
	Calcium	N/R	12.6	12.1	11.4	9.34	14.3	ND	ND (16.0 J)	ND (14.5 J)
	Chloride	(250)	2.3	2.0	2.0	2.1	2.0	2.1	2.4	1.8
	Fluoride	4	ND (0.11 J)	ND (0.05 J)	ND (0.14 J)	ND (0.16 J)	ND (0.14 J)	ND	ND (0.085 J)	ND (0.085 J)
	Sulfate	(250)	7.5	6.6	6.1	5.0	5.4	4.7	6.2	5.9
	TDS	(500)	151	69	68	161	167	165	188	145
APPENDIX IV	Antimony	0.006	ND (0.0009 J)	ND	ND	ND	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND (0.0007 J)	ND (0.0010 J)	ND	ND (0.00062 J)	ND
	Barium	2	0.0239	0.0147	0.0109	ND (0.0094 J)	0.0156	0.0134	0.014	ND (0.0076 J)
	Beryllium	0.004	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium	0.005	ND	ND	ND	ND	ND	ND	ND	ND
	Chromium	0.1	ND (0.0010 J)	ND	ND	ND (0.0005 J)	ND (0.0005 J)	ND	ND	ND
	Cobalt	0.006*	ND (0.0016 J)	ND (0.0006 J)	ND	ND	ND	ND	ND	ND
	Lead	0.015*	ND	ND	ND	ND (0.00008 J)	ND (0.00007 J)	ND	ND	ND
	Lithium	0.04*	ND (0.0268 J)	ND (0.0201 J)	ND (0.0128 J)	ND (0.0245 J)	0.0549	0.0595	0.089	ND (0.024 J)
	Mercury	0.002	ND	ND	ND	ND (0.00004 J)	ND	0.00021	ND	ND
	Molybdenum	0.1*	ND (0.0021 J)	ND	ND (0.0021 J)	ND (0.0021 J)	ND (0.0011 J)	ND (0.0019 J)	ND	ND
	Radium	5	1.00 U	0.824 U	1.01 U	0.532 U	0.854 U	0.176 U	1.02 U	0.487 U
	Selenium	0.05	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-3
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWA-5S							
			8/31/2016	11/15/2016	2/20/2017	6/12/2017	9/26/2017	2/13/2018	6/26/2018	12/18/2018
APPENDIX III	Boron	N/R	ND	ND (0.0085 J)	ND (0.0093 J)	ND	ND	ND	ND (0.0056 J)	ND (0.0062 J)
	Calcium	N/R	19.6	21.7	21.1	21.5	24.0	ND	ND (23.5 J)	ND (19.8 J)
	Chloride	(250)	3.6	4.0	3.9	3.8	4.1	4.1	4.1	3.8
	Fluoride	4	ND (0.19 J)	ND (0.08 J)	ND (0.08 J)	ND (0.07 J)	ND (0.04 J)	ND	ND (0.072 J)	ND
	Sulfate	(250)	ND (0.81 J)	ND (0.87 J)	1.0	ND (0.94 J)	ND (0.92 J)	ND	ND (0.91 J)	ND (0.68 J)
	TDS	(500)	154	123	158	142	138	150	154	147
APPENDIX IV	Antimony	0.006	ND	ND	ND	ND	ND	ND	ND	ND (0.00087 J)
	Arsenic	0.01	ND	ND	ND	ND (0.0006 J)	ND (0.0007 J)	ND	ND	ND (0.0011 J)
	Barium	2	0.0495	0.0512	0.0586	0.0567	0.0586	0.054	0.063	ND (0.045 J)
	Beryllium	0.004	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium	0.005	ND	ND	ND	ND	ND	ND	ND	ND
	Chromium	0.1	ND (0.0028 J)	ND (0.0030 J)	ND (0.0047 J)	ND (0.0041 J)	ND (0.0037 J)	ND	ND (0.0043 J)	ND (0.0054 J)
	Cobalt*	0.006	ND	ND	ND (0.0009 J)	ND (0.0006 J)	ND (0.0005 J)	ND	ND (0.00052 J)	ND
	Lead*	0.015	ND	ND	ND (0.0002 J)	ND (0.0001 J)	ND (0.0001 J)	ND	ND	ND
	Lithium*	0.04	ND	ND	ND	ND	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND (0.00008 J)	ND	ND	ND (0.00013 J)	ND	ND
	Molybdenum*	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	0.428 U	0.645 U	1.36	0.566 U	0.762 U	0.349 U	0.614 U	0.445 U
	Selenium	0.05	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-4
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWA-5I							
			8/31/2016	11/16/2016	2/20/2017	6/12/2017	9/26/2017	2/13/2018	6/26/2018	12/18/2018
APPENDIX III	Boron	N/R	ND	ND (0.0187 J)	ND (0.0066 J)	ND	ND	ND	ND (0.0042 J)	ND
	Calcium	N/R	13.5	14.9	13.9	13.7	14.4	ND	ND (13.5 J)	ND (16.4 J)
	Chloride	(250)	4.4	4.4	4.8	4.2	4.4	4.7	4.5	4.5
	Fluoride	4	ND (0.07 J)	ND (0.03 J)	ND (0.06 J)	ND (0.008 J)	ND	ND	ND (0.045 J)	ND (<0.029 J)
	Sulfate	(250)	2.7	3.4	3.9	3.7	4.1	6.6	3.5	4.3
	TDS	(500)	138	77	170	132	108	141	133	138
APPENDIX IV	Antimony	0.006	ND	ND	ND	ND	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND (0.0007 J)	ND (0.0009 J)	ND	ND	ND (0.00097 J)
	Barium	2	0.0273	0.0365	0.0336	0.0322	0.0364	0.054	0.032	0.038
	Beryllium	0.004	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium	0.005	ND	ND	ND	ND	ND	ND	ND	ND
	Chromium	0.1	ND (0.0058 J)	ND (0.0051 J)	ND (0.0049 J)	ND (0.0052 J)	ND (0.0039 J)	ND	ND (0.0053 J)	ND (0.0032 J)
	Cobalt*	0.006	ND (0.0013 J)	ND (0.0012 J)	ND (0.0012 J)	ND (0.0011 J)	ND (0.0016 J)	ND	ND (0.00090 J)	ND (0.00062 J)
	Lead*	0.015	ND	ND	ND	ND	ND	ND	ND	ND
	Lithium*	0.04	ND	ND (0.0033 J)	ND	ND (0.0019 J)	ND (0.0022 J)	ND (0.0041 J)	ND (0.0025 J)	ND (0.0032 J)
	Mercury	0.002	ND	ND	ND	ND	ND	ND	ND	ND
	Molybdenum*	0.1	ND (0.0040 J)	ND (0.0038 J)	ND (0.0055 J)	ND (0.0050 J)	ND (0.0053 J)	ND (0.0080 J)	ND (0.0041 J)	ND (0.0048 J)
	Radium	5	0.566 U	0.493 U	0.534 U	0.254 U	0.620 U	0.0914 U	1.11 U	0.42 U
	Selenium	0.05	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-5
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWA-6S							
			9/1/2016	11/15/2016	2/20/2017	6/12/2017	9/26/017	2/13/2018	6/26/2018	12/18/2018
APPENDIX III	Boron	N/R	ND	ND (0.0123 J)	ND (0.0157 J)	ND	ND	ND	ND (0.0041 J)	ND
	Calcium	N/R	3.30	3.44	3.52	3.11	3.15	3.65	3.3	3.5
	Chloride	(250)	2.5	2.3	2.4	2.2	2.3	2.3	2.6	2.3
	Fluoride	4	ND (0.06 J)	ND (0.04 J)	ND (0.04 J)	ND (0.06 J)	ND	ND	ND (0.041 J)	ND
	Sulfate	(250)	ND (0.60 J)	ND (0.49 J)	ND (0.98 J)	ND (0.54 J)	ND (0.53 J)	ND	ND (0.54 J)	ND (0.39 J)
	TDS	(500)	299	41	133	61	29	61.0	71	70
APPENDIX IV	Antimony	0.006	ND	ND	ND	ND	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND	ND (0.0007 J)	ND	ND	ND (0.00092 J)
	Barium	2	0.0142	0.0126	0.0142	0.0134	0.0133	0.0145	0.014	0.013
	Beryllium	0.004	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium	0.005	ND	ND	ND	ND	ND	ND	ND	ND
	Chromium	0.1	0.0147	0.0154	0.0140	0.0160	0.0144	0.0144	0.015	0.015
	Cobalt*	0.006*	ND	ND	ND	ND (0.0003 J)	ND (0.0003 J)	ND	ND	ND
	Lead*	0.015*	ND (0.0001 J)	ND	ND	ND (0.00008 J)	ND	ND	ND	ND
	Lithium*	0.04*	ND (0.0030 J)	ND (0.0033 J)	ND (0.0025 J)	ND (0.0027 J)	ND (0.0023 J)	ND (0.0027 J)	ND (0.0029 J)	ND (0.0026 J)
	Mercury	0.002	ND	ND	ND	ND	ND	ND	ND	ND
	Molybdenum*	0.1*	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	0.603 U	0.412 U	0.633 U	0.112 U	0.167 U	0.347 U	0.903 U	0.353 U
	Selenium	0.05	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-6
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWC-17S							
			9/7/2016	11/17/2016	2/22/2017	6/15/2017	9/28/2017	2/15/2018	6//27/2018	12/19/2018
APPENDIX III	Boron	N/R	ND (0.0449 J)	ND (0.0067 J)	ND	ND	ND	ND	ND (0.0088 J)	ND (0.0045 J)
	Calcium	N/R	26.3	31.8	33.5	29.0	34.1	33.8	34.1	33.1
	Chloride	-250	3.7	4.0	3.6	3.7	4.1	5.3	4.2	4.9
	Fluoride	4	ND (0.22 J)	0.33	ND (0.11 J)	ND (0.05 J)	ND (0.05 J)	ND	ND (0.093 J)	ND (0.16 J)
	Sulfate	-250	97	120	120	130	120	109	118	125
	TDS	-500	331	308	341	333	310	292	353	317
APPENDIX IV	Antimony	0.006	ND	ND	ND	ND (0.0009 J)	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND (0.0006 J)	ND	ND	ND	ND
	Barium	2	0.0377	0.0405	0.0392	0.0364	0.0408	0.0396	0.041	0.038
	Beryllium	0.004	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium	0.005	ND	ND	ND	ND	ND	ND	ND	ND
	Chromium	0.1	ND (0.0100 J)	0.0185	0.0122	0.0117	0.0114	0.011	ND (0.0098 J)	ND (0.0095 J)
	Cobalt*	0.006	ND	ND	ND	ND	ND	ND	ND	ND
	Lead*	0.015	ND	ND (0.0001 J)	ND	ND	ND	ND	ND	ND
	Lithium*	0.04	ND	ND	ND	ND	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND (0.00006 J)	ND	ND	ND	ND
	Molybdenum*	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	0.541 U	0.145 U	0.0213 U	0.410 U	0.496 U	0.672 U	0.692 U	0.325 U
	Selenium	0.05	ND (0.0024 J)	ND (0.0028 J)	ND (0.0018 J)	ND (0.0024 J)	ND	ND	ND (0.0020 J)	ND
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-7
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWC-33S							
			9/7/2016	11/17/2016	2/22/2017	6/14/2017	9/27/2017	2/15/2018	6/27/2018	12/18/2018
APPENDIX III	Boron	N/R	1.15	1.08	1.44	1.16	1.04	1.22	0.96	1.2
	Calcium	N/R	53.4	41.3	53.1	47.1	49.5	50.9	55.1	52.7
	Chloride	(250)	5.3	5.3	ND (0.12 J)	4.5	5.4	6.3	4.5	6.1
	Fluoride	4	ND (0.19 J)	ND (0.26 J)	ND (0.21 J)	ND (0.18 J)	0.42	0.42	0.32	ND (0.28 J)
	Sulfate	(250)	260	250	210	200	200	197	200	222
	TDS	(500)	382	382	387	316	303	332	538	358
APPENDIX IV	Antimony	0.006	ND	ND	ND	ND	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND (0.0006 J)	ND	ND	ND	ND (0.00091 J)
	Barium	2	0.0214	0.0211	0.0243	0.0218	0.0219	0.0248	0.023	0.023
	Beryllium	0.004	ND (0.0019 J)	ND (0.0020 J)	ND (0.0022 J)	ND (0.0019 J)	ND (0.0017 J)	ND	ND (0.0020 J)	ND (0.0021 J)
	Cadmium	0.005	ND (0.0005 J)	ND (0.0005 J)	ND (0.0006 J)	ND (0.0004 J)	ND (0.0004 J)	ND	ND (0.00038 J)	ND (0.00046 J)
	Chromium	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Cobalt*	0.006	0.0612	0.0551	0.0567	0.0557	0.0490	0.0536	0.054	0.049
	Lead*	0.015	ND (0.0002 J)	ND (0.0002 J)	ND (0.0001 J)	ND (0.00009 J)	ND (0.00007 J)	ND	ND	ND
	Lithium*	0.04	ND (0.0092 J)	ND (0.0097 J)	ND (0.0106 J)	ND (0.0097 J)	ND (0.0099 J)	ND (0.0106 J)	ND (0.010 J)	ND (0.011 J)
	Mercury	0.002	ND	ND	ND	ND (0.00007 J)	ND (0.00004 J)	ND	ND	ND
	Molybdenum*	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	0.706 U	1.02 U	0.482 U	0.723 U	1.50	1.14 U	1.30 U	1.64
	Selenium	0.05	ND (0.0032 J)	ND (0.0028 J)	ND (0.0018 J)	ND (0.0040 J)	ND (0.0036 J)	ND	ND (0.0017 J)	ND
	Thallium	0.002	ND (0.0002 J)	ND (0.0002 J)	ND (0.0002 J)	ND (0.0002 J)	ND (0.0002 J)	ND (0.00024 J)	ND (0.00022 J)	ND (0.00022 J)

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-8
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWC-34S							
			9/8/2016	11/17/2016	2/22/2017	6/14/2017	9/27/2017	2/15/2018	6/27/2018	12/18/2018
APPENDIX III	Boron	N/R	1.89	2.17	2.09	2.45	2.40	2.55	2.2	2.2
	Calcium	N/R	97.3	97.6	106	98.0	95.8	100	90.1	85.1
	Chloride	(250)	7.2	7.6	7.1	7.3	7.6	7.2	7.1	7.1
	Fluoride	4	ND (0.17 J)	ND (0.12 J)	ND (0.17 J)	ND (0.10 J)	0.40	ND	ND (0.21 J)	ND (0.12 J)
	Sulfate	(250)	420	460	410	410	360	335	296	345
	TDS	(500)	663	651	706	643	579	612	359	535
APPENDIX IV	Antimony	0.006	ND	ND	ND	ND	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND	ND	ND	ND	ND
	Barium	2	0.0415	0.0400	0.0415	0.0341	0.0347	0.0346	0.028	0.029
	Beryllium	0.004	ND (0.0001 J)	ND (0.0001 J)	ND (0.0002 J)	ND	ND (0.0001 J)	ND	ND (0.00013 J)	ND (0.00012 J)
	Cadmium	0.005	ND	ND (0.0009 J)	ND (0.0005 J)	ND (0.0004 J)	ND (0.0007 J)	ND	ND (0.00017 J)	ND (0.00023 J)
	Chromium	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Cobalt*	0.006	ND (0.0029 J)	ND (0.0028 J)	ND (0.0041 J)	ND (0.0036 J)	ND (0.0028 J)	ND	ND (0.0041 J)	ND (0.0032 J)
	Lead*	0.015	ND	ND (0.0001 J)	ND (0.0003 J)	ND	ND (0.00009 J)	ND	ND	ND
	Lithium*	0.04	ND	ND	ND	ND	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND (0.00007 J)	ND (0.00004 J)	ND	ND	ND
	Molybdenum*	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	2.03	0.613 U	1.01 U	0.801 U	1.44	0.668 U	1.06 U	1.22
	Selenium	0.05	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-9
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWC-35S							
			9/7/2016	11/17/2016	2/22/2017	6/15/2017	9/28/2017	2/15/2018	6/27/2018	12/19/2018
APPENDIX III	Boron	N/R	1.06	0.967	1.35	1.49	1.27	1.58	1.7	1.8
	Calcium	N/R	54.1	62.6	64.6	61.3	60.8	56.6	66.2	64.4
	Chloride	(250)	5.8	6.0	5.6	5.8	6.2	6.2	5.9	6.2
	Fluoride	4	0.34	ND (0.24 J)	ND (0.09 J)	ND (0.03 J)	ND	ND	ND (0.22 J)	ND (0.11 J)
	Sulfate	(250)	260	280	270	280	240	266	278	287
	TDS	(500)	486	453	541	548	487	500	347	489
APPENDIX IV	Antimony	0.006	ND	ND	ND	ND	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND (0.0006 J)	ND	ND	ND	ND
	Barium	2	0.101	0.0808	0.0701	0.0518	0.0470	0.0485	0.046	0.04
	Beryllium	0.004	ND (0.00009 J)	ND (0.0001 J)	ND (0.0001 J)	ND (0.0001 J)	ND (0.0001 J)	ND	ND (0.00015 J)	ND (0.00014 J)
	Cadmium	0.005	ND	ND	ND	ND	ND	ND	ND	ND
	Chromium	0.1	ND (0.0019 J)	ND (0.0024 J)	ND (0.0040 J)	ND (0.0033 J)	ND (0.0052 J)	ND	ND (0.0062 J)	ND (0.0073 J)
	Cobalt*	0.006	ND (0.0023 J)	ND (0.0012 J)	ND (0.0008 J)	ND (0.0004 J)	ND (0.0003 J)	ND	ND	ND
	Lead*	0.015	ND (0.0001 J)	ND (0.0002 J)	ND (0.0001 J)	ND	ND	ND	ND	ND
	Lithium*	0.04	ND (0.0021 J)	ND (0.0022 J)	ND (0.0023 J)	ND (0.0023 J)	ND (0.0021 J)	ND (0.0021 J)	ND (0.0021 J)	ND (0.0021 J)
	Mercury	0.002	ND	ND	ND	ND (0.00007 J)	ND	ND	ND	ND
	Molybdenum*	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	1.13	0.729 U	0.293 U	1.09	1.02 U	0.742 U	0.739 U	0.465 U
	Selenium	0.05	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-10
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWC-36S							
			9/7/2016	11/18/2016	2/23/2017	6/15/2017	9/28/2017	2/15/2018	6/28/2018	12/19/2019
APPENDIX III	Boron	N/R	0.725	0.831	0.949	0.961	0.948	1.11	0.89	1.1
	Calcium	N/R	50.6	53.9	51.0	53.8	51.8	50.1	51.0	57.1
	Chloride	(250)	3.1	3.4	3.2	4.0	4.6	5.4	9.0	6.2
	Fluoride	4	ND (0.18 J)	ND (0.04 J)	ND (0.07 J)	ND (0.01 J)	ND	ND	0.51	ND
	Sulfate	(250)	300	170	330	310	290	292	284	319
	TDS	(500)	528	524	517	566	475	513	499	521
APPENDIX IV	Antimony	0.006	ND	ND (0.0016 J)	ND	ND (0.0006 J)	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND (0.0007 J)	ND	ND	ND (0.00074 J)	ND
	Barium	2	0.0674	0.0546	0.0489	0.0415	0.0397	0.038	0.035	0.035
	Beryllium	0.004	ND	ND (0.0001 J)	ND (0.0001 J)	ND (0.00009 J)	ND (0.0001 J)	ND	ND (0.000081 J)	ND
	Cadmium	0.005	ND (0.00008 J)	ND	ND (0.0001 J)	ND	ND	ND	ND	ND (0.00011 J)
	Chromium	0.1	ND (0.0073 J)	ND (0.0080 J)	ND (0.0086 J)	ND (0.0082 J)	ND (0.0083 J)	ND (0.0086 J)	ND (0.0076 J)	ND (0.0085 J)
	Cobalt*	0.006	ND	ND	ND	ND	ND	ND	ND	ND
	Lead*	0.015	ND	ND	ND	ND	ND	ND	ND	ND
	Lithium*	0.04	ND (0.0024 J)	ND (0.0026 J)	ND (0.0026 J)	ND (0.0026 J)	ND (0.0025 J)	ND	ND (0.0022 J)	ND (0.0026 J)
	Mercury	0.002	ND	ND	ND	ND (0.00007 J)	ND	ND	ND	ND
	Molybdenum*	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	0.998 U	1.22 U	0.554 U	0.770 U	1.07 U	0.751 U	0.392 U	0.693 U
	Selenium	0.05	ND (0.0079 J)	ND (0.0082 J)	ND (0.0061 J)	ND (0.0046 J)	ND (0.0042 J)	ND (0.0045 J)	ND (0.0033 J)	ND (0.0042 J)
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-11
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWC-37S							
			2/23/2017	4/17/2017	5/15/2017	6/15/2017	9/28/2017	2/15/2018	6/28/2018	12/19/2018
APPENDIX III	Boron	N/R	ND	ND	ND	ND	ND	ND	ND (0.0067 J)	ND
	Calcium	N/R	3.26	3.23	2.97	3.15	3.26	3.39	3.1	3.6
	Chloride	(250)	2.1	1.8	1.8	1.9	1.9	2.3	2.1	1.9
	Fluoride	4	ND (0.10 J)	ND (0.08 J)	ND (0.02 J)	ND (0.03 J)	ND	ND	ND	ND (0.094 J)
	Sulfate	(250)	ND (0.55 J)	ND (0.44 J)	ND (0.45 J)	ND (0.46 J)	ND (0.49 J)	1.9	ND (0.24 J)	ND (0.4 J)
	TDS	(500)	45	53	48	63	39	54.0	59.0	68
APPENDIX IV	Antimony	0.006	ND	ND (0.0004 J)	ND	ND (0.0006 J)	ND	ND	ND	ND
	Arsenic	0.01	ND	ND	ND	ND	ND	ND	ND (0.0011 J)	ND
	Barium	2	0.0229	0.0227	0.0227	0.0218	0.0222	0.0243	0.023	0.024
	Beryllium	0.004	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium	0.005	ND	ND	ND	ND	ND	ND	ND	ND
	Chromium	0.1	ND (0.0010 J)	ND (0.0018 J)	ND (0.0014 J)	ND (0.0013 J)	ND (0.0014 J)	ND	ND	ND
	Cobalt*	0.006	ND	ND	ND	ND	ND	ND	ND	ND
	Lead*	0.015	ND	ND (0.0001 J)	ND	ND	ND (0.0001 J)	ND	ND	ND
	Lithium*	0.04	ND	ND	ND	ND	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND (0.00006 J)	ND	ND	ND	ND
	Molybdenum*	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	0.567 U	0.335 U	0.261 U	0.188 U	0.627 U	0.869 U	0.336 U	0.454 U
	Selenium	0.05	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

Table A-12
Analytical Data Summary
Plant Branch Ash Pond AP-E
Milledgeville, Georgia

Substance		MCL/ (SMCL)	BRGWC-38S							
			9/7/2016	11/21/2016	2/23/2017	6/15/2017	9/28/2017	2/15/2018	6/28/2018	12/20/2018
APPENDIX III	Boron	N/R	1.73	2.02	1.77	1.78	1.45	2.09	1.5	1.7
	Calcium	N/R	45.9	46.4	43.5	45.3	45.1	45.3	45.9	41.8
	Chloride	(250)	5.8	5.1	4.1	4.8	6.7	8.0	5.5	8
	Fluoride	4	0.66	0.95	0.75	0.77	0.80	0.82	1.5	0.68
	Sulfate	(250)	440	510	470	490	470	432	453	463
	TDS	(500)	750	795	733	812	690	722	704	642
APPENDIX IV	Antimony	0.006	ND	ND (0.0009 J)	ND	ND (0.0007 J)	ND	ND	ND	ND
	Arsenic	0.01	ND (0.0026 J)	ND (0.0034 J)	ND (0.0030 J)	ND (0.0050 J)	ND (0.0046 J)	ND (0.0016 J)	ND (0.0023 J)	ND (0.00098 J)
	Barium	2	0.0440	ND (0.0428 J)	0.0338	0.0239	0.0247	0.0215	0.018	0.017
	Beryllium	0.004	0.0079	0.0092	0.0100	0.0104	0.0098	ND (0.011 J)	0.0085	0.0092
	Cadmium	0.005	ND (0.0004 J)	ND (0.0005 J)	ND (0.0007 J)	ND (0.0006 J)	ND (0.0007 J)	ND (0.00069 J)	ND (0.00056 J)	ND (0.00062 J)
	Chromium	0.1	ND (0.0014 J)	ND (0.0030 J)	ND (0.0028 J)	ND (0.0038 J)	ND (0.0037 J)	ND (0.0044 J)	ND (0.0041 J)	ND (0.0041 J)
	Cobalt*	0.006	0.236	0.298	0.277	0.262	0.279	0.279	0.23	0.25
	Lead*	0.015	ND (0.0004 J)	ND (0.0005 J)	ND (0.0005 J)	ND (0.0004 J)	ND (0.0004 J)	ND (0.00047 J)	ND (0.00036 J)	ND (0.00039 J)
	Lithium*	0.04	ND (0.0193 J)	ND (0.0223 J)	ND (0.0229 J)	ND (0.0227 J)	ND (0.0230 J)	ND (0.0254 J)	ND (0.021 J)	ND (0.022 J)
	Mercury	0.002	ND (0.00007 J)	ND (0.00012 J)	ND (0.00007 J)	ND (0.00016 J)	ND (0.00011 J)	ND (0.00015 J)	ND (0.00017 J)	ND (0.00017 J)
	Molybdenum*	0.1	ND	ND	ND	ND	ND	ND	ND	ND
	Radium	5	3.35	2.94	1.92	3.60	3.30	2.31	1.75	2.8
	Selenium	0.05	0.0311	0.0409	0.0354	0.0511	0.0484	0.0435	0.037	0.037
	Thallium	0.002	ND	ND (0.0004 J)	ND (0.0003 J)	ND (0.0003 J)	ND (0.0003 J)	ND (0.00026 J)	ND (0.00018 J)	ND (0.00023 J)

Notes:
1. MCL indicates Environmental Protection Agency (EPA) and Georgia Environmental Protection Division (EPD) maximum contaminant level.
2. (SMCL) indicates a secondary MCL that is established by EPA as a general guideline only (not enforced).
3. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
4. ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL).
5. ND (value 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 (value J) is qualified by the laboratory as an estimated number.
6. N/R indicates a substance does not have an MCL or SMCL, but will be further evaluated statistically at the conclusion of all the background sampling events, as required by EPA's CCR rule.
7. TDS indicates total dissolved solids.
8. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
9. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.
10. *Values are Risk Based Screening Levels provided by EPA in the Federal rule update, October 2018

TABLE A-13.
ANALYTICAL DATA SUMMARY - POND E (March 2019)
GPC PLANT BRANCH
MILLDEGEVILLE, GEORGIA

Analyte	Units	SCREENING/TARGET LEVELS				GROUNDWATER MONITORING WELLS											
		MCL	SMCL	PQL/RL	MDL	BRGWA-6S	BRGWA-5S	BRGWA-5I	BRGWA-2S	BRGWA-2I	BRGWC-33S	BRGWC-34S	BRGWC-35S	BRGWC-17S	BRGWC-36S	BRGWC-37S	BRGWC-38S
					Sample Date:	3/19/2019	3/19/2019	3/19/2019	3/19/2019	3/19/2019	3/20/2019	3/20/2019	3/20/2019	3/19/2019	3/20/2019	3/20/2019	3/20/2019
Appendix III																	
BORON, TOTAL	mg/L	N/R	N/R	0.04	0.0039	ND	ND	ND	ND	ND (0.0055 J)	1.3	2.3	1.7	ND	1	ND (0.004 J)	1.5
CALCIUM, TOTAL	mg/L	N/R	N/R	25	0.69	3.6	ND (21.4 J)	ND (12.3 J)	3.9	ND (14.3 J)	51.4	82	61.8	31.6	49.5	3.3	38.2
CHLORIDE, TOTAL	mg/L	N/R	250	0.3	0.024	2.6	4.2	4.5	2	2.5	6.2	6.9	6.6	5	7.1	2.3	6.6
FLUORIDE, TOTAL	mg/L	4	2	0.3	0.029	ND (0.03 J)	ND (0.06 J)	ND	ND (0.037 J)	ND (0.066 J)	ND (0.14 J)	ND (0.074 J)	ND (0.088 J)	ND (0.1 J)	ND	ND (0.062 J)	0.95
pH	S.U.	N/R	N/R	N/R	N/R	6.18	6.63	6.45	6.18	6.87	4.77	5.84	6.06	6.43	5.72	5.93	4.34
SULFATE, TOTAL	mg/L	N/R	250	1.0	0.017	ND (0.68 J)	ND (0.74 J)	3	ND (0.78 J)	6	204	329	**268**	126	**307**	ND (0.39 J)	**405**
TOTAL DISSOLVED SOLIDS	mg/L	N/R	500	25.0	10	72	146	130	68	154	338	**517**	**501**	303	498	68	**615**
Appendix IV																	
ANTIMONY, TOTAL	mg/L	0.006	N/R	0.003	0.00078	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
ARSENIC, TOTAL	mg/L	0.01	N/R	0.005	0.00057	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
BARIUM, TOTAL	mg/L	2	N/R	0.01	0.00078	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
BERYLLIUM, TOTAL	mg/L	0.004	N/R	0.003	0.00005	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
CADMIUM, TOTAL	mg/L	0.005	N/R	0.001	0.00009	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
CHROMIUM, TOTAL	mg/L	0.1	N/R	0.01	0.0016	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
COBALT, TOTAL	mg/L	N/R	N/R	0.01	0.00052	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
LEAD, TOTAL	mg/L	0.015	N/R	0.005	0.00027	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
LITHIUM, TOTAL	mg/L	N/R	N/R	0.005	0.00095	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MERCURY, TOTAL	mg/L	0.002	N/R	0.01	0.0014	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
MOLYBDENUM, TOTAL	mg/L	N/R	N/R	0.005	0.00095	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
RADIUM (226 + 228)	pCi/L	5	N/R	1	varies	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
SELENIUM, TOTAL	mg/L	0.05	N/R	0.001	0.00014	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
THALLIUM, TOTAL	mg/L	0.002	N/R	0.01	0.0019	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled

NOTES:

1. Bolded exceeds MCL/SMCL.
2. mg/L - Milligrams per Liter
3. pCi/L - picocuries per Liter
4. N/R - indicated constituent does not have an established maximum contaminant limit.
5. J - Result is an estimated value. The result is greater than or equal to the Method Detection Limit (MDL) and less than the Practical Quantitation Limit (PQL). Values are displayed as less that the PQL with a J.
6. ND - Constituent was analyzed for, but was not detected above the MDL and is considered a non-detect.
7. MCL/SMCL - Maximum Contaminant Level/Secondary Contaminant Level - United States Environmental Protection Agency (USEPA) Table of Regulated Drinking Water Contaminants (updated June 2016). Available at https://www.epa.gov/ground-water-and-drinking-water/table-regulated-drinking-water-contaminants. USEPA Secondary Drinking Water Standards: Guidance for Nuisance Chemicals (updated January 2016). Available at https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-
8. 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. The MDC varies depending upon the sample amount and elapsed time of the measurement.

GOLDER

APPENDIX A

ANALYTICAL RESULTS

August – September 2016

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
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Laboratory Report

Prepared For:

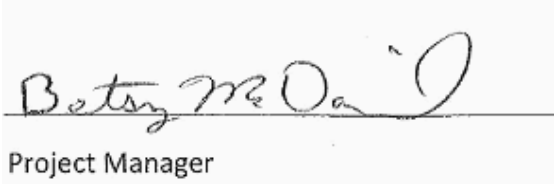
Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: **Mr. Joju Abraham**

Report Number: **AZI0038**
September 13, 2016
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:



Project Manager

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 13, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWA-5S	AZI0038-01	Ground Water	08/31/16 10:45	09/01/16 14:40
BRGWA-5I	AZI0038-02	Ground Water	08/31/16 11:55	09/01/16 14:40
FB-1-8-31-16	AZI0038-03	DI Water	08/31/16 13:30	09/01/16 14:40
BRGWA-2I	AZI0038-04	Ground Water	08/31/16 13:55	09/01/16 14:40
BRGWA-2S	AZI0038-05	Ground Water	08/31/16 16:10	09/01/16 14:40

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Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0038
Client ID: BRGWA-5S
Date/Time Sampled: 8/31/2016 10:45:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0038-01
Date/Time Received: 9/1/2016 2:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	154	25	10	mg/L	SM 2540 C		1	09/06/16 19:55	09/06/16 19:55	6090125	JPT
Inorganic Anions											
Chloride	3.6	0.25	0.01	mg/L	EPA 300.0		1	09/04/16 10:35	09/04/16 18:33	6090086	RLC
Fluoride	0.19	0.30	0.02	mg/L	EPA 300.0	J	1	09/04/16 10:35	09/04/16 18:33	6090086	RLC
Sulfate	0.81	1.0	0.05	mg/L	EPA 300.0	J	1	09/04/16 10:35	09/04/16 18:33	6090086	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Barium	0.0495	0.0100	0.0004	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Beryllium	ND	0.0030	0.0004	mg/L	EPA 6020B		5	09/06/16 09:45	09/08/16 14:42	6090081	CSW
Boron	ND	0.500	0.0321	mg/L	EPA 6020B	R-01	5	09/06/16 09:45	09/08/16 14:42	6090081	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Calcium	19.6	2.50	0.155	mg/L	EPA 6020B		5	09/06/16 09:45	09/08/16 14:42	6090081	CSW
Chromium	0.0028	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:27	6090081	CSW
Lithium	ND	0.0500	0.0103	mg/L	EPA 6020B		5	09/06/16 09:45	09/08/16 14:42	6090081	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 15:41	6090078	MTC

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September 13, 2016

Report No.: AZI0038
Client ID: BRGWA-5I
Date/Time Sampled: 8/31/2016 11:55:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0038-02
Date/Time Received: 9/1/2016 2:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	138	25	10	mg/L	SM 2540 C		1	09/06/16 19:55	09/06/16 19:55	6090125	JPT
Inorganic Anions											
Chloride	4.4	0.25	0.01	mg/L	EPA 300.0		1	09/04/16 10:35	09/04/16 18:54	6090086	RLC
Fluoride	0.07	0.30	0.02	mg/L	EPA 300.0	J	1	09/04/16 10:35	09/04/16 18:54	6090086	RLC
Sulfate	2.7	1.0	0.05	mg/L	EPA 300.0		1	09/04/16 10:35	09/04/16 18:54	6090086	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Barium	0.0273	0.0100	0.0004	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Beryllium	ND	0.0030	0.0004	mg/L	EPA 6020B		5	09/06/16 09:45	09/08/16 14:48	6090081	CSW
Boron	ND	0.500	0.0321	mg/L	EPA 6020B	R-01	5	09/06/16 09:45	09/08/16 14:48	6090081	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Calcium	13.5	2.50	0.155	mg/L	EPA 6020B		5	09/06/16 09:45	09/08/16 14:48	6090081	CSW
Chromium	0.0058	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Cobalt	0.0013	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Molybdenum	0.0040	0.0100	0.0017	mg/L	EPA 6020B	J	1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 20:33	6090081	CSW
Lithium	ND	0.0500	0.0103	mg/L	EPA 6020B		5	09/06/16 09:45	09/08/16 14:48	6090081	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 15:43	6090078	MTC

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September 13, 2016

Report No.: AZI0038
Client ID: FB-1-8-31-16
Date/Time Sampled: 8/31/2016 1:30:00PM
Matrix: DI Water

Project: CCR Event
Lab Number ID: AZI0038-03
Date/Time Received: 9/1/2016 2:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	09/06/16 19:55	09/06/16 19:55	6090125	JPT
Inorganic Anions											
Chloride	0.06	0.25	0.01	mg/L	EPA 300.0	J	1	09/04/16 10:35	09/04/16 19:15	6090086	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	09/04/16 10:35	09/04/16 19:15	6090086	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	09/04/16 10:35	09/04/16 19:15	6090086	RLC
Metals, Total											
Antimony	0.0017	0.0030	0.0008	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Boron	0.0074	0.100	0.0064	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:18	6090084	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 15:50	6090078	MTC

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Report No.: AZI0038
Client ID: BRGWA-2I
Date/Time Sampled: 8/31/2016 1:55:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0038-04
Date/Time Received: 9/1/2016 2:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	151	25	10	mg/L	SM 2540 C		1	09/06/16 19:55	09/06/16 19:55	6090125	JPT
Inorganic Anions											
Chloride	2.3	0.25	0.01	mg/L	EPA 300.0		1	09/04/16 10:35	09/04/16 19:36	6090086	RLC
Fluoride	0.11	0.30	0.02	mg/L	EPA 300.0	J	1	09/04/16 10:35	09/04/16 19:36	6090086	RLC
Sulfate	7.5	1.0	0.05	mg/L	EPA 300.0		1	09/04/16 10:35	09/04/16 19:36	6090086	RLC
Metals, Total											
Antimony	0.0009	0.0030	0.0008	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Barium	0.0239	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Boron	0.0072	0.100	0.0064	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Calcium	12.6	2.50	0.155	mg/L	EPA 6020B		5	09/07/16 08:35	09/09/16 14:04	6090084	CSW
Chromium	0.0010	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Cobalt	0.0016	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Molybdenum	0.0021	0.0100	0.0017	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Lithium	0.0268	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:24	6090084	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 15:53	6090078	MTC

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September 13, 2016

Report No.: AZI0038
Client ID: BRGWA-2S
Date/Time Sampled: 8/31/2016 4:10:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0038-05
Date/Time Received: 9/1/2016 2:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	88	25	10	mg/L	SM 2540 C		1	09/06/16 19:55	09/06/16 19:55	6090125	JPT
Inorganic Anions											
Chloride	2.0	0.25	0.01	mg/L	EPA 300.0		1	09/04/16 10:35	09/04/16 19:58	6090086	RLC
Fluoride	0.05	0.30	0.02	mg/L	EPA 300.0	J	1	09/04/16 10:35	09/04/16 19:58	6090086	RLC
Sulfate	0.38	1.0	0.05	mg/L	EPA 300.0	J	1	09/04/16 10:35	09/04/16 19:58	6090086	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Barium	0.0099	0.0100	0.0004	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Calcium	4.09	2.50	0.155	mg/L	EPA 6020B		5	09/07/16 08:35	09/09/16 14:09	6090084	CSW
Chromium	0.0034	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Cobalt	0.0034	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/07/16 22:29	6090084	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 15:55	6090078	MTC

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Report No.: AZI0038

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090125 - SM 2540 C											
Blank (6090125-BLK1)						Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6090125-BS1)						Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	402	25	10	mg/L	400.00		100	84-108			
Duplicate (6090125-DUP1)		**Source: AZI0022-04**				Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	77	25	10	mg/L		190			85	10	QR-03
Duplicate (6090125-DUP2)		**Source: AZI0022-09**				Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	429	25	10	mg/L		406			6	10	

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September 13, 2016

Report No.: AZI0038

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090086 - EPA 300.0											
Blank (6090086-BLK1)						Prepared & Analyzed: 09/04/16					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6090086-BS1)						Prepared & Analyzed: 09/04/16					
Chloride	10.2	0.25	0.01	mg/L	10.010		102	90-110			
Fluoride	10.3	0.30	0.02	mg/L	10.010		103	90-110			
Sulfate	10.2	1.0	0.05	mg/L	10.010		102	90-110			
Matrix Spike (6090086-MS1)		**Source: AZI0022-06**				Prepared & Analyzed: 09/04/16					
Chloride	207	0.25	0.01	mg/L	10.010	217	NR	90-110			QM-02
Fluoride	12.0	0.30	0.02	mg/L	10.010	0.04	119	90-110			QM-05
Sulfate	376	1.0	0.05	mg/L	10.010	400	NR	90-110			QM-02
Matrix Spike (6090086-MS2)		**Source: AZI0048-01**				Prepared & Analyzed: 09/04/16					
Chloride	133	0.25	0.01	mg/L	10.010	137	NR	90-110			QM-02
Fluoride	11.7	0.30	0.02	mg/L	10.010	0.15	115	90-110			QM-05
Sulfate	126	1.0	0.05	mg/L	10.010	130	NR	90-110			QM-02
Matrix Spike Dup (6090086-MSD1)		**Source: AZI0022-06**				Prepared & Analyzed: 09/04/16					
Chloride	207	0.25	0.01	mg/L	10.010	217	NR	90-110	0.02	15	QM-02
Fluoride	12.3	0.30	0.02	mg/L	10.010	0.04	123	90-110	3	15	QM-05
Sulfate	376	1.0	0.05	mg/L	10.010	400	NR	90-110	0.08	15	QM-02

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Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0038

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090078 - EPA 7470A											
Blank (6090078-BLK1)						Prepared & Analyzed: 09/06/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6090078-BS1)						Prepared & Analyzed: 09/06/16					
Mercury	0.00241	0.00050	0.000041	mg/L	2.5000E-3		96	80-120			
Matrix Spike (6090078-MS1)		**Source: AZI0038-05**				Prepared & Analyzed: 09/06/16					
Mercury	0.00241	0.00050	0.000041	mg/L	2.5000E-3	ND	96	75-125			
Matrix Spike Dup (6090078-MSD1)		**Source: AZI0038-05**				Prepared & Analyzed: 09/06/16					
Mercury	0.00234	0.00050	0.000041	mg/L	2.5000E-3	ND	93	75-125	3	20	
Post Spike (6090078-PS1)		**Source: AZI0038-05**				Prepared & Analyzed: 09/06/16					
Mercury	1.69			ug/L	1.6667	0.00587	101	80-120			
Batch 6090081 - EPA 3005A											
Blank (6090081-BLK1)						Prepared & Analyzed: 09/06/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0038

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090081 - EPA 3005A											
LCS (6090081-BS1)						Prepared & Analyzed: 09/06/16					
Antimony	0.0970	0.0030	0.0008	mg/L	0.10000		97	80-120			
Arsenic	0.0990	0.0050	0.0016	mg/L	0.10000		99	80-120			
Barium	0.0955	0.0100	0.0004	mg/L	0.10000		96	80-120			
Beryllium	0.0976	0.0030	0.00008	mg/L	0.10000		98	80-120			
Boron	1.02	0.100	0.0064	mg/L	1.0000		102	80-120			
Cadmium	0.0949	0.0010	0.00007	mg/L	0.10000		95	80-120			
Calcium	0.972	0.500	0.0311	mg/L	1.0000		97	80-120			
Chromium	0.104	0.0100	0.0009	mg/L	0.10000		104	80-120			
Cobalt	0.0993	0.0100	0.0005	mg/L	0.10000		99	80-120			
Copper	0.100	0.0050	0.0005	mg/L	0.10000		100	80-120			
Lead	0.0967	0.0050	0.0001	mg/L	0.10000		97	80-120			
Molybdenum	0.0997	0.0100	0.0017	mg/L	0.10000		100	80-120			
Nickel	0.0986	0.0050	0.0006	mg/L	0.10000		99	80-120			
Selenium	0.0997	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.0965	0.0050	0.0005	mg/L	0.10000		96	80-120			
Thallium	0.0975	0.0010	0.0002	mg/L	0.10000		97	80-120			
Vanadium	0.112	0.0100	0.0071	mg/L	0.10000		112	80-120			
Zinc	0.112	0.0100	0.0021	mg/L	0.10000		112	80-120			
Lithium	0.0988	0.0500	0.0021	mg/L	0.10000		99	80-120			
Matrix Spike (6090081-MS1)		**Source: AZI0022-01**				Prepared & Analyzed: 09/06/16					
Antimony	0.0998	0.0030	0.0008	mg/L	0.10000	0.0014	98	75-125			
Arsenic	0.116	0.0050	0.0016	mg/L	0.10000	0.0144	102	75-125			
Barium	0.161	0.0100	0.0004	mg/L	0.10000	0.0627	98	75-125			
Beryllium	0.0842	0.0030	0.00008	mg/L	0.10000	0.0004	84	75-125			
Boron	25.9	5.00	0.321	mg/L	1.0000	24.1	179	75-125			QM-02
Cadmium	0.0937	0.0010	0.00007	mg/L	0.10000	ND	94	75-125			
Calcium	261	25.0	1.55	mg/L	1.0000	250	NR	75-125			QM-02
Chromium	0.110	0.0100	0.0009	mg/L	0.10000	0.0021	108	75-125			
Cobalt	0.109	0.0100	0.0005	mg/L	0.10000	0.0089	100	75-125			
Copper	0.0954	0.0050	0.0005	mg/L	0.10000	0.0006	95	75-125			
Lead	0.0996	0.0050	0.0001	mg/L	0.10000	0.0113	88	75-125			
Molybdenum	0.108	0.0100	0.0017	mg/L	0.10000	ND	108	75-125			
Nickel	0.0995	0.0050	0.0006	mg/L	0.10000	0.0037	96	75-125			
Selenium	0.109	0.0100	0.0010	mg/L	0.10000	0.0023	106	75-125			
Silver	0.0892	0.0050	0.0005	mg/L	0.10000	ND	89	75-125			
Thallium	0.0921	0.0010	0.0002	mg/L	0.10000	ND	92	75-125			
Vanadium	0.121	0.0100	0.0071	mg/L	0.10000	ND	121	75-125			
Zinc	5.05	0.0100	0.0021	mg/L	0.10000	4.92	131	75-125			
Lithium	0.0898	0.0500	0.0021	mg/L	0.10000	ND	90	75-125			

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0038

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090081 - EPA 3005A											
Matrix Spike Dup (6090081-MSD1)		**Source: AZI0022-01**			Prepared & Analyzed: 09/06/16						
Antimony	0.0987	0.0030	0.0008	mg/L	0.10000	0.0014	97	75-125	1	20	
Arsenic	0.118	0.0050	0.0016	mg/L	0.10000	0.0144	104	75-125	2	20	
Barium	0.159	0.0100	0.0004	mg/L	0.10000	0.0627	96	75-125	1	20	
Beryllium	0.0882	0.0030	0.00008	mg/L	0.10000	0.0004	88	75-125	5	20	
Boron	24.3	5.00	0.321	mg/L	1.0000	24.1	13	75-125	7	20	QM-02
Cadmium	0.0909	0.0010	0.00007	mg/L	0.10000	ND	91	75-125	3	20	
Calcium	249	25.0	1.55	mg/L	1.0000	250	NR	75-125	5	20	QM-02
Chromium	0.104	0.0100	0.0009	mg/L	0.10000	0.0021	102	75-125	6	20	
Cobalt	0.105	0.0100	0.0005	mg/L	0.10000	0.0089	97	75-125	4	20	
Copper	0.0890	0.0050	0.0005	mg/L	0.10000	0.0006	88	75-125	7	20	
Lead	0.101	0.0050	0.0001	mg/L	0.10000	0.0113	90	75-125	1	20	
Molybdenum	0.106	0.0100	0.0017	mg/L	0.10000	ND	106	75-125	2	20	
Nickel	0.0967	0.0050	0.0006	mg/L	0.10000	0.0037	93	75-125	3	20	
Selenium	0.105	0.0100	0.0010	mg/L	0.10000	0.0023	102	75-125	4	20	
Silver	0.0874	0.0050	0.0005	mg/L	0.10000	ND	87	75-125	2	20	
Thallium	0.0943	0.0010	0.0002	mg/L	0.10000	ND	94	75-125	2	20	
Vanadium	0.118	0.0100	0.0071	mg/L	0.10000	ND	118	75-125	3	20	
Zinc	4.91	0.0100	0.0021	mg/L	0.10000	4.92	NR	75-125	3	20	
Lithium	0.0956	0.0500	0.0021	mg/L	0.10000	ND	96	75-125	6	20	
Post Spike (6090081-PS1)		**Source: AZI0022-01**			Prepared & Analyzed: 09/06/16						
Antimony	99.1			ug/L	100.00	1.42	98	80-120			
Arsenic	115			ug/L	100.00	14.4	101	80-120			
Barium	158			ug/L	100.00	62.7	95	80-120			
Beryllium	85.8			ug/L	100.00	0.382	85	80-120			
Boron	24500			ug/L	1000.0	24100	36	80-120			QM-02
Cadmium	89.6			ug/L	100.00	0.0388	90	80-120			
Calcium	243000			ug/L	1000.0	250000	NR	80-120			QM-02
Chromium	105			ug/L	100.00	2.07	103	80-120			
Cobalt	106			ug/L	100.00	8.86	97	80-120			
Copper	89.8			ug/L	100.00	0.564	89	80-120			
Lead	100			ug/L	100.00	11.3	89	80-120			
Molybdenum	104			ug/L	100.00	0.165	103	80-120			
Nickel	96.1			ug/L	100.00	3.70	92	80-120			
Selenium	104			ug/L	100.00	2.29	102	80-120			
Silver	86.3			ug/L	100.00	0.0004	86	80-120			
Thallium	91.4			ug/L	100.00	0.141	91	80-120			
Vanadium	118			ug/L	100.00	4.37	114	80-120			
Zinc	4920			ug/L	100.00	4920	NR	80-120			
Lithium	99.7			ug/L	100.00	1.36	98	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0038

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090084 - EPA 3005A											
Blank (6090084-BLK1)						Prepared & Analyzed: 09/07/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (6090084-BS1)						Prepared & Analyzed: 09/07/16					
Antimony	0.103	0.0030	0.0008	mg/L	0.10000		103	80-120			
Arsenic	0.103	0.0050	0.0016	mg/L	0.10000		103	80-120			
Barium	0.0928	0.0100	0.0004	mg/L	0.10000		93	80-120			
Beryllium	0.101	0.0030	0.00008	mg/L	0.10000		101	80-120			
Boron	1.01	0.100	0.0064	mg/L	1.0000		101	80-120			
Cadmium	0.101	0.0010	0.00007	mg/L	0.10000		101	80-120			
Calcium	0.992	0.500	0.0311	mg/L	1.0000		99	80-120			
Chromium	0.0996	0.0100	0.0009	mg/L	0.10000		100	80-120			
Cobalt	0.0986	0.0100	0.0005	mg/L	0.10000		99	80-120			
Copper	0.0992	0.0050	0.0005	mg/L	0.10000		99	80-120			
Lead	0.0951	0.0050	0.0001	mg/L	0.10000		95	80-120			
Molybdenum	0.101	0.0100	0.0017	mg/L	0.10000		101	80-120			
Nickel	0.101	0.0050	0.0006	mg/L	0.10000		101	80-120			
Selenium	0.102	0.0100	0.0010	mg/L	0.10000		102	80-120			
Silver	0.0999	0.0050	0.0005	mg/L	0.10000		100	80-120			
Thallium	0.0946	0.0010	0.0002	mg/L	0.10000		95	80-120			
Vanadium	0.0999	0.0100	0.0071	mg/L	0.10000		100	80-120			
Zinc	0.105	0.0100	0.0021	mg/L	0.10000		105	80-120			
Lithium	0.106	0.0500	0.0021	mg/L	0.10000		106	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090084 - EPA 3005A											
Matrix Spike (6090084-MS1)		**Source: AZI0057-01**			Prepared & Analyzed: 09/07/16						
Antimony	0.109	0.0030	0.0008	mg/L	0.10000	0.0010	108	75-125			
Arsenic	0.106	0.0050	0.0016	mg/L	0.10000	ND	106	75-125			
Barium	0.232	0.0100	0.0004	mg/L	0.10000	0.103	129	75-125			QM-02
Beryllium	0.0937	0.0030	0.00008	mg/L	0.10000	ND	94	75-125			
Boron	1.00	0.100	0.0064	mg/L	1.0000	0.215	79	75-125			
Cadmium	0.105	0.0010	0.00007	mg/L	0.10000	ND	105	75-125			
Calcium	77.9	5.00	0.311	mg/L	1.0000	74.8	317	75-125			QM-02
Chromium	0.101	0.0100	0.0009	mg/L	0.10000	ND	101	75-125			
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000	0.0012	101	75-125			
Copper	0.0989	0.0050	0.0005	mg/L	0.10000	0.0005	98	75-125			
Lead	0.0958	0.0050	0.0001	mg/L	0.10000	ND	96	75-125			
Molybdenum	0.104	0.0100	0.0017	mg/L	0.10000	ND	104	75-125			
Nickel	0.100	0.0050	0.0006	mg/L	0.10000	0.0007	99	75-125			
Selenium	0.105	0.0100	0.0010	mg/L	0.10000	ND	105	75-125			
Silver	0.0974	0.0050	0.0005	mg/L	0.10000	ND	97	75-125			
Thallium	0.0966	0.0010	0.0002	mg/L	0.10000	ND	97	75-125			
Vanadium	0.104	0.0100	0.0071	mg/L	0.10000	ND	104	75-125			
Zinc	0.106	0.0100	0.0021	mg/L	0.10000	ND	106	75-125			
Lithium	0.0976	0.0500	0.0021	mg/L	0.10000	ND	98	75-125			
Matrix Spike Dup (6090084-MSD1)		**Source: AZI0057-01**			Prepared & Analyzed: 09/07/16						
Antimony	0.109	0.0030	0.0008	mg/L	0.10000	0.0010	108	75-125	0.4	20	
Arsenic	0.108	0.0050	0.0016	mg/L	0.10000	ND	108	75-125	1	20	
Barium	0.225	0.0100	0.0004	mg/L	0.10000	0.103	122	75-125	3	20	
Beryllium	0.0932	0.0030	0.00008	mg/L	0.10000	ND	93	75-125	0.5	20	
Boron	1.04	0.100	0.0064	mg/L	1.0000	0.215	83	75-125	4	20	
Cadmium	0.0994	0.0010	0.00007	mg/L	0.10000	ND	99	75-125	5	20	
Calcium	80.5	5.00	0.311	mg/L	1.0000	74.8	577	75-125	3	20	QM-02
Chromium	0.103	0.0100	0.0009	mg/L	0.10000	ND	103	75-125	1	20	
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000	0.0012	100	75-125	1	20	
Copper	0.100	0.0050	0.0005	mg/L	0.10000	0.0005	100	75-125	2	20	
Lead	0.0954	0.0050	0.0001	mg/L	0.10000	ND	95	75-125	0.4	20	
Molybdenum	0.107	0.0100	0.0017	mg/L	0.10000	ND	107	75-125	3	20	
Nickel	0.102	0.0050	0.0006	mg/L	0.10000	0.0007	101	75-125	2	20	
Selenium	0.107	0.0100	0.0010	mg/L	0.10000	ND	107	75-125	2	20	
Silver	0.0968	0.0050	0.0005	mg/L	0.10000	ND	97	75-125	0.6	20	
Thallium	0.0941	0.0010	0.0002	mg/L	0.10000	ND	94	75-125	3	20	
Vanadium	0.105	0.0100	0.0071	mg/L	0.10000	ND	105	75-125	0.2	20	
Zinc	0.107	0.0100	0.0021	mg/L	0.10000	ND	107	75-125	0.8	20	
Lithium	0.0978	0.0500	0.0021	mg/L	0.10000	ND	98	75-125	0.2	20	

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Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0038

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090084 - EPA 3005A											
Post Spike (6090084-PS1)		**Source: AZI0057-01**			Prepared & Analyzed: 09/07/16						
Antimony	96.6			ug/L	100.00	0.985	96	80-120			
Arsenic	108			ug/L	100.00	1.26	106	80-120			
Barium	222			ug/L	100.00	103	118	80-120			
Beryllium	94.3			ug/L	100.00	0.0250	94	80-120			
Boron	1020			ug/L	1000.0	215	80	80-120			
Cadmium	101			ug/L	100.00	0.0398	101	80-120			
Calcium	76500			ug/L	1000.0	74800	171	80-120			QM-02
Chromium	99.6			ug/L	100.00	0.207	99	80-120			
Cobalt	101			ug/L	100.00	1.18	99	80-120			
Copper	97.5			ug/L	100.00	0.537	97	80-120			
Lead	93.2			ug/L	100.00	0.0337	93	80-120			
Molybdenum	106			ug/L	100.00	0.920	105	80-120			
Nickel	101			ug/L	100.00	0.724	101	80-120			
Selenium	107			ug/L	100.00	-0.255	107	80-120			
Silver	95.2			ug/L	100.00	0.0009	95	80-120			
Thallium	92.7			ug/L	100.00	0.0308	93	80-120			
Vanadium	105			ug/L	100.00	-0.365	105	80-120			
Zinc	106			ug/L	100.00	1.00	105	80-120			
Lithium	100			ug/L	100.00	0.977	99	80-120			

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Attention: Mr. Joju Abraham

September 13, 2016

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

R-01 Elevated reporting limit due to matrix interference.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to suspected matrix interference and/or non-homogeneous sample matrix.

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical®

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CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #:
laburch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: Phase 2 CCR

ANALYSIS REQUESTED

Collection DATE m/DD/YY	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)						LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:								P	P	P	P						
PRESERVATION:								3	7	3							
8/31/16	1045	GW		✓	BRGWA-5S	3		1	1	1						1	
8/31/16	1155	GW		✓	BRGWA-5I	3		1	1	1						2	
8/31/16	1330	W		✓	FB-1-8-31-16	3		1	1	1						3	
8/31/16	1355	GW		✓	BRGWA-2I	3		1	1	1						4	
8/31/16	1610	GW		✓	BRGWA-2S	3		1	1	1						5	

CONTAINER TYPE / PRESERVATION

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

SAMPLED BY AND TITLE: [signature] (AW)
DATE/TIME: see above
RELINQUISHED BY: [signature] ✓
DATE/TIME: 9/1/16 10:52 ✓

RECEIVED BY: [signature] ✓
DATE/TIME: 9/1/16 10:52
RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB: [signature]
DATE/TIME: 09/01/16 1440
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: Yes No NA
Ice: Yes No NA
Temperature: 2°C Min: 2°C Max:
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AZI0038
Entered into LIMS: MR
Tracking #:

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 9/13/2016 9:14:05AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 09/01/16 14:40

Work Order: AZI0038
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 5 **#Containers:** 15

Minimum Temp(C): 2.0 **Maximum Temp(C):** 2.0 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

September 30, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Branch AP
Pace Project No.: 30194944

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on September 02, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: Plant Branch AP
Pace Project No.: 30194944

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: Plant Branch AP
Pace Project No.: 30194944

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30194944001	**BRGWA-5S**	Water	08/31/16 10:45	09/02/16 10:20
30194944002	**BRGWA-5I**	Water	08/31/16 11:55	09/02/16 10:20
30194944003	**FB-1-8-31-16**	Water	08/31/16 13:30	09/02/16 10:20
30194944004	**BRGWA-2I**	Water	08/31/16 13:55	09/02/16 10:20
30194944005	**BRGWA-2S**	Water	08/31/16 16:10	09/02/16 10:20

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: Plant Branch AP
Pace Project No.: 30194944

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30194944001	**BRGWA-5S**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30194944002	**BRGWA-5I**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30194944003	**FB-1-8-31-16**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30194944004	**BRGWA-2I**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30194944005	**BRGWA-2S**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1

Pace Analytical Services, Inc.
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30194944

Sample: BRGWA-5S **Lab ID: 30194944001** Collected: 08/31/16 10:45 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0680 ± 0.0975 (0.272) C:82% T:NA**	pCi/L	09/14/16 08:10	13982-63-3	
Radium-228	EPA 9320	**0.428 ± 0.387 (0.780) C:73% T:73%**	pCi/L	09/27/16 12:12	15262-20-1	
Total Radium	Total Radium Calculation	**0.428 ± 0.485 (1.05)**	pCi/L	09/29/16 14:55	7440-14-4	

Sample: BRGWA-5I **Lab ID: 30194944002** Collected: 08/31/16 11:55 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0323 ± 0.0890 (0.207) C:75% T:NA**	pCi/L	09/14/16 08:10	13982-63-3	
Radium-228	EPA 9320	**0.534 ± 0.385 (0.734) C:73% T:79%**	pCi/L	09/22/16 02:22	15262-20-1	
Total Radium	Total Radium Calculation	**0.566 ± 0.474 (0.941)**	pCi/L	09/29/16 14:55	7440-14-4	

Sample: FB-1-8-31-16 **Lab ID: 30194944003** Collected: 08/31/16 13:30 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0153 ± 0.146 (0.352) C:77% T:NA**	pCi/L	09/14/16 08:10	13982-63-3	
Radium-228	EPA 9320	**0.336 ± 0.314 (0.624) C:84% T:74%**	pCi/L	09/22/16 02:22	15262-20-1	
Total Radium	Total Radium Calculation	**0.351 ± 0.460 (0.976)**	pCi/L	09/29/16 14:55	7440-14-4	

Sample: BRGWA-2I **Lab ID: 30194944004** Collected: 08/31/16 13:55 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.124 ± 0.0976 (0.169) C:86% T:NA**	pCi/L	09/14/16 09:38	13982-63-3	
Radium-228	EPA 9320	**0.879 ± 0.483 (0.878) C:69% T:84%**	pCi/L	09/22/16 21:43	15262-20-1	
Total Radium	Total Radium Calculation	**1.00 ± 0.581 (1.05)**	pCi/L	09/26/16 14:07	7440-14-4	

Sample: BRGWA-2S **Lab ID: 30194944005** Collected: 08/31/16 16:10 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0221 ± 0.0819 (0.197) C:75% T:NA**	pCi/L	09/14/16 09:38	13982-63-3	
Radium-228	EPA 9320	**0.598 ± 0.459 (0.908) C:74% T:78%**	pCi/L	09/22/16 22:10	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30194944

Sample: BRGWA-2S **Lab ID: 30194944005** Collected: 08/31/16 16:10 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.620 ± 0.541 (1.11)**	pCi/L	09/26/16 14:07	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30194944

QC Batch: 232405 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30194944004, 30194944005

METHOD BLANK: 1138990 Matrix: Water
Associated Lab Samples: 30194944004, 30194944005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0580 ± 0.0928 (0.200) C:77% T:NA	pCi/L	09/14/16 09:38	

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

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30194944

QC Batch: 232400 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30194944001, 30194944002, 30194944003

METHOD BLANK: 1138984 Matrix: Water
Associated Lab Samples: 30194944001, 30194944002, 30194944003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.973 ± 0.471 (0.817) C:83% T:71%	pCi/L	09/27/16 12:10	

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

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30194944

QC Batch: 232404 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30194944001, 30194944002, 30194944003

METHOD BLANK: 1138989 Matrix: Water
Associated Lab Samples: 30194944001, 30194944002, 30194944003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.00141 ± 0.114 (0.281) C:80% T:NA	pCi/L	09/14/16 08:08	

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

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30194944

QC Batch: 232402 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30194944004, 30194944005

METHOD BLANK: 1138986 Matrix: Water
Associated Lab Samples: 30194944004, 30194944005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.673 ± 0.390 (0.724) C:85% T:84%	pCi/L	09/22/16 21:43	

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.

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: Plant Branch AP
Pace Project No.: 30194944

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.

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.

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.

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.

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: Phase 2 CCR

ANALYSIS REQUESTED

Collection DATE m/dd/yy	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:								P	P	P	P							
PRESERVATION:								3	7	3								
8/31/16	1045	GW		✓	BRGWA-5S	3		1	1	1								001
8/31/16	1155	GW		✓	BRGWA-5I	3		1	1	1								002
8/31/16	1330	W		✓	FB-1-8-31-16	3		1	1	1								003
8/31/16	1355	GW		✓	BRGWA-2I	3		1	1	1								004
8/31/16	1610	GW		✓	BRGWA-2S	3		1	1	1								005

WO#:30194944

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

SAMPLED BY AND TITLE: [signature] (FTC)
DATE/TIME: see above
RELINQUISHED BY: [signature]
DATE/TIME: 9/1/16 10:52
RECEIVED BY: [signature]
DATE/TIME: 9/1/16 10:52
RELINQUISHED BY:
DATE/TIME:
RECEIVED BY/LAB: [signature]
DATE/TIME: 9/2/16 1020

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

pH checked: (Yes) No NA
Ice: Yes (No) NA
Temperature: Min: N/A Max:
SAMPLE SHIPPED VIA: UPS (FED-EX) USPS COURIER CLIENT OTHER FS
Custody Seal: Intact Broken (Not Present)
# of Coolers: 1
Cooler ID:

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Georgia power

Project # 30194944

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 6812 5098 8404

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp _____ °C Correction Factor: _____ °C Final Temp: _____ °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ML 9-2-16

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4. no name/only Signature
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: GW	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):			✓	7.
Rush Turn Around Time Requested:			✓	8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Filtered volume received for Dissolved tests				12.
All containers needing preservation have been checked.	✓			13. all below 2 pH
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: ML Date/time of preservation: 9-2-16
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	14.
Trip Blank Present:			✓	15.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ML Date: 9-2-16

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	WRR
Date:	9/9/2016
Worklist:	31288
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1138989
MB concentration:	0.001
M/B Counting Uncertainty:	0.114
MB MDC:	0.281
MB Numerical Performance Indicator:	0.02
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS31288	LCSD31288
Count Date:	9/21/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.677	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.514	
Target Conc. (pCi/L, g, F):	8.694	
Uncertainty (Calculated):	0.409	
Result (pCi/L, g, F):	8.626	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.651	
Numerical Performance Indicator:	-0.17	
Percent Recovery:	99.21%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30194944003	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30194944003DUP	
Sample Result (pCi/L, g, F):	0.015	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.146	
Sample Duplicate Result (pCi/L, g, F):	0.213	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.174	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.708	30194944003
Duplicate RPD:	173.24%	30194944003DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	WRR
Date:	9/9/2016
Worklist:	31289
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1138990
MB concentration:	0.058
M/B Counting Uncertainty:	0.092
MB MDC:	0.200
MB Numerical Performance Indicator:	1.23
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS31289	LCSD31289
Count Date:	9/14/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.678	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.503	
Target Conc. (pCi/L, g, F):	8.882	
Uncertainty (Calculated):	0.418	
Result (pCi/L, g, F):	7.333	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.556	
Numerical Performance Indicator:	-4.37	
Percent Recovery:	82.56%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30195003003	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30195003003DUP	
Sample Result (pCi/L, g, F):	0.079	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.107	
Sample Duplicate Result (pCi/L, g, F):	0.174	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.171	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.916	30195003003
Duplicate RPD:	74.55%	30195003003DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

9/30/16

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	9/23/2016
Worklist:	31284
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1138984
MB concentration:	0.973
M/B Counting Uncertainty:	0.438
MB MDC:	0.817
MB Numerical Performance Indicator:	4.35
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS31284	LCSD31284
Count Date:	9/27/2016	9/27/2016
Spike I.D.:	16-025	16-025
Spike Concentration (pCi/mL):	25.565	25.565
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.814	0.808
Target Conc. (pCi/L, g, F):	6.284	6.325
Uncertainty (Calculated):	0.452	0.455
Result (pCi/L, g, F):	5.336	6.148
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.693	0.789
Numerical Performance Indicator:	-2.25	-0.38
Percent Recovery:	84.92%	97.20%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	LCS31284	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD31284	
Sample Result (pCi/L, g, F):	5.336	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.693	
Sample Duplicate Result (pCi/L, g, F):	6.148	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.789	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	-1.515	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	13.49%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:
*The method blank result is below the reporting limit for this analysis and is acceptable.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	9/12/2016
Worklist:	31286
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1138986
MB concentration:	0.673
M/B Counting Uncertainty:	0.371
MB MDC:	0.724
MB Numerical Performance Indicator:	3.55
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS31286	LCSD31286
Count Date:	9/22/2016	
Spike I.D.:	16-025	
Spike Concentration (pCi/mL):	25.604	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.801	
Target Conc. (pCi/L, g, F):	6.393	
Uncertainty (Calculated):	0.460	
Result (pCi/L, g, F):	8.562	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.792	
Numerical Performance Indicator:	4.64	
Percent Recovery:	133.93%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30194996003	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30194996003DUP	
Sample Result (pCi/L, g, F):	1.218	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.440	
Sample Duplicate Result (pCi/L, g, F):	2.067	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.494	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-2.517	30194996003
Duplicate RPD:	51.73%	30194996003DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

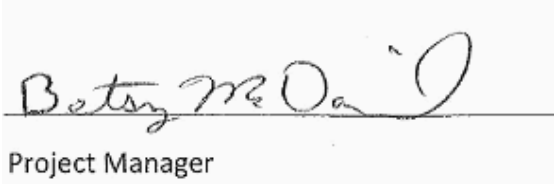
Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: **Mr. Joju Abraham**

Report Number: **AZI0059**
September 13, 2016
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:



Project Manager

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 13, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWA-6S	AZI0059-01	Ground Water	09/01/16 10:40	09/02/16 09:25
EB-1-9-1-16	AZI0059-02	DI Water	09/01/16 11:35	09/02/16 09:25
BRGWA-12I	AZI0059-03	Ground Water	09/01/16 14:15	09/02/16 09:25
BRGWA-12S	AZI0059-04	Ground Water	09/01/16 17:35	09/02/16 09:25

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0059
Client ID: BRGWA-6S
Date/Time Sampled: 9/1/2016 10:40:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0059-01
Date/Time Received: 9/2/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	299	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	2.5	0.25	0.01	mg/L	EPA 300.0	B-01	1	09/05/16 10:11	09/05/16 23:48	6090088	RLC
Fluoride	0.06	0.30	0.02	mg/L	EPA 300.0	J	1	09/05/16 10:11	09/05/16 23:48	6090088	RLC
Sulfate	0.60	1.0	0.05	mg/L	EPA 300.0	J	1	09/05/16 10:11	09/05/16 23:48	6090088	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Barium	0.0142	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Calcium	3.30	0.500	0.0311	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Chromium	0.0147	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Lead	0.0001	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Lithium	0.0030	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:05	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/07/16 08:50	09/07/16 17:32	6090124	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0059
Client ID: EB-1-9-1-16
Date/Time Sampled: 9/1/2016 11:35:00AM
Matrix: DI Water

Project: CCR Event
Lab Number ID: AZI0059-02
Date/Time Received: 9/2/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	0.11	0.25	0.01	mg/L	EPA 300.0	B-01, J	1	09/05/16 10:11	09/06/16 00:09	6090088	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	09/05/16 10:11	09/06/16 00:09	6090088	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	09/05/16 10:11	09/06/16 00:09	6090088	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:10	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/07/16 08:50	09/07/16 17:34	6090124	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0059
Client ID: BRGWA-12I
Date/Time Sampled: 9/1/2016 2:15:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0059-03
Date/Time Received: 9/2/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	142	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	3.3	0.25	0.01	mg/L	EPA 300.0	B-01	1	09/05/16 10:11	09/06/16 00:30	6090088	RLC
Fluoride	0.20	0.30	0.02	mg/L	EPA 300.0	J	1	09/05/16 10:11	09/06/16 00:30	6090088	RLC
Sulfate	2.7	1.0	0.05	mg/L	EPA 300.0		1	09/05/16 10:11	09/06/16 00:30	6090088	RLC
Metals, Total											
Antimony	0.0015	0.0030	0.0008	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Barium	0.0454	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Boron	0.0093	0.100	0.0064	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Calcium	8.98	0.500	0.0311	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Chromium	0.0009	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Molybdenum	0.0020	0.0100	0.0017	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Lithium	0.0061	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:16	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/07/16 08:50	09/07/16 17:37	6090124	MTC

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 13, 2016

Report No.: AZI0059
Client ID: BRGWA-12S
Date/Time Sampled: 9/1/2016 5:35:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0059-04
Date/Time Received: 9/2/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	69	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	3.5	0.25	0.01	mg/L	EPA 300.0	B-01	1	09/05/16 10:11	09/06/16 02:34	6090088	RLC
Fluoride	0.05	0.30	0.02	mg/L	EPA 300.0	J	1	09/05/16 10:11	09/06/16 02:34	6090088	RLC
Sulfate	1.7	1.0	0.05	mg/L	EPA 300.0		1	09/05/16 10:11	09/06/16 02:34	6090088	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Barium	0.0528	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Calcium	4.61	0.500	0.0311	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Chromium	0.0013	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:22	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/07/16 08:50	09/07/16 17:39	6090124	MTC

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Report No.: AZI0059

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090135 - SM 2540 C											
Blank (6090135-BLK1)						Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6090135-BS1)						Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	336	25	10	mg/L	400.00		84	84-108			
Duplicate (6090135-DUP1)		**Source: AZI0058-08**				Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	580	25	10	mg/L		539			7	10	
Duplicate (6090135-DUP2)		**Source: AZI0077-04**				Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	691	25	10	mg/L		769			11	10	QR-03

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Report No.: AZI0059

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090088 - EPA 300.0											
Blank (6090088-BLK1)						Prepared & Analyzed: 09/05/16					
Chloride	0.05	0.25	0.01	mg/L							J
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6090088-BS1)						Prepared & Analyzed: 09/05/16					
Chloride	10.1	0.25	0.01	mg/L	10.010		101	90-110			
Fluoride	10.0	0.30	0.02	mg/L	10.010		100	90-110			
Sulfate	10.2	1.0	0.05	mg/L	10.010		102	90-110			
Matrix Spike (6090088-MS1)		**Source: AZI0050-01**				Prepared & Analyzed: 09/05/16					
Chloride	466	0.25	0.01	mg/L	10.010	478	NR	90-110			QM-02
Fluoride	11.8	0.30	0.02	mg/L	10.010	0.34	114	90-110			QM-05
Sulfate	275	1.0	0.05	mg/L	10.010	291	NR	90-110			QM-02
Matrix Spike (6090088-MS2)		**Source: AZI0059-03**				Prepared: 09/05/16 Analyzed: 09/06/16					
Chloride	13.9	0.25	0.01	mg/L	10.010	3.33	105	90-110			
Fluoride	10.9	0.30	0.02	mg/L	10.010	0.20	107	90-110			
Sulfate	12.7	1.0	0.05	mg/L	10.010	2.66	101	90-110			
Matrix Spike Dup (6090088-MSD1)		**Source: AZI0050-01**				Prepared & Analyzed: 09/05/16					
Chloride	486	0.25	0.01	mg/L	10.010	478	84	90-110	4	15	QM-02
Fluoride	11.7	0.30	0.02	mg/L	10.010	0.34	114	90-110	0.4	15	QM-05
Sulfate	275	1.0	0.05	mg/L	10.010	291	NR	90-110	0.1	15	QM-02

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090121 - EPA 3005A											
Blank (6090121-BLK1)						Prepared: 09/07/16 Analyzed: 09/08/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (6090121-BS1)						Prepared: 09/07/16 Analyzed: 09/08/16					
Antimony	0.109	0.0030	0.0008	mg/L	0.10000		109	80-120			
Arsenic	0.0983	0.0050	0.0016	mg/L	0.10000		98	80-120			
Barium	0.0965	0.0100	0.0004	mg/L	0.10000		96	80-120			
Beryllium	0.0979	0.0030	0.00008	mg/L	0.10000		98	80-120			
Boron	0.990	0.100	0.0064	mg/L	1.0000		99	80-120			
Cadmium	0.100	0.0010	0.00007	mg/L	0.10000		100	80-120			
Calcium	0.942	0.500	0.0311	mg/L	1.0000		94	80-120			
Chromium	0.100	0.0100	0.0009	mg/L	0.10000		100	80-120			
Cobalt	0.0969	0.0100	0.0005	mg/L	0.10000		97	80-120			
Copper	0.0966	0.0050	0.0005	mg/L	0.10000		97	80-120			
Lead	0.0985	0.0050	0.0001	mg/L	0.10000		98	80-120			
Molybdenum	0.102	0.0100	0.0017	mg/L	0.10000		102	80-120			
Nickel	0.0957	0.0050	0.0006	mg/L	0.10000		96	80-120			
Selenium	0.0999	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.0964	0.0050	0.0005	mg/L	0.10000		96	80-120			
Thallium	0.0983	0.0010	0.0002	mg/L	0.10000		98	80-120			
Vanadium	0.104	0.0100	0.0071	mg/L	0.10000		104	80-120			
Zinc	0.103	0.0100	0.0021	mg/L	0.10000		103	80-120			
Lithium	0.0971	0.0500	0.0021	mg/L	0.10000		97	80-120			

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Report No.: AZI0059

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090121 - EPA 3005A											
Matrix Spike (6090121-MS1)		**Source: AZI0059-01**			Prepared: 09/07/16 Analyzed: 09/08/16						
Antimony	0.110	0.0030	0.0008	mg/L	0.10000	ND	110	75-125			
Arsenic	0.0984	0.0050	0.0016	mg/L	0.10000	ND	98	75-125			
Barium	0.112	0.0100	0.0004	mg/L	0.10000	0.0142	98	75-125			
Beryllium	0.0935	0.0030	0.00008	mg/L	0.10000	ND	93	75-125			
Boron	0.952	0.100	0.0064	mg/L	1.0000	ND	95	75-125			
Cadmium	0.101	0.0010	0.00007	mg/L	0.10000	ND	101	75-125			
Calcium	4.12	0.500	0.0311	mg/L	1.0000	3.30	82	75-125			
Chromium	0.117	0.0100	0.0009	mg/L	0.10000	0.0147	102	75-125			
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000	ND	101	75-125			
Copper	0.0970	0.0050	0.0005	mg/L	0.10000	ND	97	75-125			
Lead	0.0973	0.0050	0.0001	mg/L	0.10000	0.0001	97	75-125			
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000	ND	103	75-125			
Nickel	0.103	0.0050	0.0006	mg/L	0.10000	0.0035	100	75-125			
Selenium	0.0978	0.0100	0.0010	mg/L	0.10000	ND	98	75-125			
Silver	0.0973	0.0050	0.0005	mg/L	0.10000	ND	97	75-125			
Thallium	0.0984	0.0010	0.0002	mg/L	0.10000	ND	98	75-125			
Vanadium	0.111	0.0100	0.0071	mg/L	0.10000	ND	111	75-125			
Zinc	0.109	0.0100	0.0021	mg/L	0.10000	0.0062	103	75-125			
Lithium	0.0988	0.0500	0.0021	mg/L	0.10000	0.0030	96	75-125			
Matrix Spike Dup (6090121-MSD1)		**Source: AZI0059-01**			Prepared: 09/07/16 Analyzed: 09/08/16						
Antimony	0.109	0.0030	0.0008	mg/L	0.10000	ND	109	75-125	0.06	20	
Arsenic	0.0992	0.0050	0.0016	mg/L	0.10000	ND	99	75-125	0.8	20	
Barium	0.113	0.0100	0.0004	mg/L	0.10000	0.0142	99	75-125	1	20	
Beryllium	0.0946	0.0030	0.00008	mg/L	0.10000	ND	95	75-125	1	20	
Boron	0.904	0.100	0.0064	mg/L	1.0000	ND	90	75-125	5	20	
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000	ND	104	75-125	3	20	
Calcium	4.13	0.500	0.0311	mg/L	1.0000	3.30	82	75-125	0.2	20	
Chromium	0.110	0.0100	0.0009	mg/L	0.10000	0.0147	95	75-125	6	20	
Cobalt	0.0972	0.0100	0.0005	mg/L	0.10000	ND	97	75-125	4	20	
Copper	0.0961	0.0050	0.0005	mg/L	0.10000	ND	96	75-125	1	20	
Lead	0.0989	0.0050	0.0001	mg/L	0.10000	0.0001	99	75-125	2	20	
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000	ND	103	75-125	0.4	20	
Nickel	0.103	0.0050	0.0006	mg/L	0.10000	0.0035	100	75-125	0.4	20	
Selenium	0.101	0.0100	0.0010	mg/L	0.10000	ND	101	75-125	3	20	
Silver	0.0994	0.0050	0.0005	mg/L	0.10000	ND	99	75-125	2	20	
Thallium	0.0996	0.0010	0.0002	mg/L	0.10000	ND	100	75-125	1	20	
Vanadium	0.108	0.0100	0.0071	mg/L	0.10000	ND	108	75-125	3	20	
Zinc	0.108	0.0100	0.0021	mg/L	0.10000	0.0062	102	75-125	1	20	
Lithium	0.0985	0.0500	0.0021	mg/L	0.10000	0.0030	96	75-125	0.3	20	

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090121 - EPA 3005A											
Post Spike (6090121-PS1)		**Source: AZI0059-01**				Prepared: 09/07/16 Analyzed: 09/08/16					
Antimony	95.5			ug/L	100.00	0.627	95	80-120			
Arsenic	100			ug/L	100.00	0.162	100	80-120			
Barium	113			ug/L	100.00	14.2	98	80-120			
Beryllium	102			ug/L	100.00	0.0291	102	80-120			
Boron	956			ug/L	1000.0	5.64	95	80-120			
Cadmium	104			ug/L	100.00	0.0253	103	80-120			
Calcium	4230			ug/L	1000.0	3300	93	80-120			
Chromium	115			ug/L	100.00	14.7	101	80-120			
Cobalt	101			ug/L	100.00	0.235	101	80-120			
Copper	100			ug/L	100.00	0.237	100	80-120			
Lead	101			ug/L	100.00	0.130	101	80-120			
Molybdenum	103			ug/L	100.00	0.0836	102	80-120			
Nickel	103			ug/L	100.00	3.46	100	80-120			
Selenium	103			ug/L	100.00	0.602	103	80-120			
Silver	98.7			ug/L	100.00	0.0071	99	80-120			
Thallium	100			ug/L	100.00	0.0246	100	80-120			
Vanadium	109			ug/L	100.00	4.25	105	80-120			
Zinc	110			ug/L	100.00	6.19	104	80-120			
Lithium	103			ug/L	100.00	2.97	100	80-120			
Batch 6090124 - EPA 7470A											
Blank (6090124-BLK1)						Prepared & Analyzed: 09/07/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6090124-BS1)						Prepared & Analyzed: 09/07/16					
Mercury	0.00239	0.00050	0.000041	mg/L	2.5000E-3		96	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090124 - EPA 7470A											
Matrix Spike (6090124-MS1)			**Source: AZI0058-10**			Prepared & Analyzed: 09/07/16					
Mercury	0.00225	0.00050	0.000041	mg/L	2.5000E-3	ND	90	75-125			
Matrix Spike Dup (6090124-MSD1)			**Source: AZI0058-10**			Prepared & Analyzed: 09/07/16					
Mercury	0.00222	0.00050	0.000041	mg/L	2.5000E-3	ND	89	75-125	1	20	
Post Spike (6090124-PS1)			**Source: AZI0058-10**			Prepared & Analyzed: 09/07/16					
Mercury	1.63			ug/L	1.6667	0.0124	97	80-120			

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Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to suspected matrix interference and/or non-homogeneous sample matrix.

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asl-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com
PROJECT NAME/STATE: Plant Branch AP
PROJECT #: Phase 2 CCR

ANALYSIS REQUESTED

Collection DATE m/d/YY	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE							P	P	P	P						
PRESERVATION							3	7	3							
9/1/16	1040	GW		✓	BRGWA-6S	3	1	1	1							1
9/1/16	1135	W		✓	EB-1 - 9-1-16	3	1	1	1							2
9/1/16	1415	GW		✓	BRGWA-12I	3	1	1	1							3
9/1/16	1735	GW		✓	BRGWA-12S	3	1	1	1							4

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: C. Parker (ACC) DATE/TIME: See above
RELINQUISHED BY: C. Parker DATE/TIME: 9-2-2016 0925
RECEIVED BY: DATE/TIME:
RELINQUISHED BY: DATE/TIME:
RECEIVED BY LAB: Charles Hardy DATE/TIME: 9/2/16 0925
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (CLIENT) OTHER FS
Custody Seal: (Intact) Broken Not Present
# of Coolers: 1
Cooler ID:
Temperature: 4° Min 4° Max
Ice: (Yes) No NA
Labels checked: (Yes) No NA

FOR LAB USE ONLY
LAB #: AZI0059
Entered into LIMS: CH
Tracking #:

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 9/13/2016 5:30:51PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 09/02/16 09:25

Work Order: AZI0059
Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 4 **#Containers:** 12

Minimum Temp(C): 4.0 **Maximum Temp(C):** 4.0 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 04, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Branch AP
Pace Project No.: 30195120

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on September 06, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: Plant Branch AP
Pace Project No.: 30195120

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: Plant Branch AP
Pace Project No.: 30195120

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30195120001	**BRGWA-6S**	Water	09/01/16 10:40	09/06/16 08:50
30195120002	**EB-1-9-1-16**	Water	09/01/16 11:35	09/06/16 08:50
30195120003	**BRGWA-12I**	Water	09/01/16 14:15	09/06/16 08:50
30195120004	**BRGWA-12S**	Water	09/01/16 17:35	09/06/16 08:50

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(724)850-5600

SAMPLE ANALYTE COUNT

Project: Plant Branch AP
Pace Project No.: 30195120

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30195120001	**BRGWA-6S**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30195120002	**EB-1-9-1-16**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30195120003	**BRGWA-12I**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30195120004	**BRGWA-12S**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195120

Sample: BRGWA-6S **Lab ID: 30195120001** Collected: 09/01/16 10:40 Received: 09/06/16 08:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.130 ± 0.0955 (0.163) C:103% T:NA**	pCi/L	09/16/16 08:19	13982-63-3	
Radium-228	EPA 9320	**0.473 ± 0.314 (0.582) C:81% T:77%**	pCi/L	09/23/16 01:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.603 ± 0.410 (0.745)**	pCi/L	10/03/16 15:46	7440-14-4	

Sample: EB-1-9-1-16 **Lab ID: 30195120002** Collected: 09/01/16 11:35 Received: 09/06/16 08:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0695 ± 0.116 (0.253) C:85% T:NA**	pCi/L	09/16/16 08:19	13982-63-3	
Radium-228	EPA 9320	**1.26 ± 0.508 (0.788) C:71% T:69%**	pCi/L	09/23/16 01:57	15262-20-1	
Total Radium	Total Radium Calculation	**1.33 ± 0.624 (1.04)**	pCi/L	10/03/16 15:46	7440-14-4	

Sample: BRGWA-12I **Lab ID: 30195120003** Collected: 09/01/16 14:15 Received: 09/06/16 08:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0799 ± 0.110 (0.232) C:85% T:NA**	pCi/L	09/16/16 08:19	13982-63-3	
Radium-228	EPA 9320	**1.10 ± 0.471 (0.756) C:69% T:74%**	pCi/L	09/23/16 01:57	15262-20-1	
Total Radium	Total Radium Calculation	**1.18 ± 0.581 (0.988)**	pCi/L	10/03/16 15:46	7440-14-4	

Sample: BRGWA-12S **Lab ID: 30195120004** Collected: 09/01/16 17:35 Received: 09/06/16 08:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.230 ± 0.124 (0.174) C:84% T:NA**	pCi/L	09/16/16 08:19	13982-63-3	
Radium-228	EPA 9320	**0.413 ± 0.367 (0.723) C:69% T:79%**	pCi/L	09/23/16 01:58	15262-20-1	
Total Radium	Total Radium Calculation	**0.643 ± 0.491 (0.897)**	pCi/L	10/03/16 15:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195120

QC Batch: 232977 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30195120001, 30195120002, 30195120003, 30195120004

METHOD BLANK: 1141794 Matrix: Water
Associated Lab Samples: 30195120001, 30195120002, 30195120003, 30195120004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.177 ± 0.109 (0.163) C:88% T:NA	pCi/L	09/16/16 08:18	

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.

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195120

QC Batch: 232983 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30195120001, 30195120002, 30195120003, 30195120004

METHOD BLANK: 1141811 Matrix: Water
Associated Lab Samples: 30195120001, 30195120002, 30195120003, 30195120004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.562 ± 0.343 (0.628) C:77% T:84%	pCi/L	09/23/16 01:56	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: Plant Branch AP
Pace Project No.: 30195120

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.

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.

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.

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.

SAMPLE QUALIFIERS

Sample: 30195120003

[1] Sample collection time on containers does not match COC; client was notified.

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: Phase 2 CCR

ANALYSIS REQUESTED

Collection DATE m/d/yy	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
CONTAINER TYPE:							P	P	P	P
PRESERVATION:							3	7	3	
9/1/16	1040	GW		✓	BRGWA-6S	3	1	1	1	001
9/1/16	1135	W		✓	EB-1 - 9-1-16	3	1	1	1	002
9/1/16	1415	GW		✓	BRGWA-12I	3	1	1	1	003
9/1/16	1735	GW		✓	BRGWA-12S	3	1	1	1	004

WO#:30195120

30195120

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: C Parker (ACC) DATE/TIME: See above
RELINQUISHED BY: C Parker DATE/TIME: 9-2-2016
RECEIVED BY: Pace DATE/TIME: 9-6-16/0850
RELINQUISHED BY: DATE/TIME:
RECEIVED BY LAB: DATE/TIME:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: Yes No NA	Ice: Yes No NA	Temperature: Min: Max.	Custody Seal: Intact Broken Not Present	# of Coolers	Cooler ID:

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace, GA Project # 30195120

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 6812 5098 8849

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMR 9-6-16

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X	X		4. AMR 9-6-16
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT		X		5. Time on 003 is 1515 Bottle
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:		X		
Containers Intact:	X			11.
Filtered volume received for Dissolved tests			X	12.
All containers needing preservation have been checked.	X			13. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed AMR Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	14.
Trip Blank Present:		X		15.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: AMR Date: 9-6-16

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

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)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-226
Analyst:	WRR
Date:	9/21/2016
Worklist:	31359
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1141794
MB concentration:	0.177
M/B Counting Uncertainty:	0.106
MB MDC:	0.163
MB Numerical Performance Indicator:	3.28
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS31359	LCSD31359
Count Date:	9/16/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.677	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.498	
Target Conc. (pCi/L, g, F):	8.971	
Uncertainty (Calculated):	0.422	
Result (pCi/L, g, F):	8.159	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.589	
Numerical Performance Indicator:	-2.19	
Percent Recovery:	90.96%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30195125002
Duplicate Sample I.D.	30195125002DUP
Sample Result (pCi/L, g, F):	0.276
Sample Result Counting Uncertainty (pCi/L, g, F):	0.203
Sample Duplicate Result (pCi/L, g, F):	0.106
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.241
Are sample and/or duplicate results below MDC?	See Below ##
Duplicate Numerical Performance Indicator:	1.049
Duplicate RPD:	87.95%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Fail***

Enter Duplicate sample IDs if other than LCS/LCSD in the space below.

30195125002
30195125002DUP

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:
*The method blank result is below the reporting limit for this analysis and is acceptable.

***Batch must be re-prepped due to unacceptable precision.

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	9/15/2016
Worklist:	31364
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1141811
MB concentration:	0.562
M/B Counting Uncertainty:	0.328
MB MDC:	0.628
MB Numerical Performance Indicator:	3.36
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS31364	LCSD31364
Count Date:	9/23/2016	
Spike I.D.:	16-025	
Spike Concentration (pCi/mL):	25.603	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.802	
Target Conc. (pCi/L, g, F):	6.385	
Uncertainty (Calculated):	0.460	
Result (pCi/L, g, F):	7.456	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.639	
Numerical Performance Indicator:	2.67	
Percent Recovery:	116.77%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment	
Sample I.D.:	30195125002
Duplicate Sample I.D.	30195125002DUP
Sample Result (pCi/L, g, F):	1.548
Sample Result Counting Uncertainty (pCi/L, g, F):	0.474
Sample Duplicate Result (pCi/L, g, F):	2.200
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.545
Are sample and/or duplicate results below MDC?	See Below ##
Duplicate Numerical Performance Indicator:	-1.767
Duplicate RPD:	34.76%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass

Enter Duplicate sample IDs if other than LCS/LCSD in the space below.

30195125002
30195125002DUP

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AZI0270
September 16, 2016
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EB-2-9-8-16	AZI0270-01	DI Water	09/08/16 08:50	09/09/16 09:30
BRGWC-32S	AZI0270-02	Ground Water	09/08/16 09:50	09/09/16 09:30
BRGWC-34S	AZI0270-03	Ground Water	09/08/16 11:25	09/09/16 09:30
BRGWC-27S	AZI0270-04	Ground Water	09/08/16 12:40	09/09/16 09:30
FB-2-9-8-16	AZI0270-05	DI Water	09/08/16 13:25	09/09/16 09:30
BRGWC-29I	AZI0270-06	Ground Water	09/08/16 13:40	09/09/16 09:30
BRGWC-25I	AZI0270-07	Ground Water	09/08/16 14:45	09/09/16 09:30

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0270
Client ID: EB-2-9-8-16
Date/Time Sampled: 9/8/2016 8:50:00AM
Matrix: DI Water

Project: CCR Event
Lab Number ID: AZI0270-01
Date/Time Received: 9/9/2016 9:30:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	09/13/16 18:10	09/13/16 18:10	6090305	JPT
Inorganic Anions											
Chloride	0.04	0.25	0.01	mg/L	EPA 300.0	J	1	09/14/16 15:11	09/15/16 02:02	6090370	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 02:02	6090370	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 02:02	6090370	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/14/16 09:20	09/16/16 15:07	6090322	CSW
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Calcium	0.0629	0.500	0.0311	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:25	6090322	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 16:45	6090244	MTC

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0270
Client ID: BRGWC-32S
Date/Time Sampled: 9/8/2016 9:50:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0270-02
Date/Time Received: 9/9/2016 9:30:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	607	25	10	mg/L	SM 2540 C		1	09/13/16 18:10	09/13/16 18:10	6090305	JPT
Inorganic Anions											
Chloride	6.8	0.25	0.01	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 02:23	6090370	RLC
Fluoride	0.15	0.30	0.02	mg/L	EPA 300.0	J	1	09/14/16 15:11	09/15/16 02:23	6090370	RLC
Sulfate	370	10	0.51	mg/L	EPA 300.0		10	09/14/16 15:11	09/16/16 08:40	6090370	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Barium	0.0593	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/14/16 09:20	09/16/16 15:12	6090322	CSW
Boron	1.28	0.100	0.0064	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Calcium	60.5	5.00	0.311	mg/L	EPA 6020B		10	09/14/16 09:20	09/16/16 15:41	6090322	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Cobalt	0.0025	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:31	6090322	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 16:48	6090244	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0270
Client ID: BRGWC-34S
Date/Time Sampled: 9/8/2016 11:25:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0270-03
Date/Time Received: 9/9/2016 9:30:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	663	25	10	mg/L	SM 2540 C		1	09/13/16 18:10	09/13/16 18:10	6090305	JPT
Inorganic Anions											
Chloride	7.2	0.25	0.01	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 02:44	6090370	RLC
Fluoride	0.17	0.30	0.02	mg/L	EPA 300.0	J	1	09/14/16 15:11	09/15/16 02:44	6090370	RLC
Sulfate	420	10	0.51	mg/L	EPA 300.0		10	09/14/16 15:11	09/16/16 09:02	6090370	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Barium	0.0415	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Beryllium	0.0001	0.0030	0.00008	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/16/16 15:16	6090322	CSW
Boron	1.89	0.100	0.0064	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Calcium	97.3	25.0	1.55	mg/L	EPA 6020B		50	09/14/16 09:20	09/16/16 15:47	6090322	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Cobalt	0.0029	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:37	6090322	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 16:50	6090244	MTC

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0270
Client ID: BRGWC-27S
Date/Time Sampled: 9/8/2016 12:40:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0270-04
Date/Time Received: 9/9/2016 9:30:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	478	25	10	mg/L	SM 2540 C		1	09/13/16 18:10	09/13/16 18:10	6090305	JPT
Inorganic Anions											
Chloride	6.0	0.25	0.01	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 03:04	6090370	RLC
Fluoride	0.31	0.30	0.02	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 03:04	6090370	RLC
Sulfate	300	10	0.51	mg/L	EPA 300.0		10	09/14/16 15:11	09/16/16 09:24	6090370	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Barium	0.0184	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Beryllium	0.0002	0.0030	0.00008	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/16/16 15:20	6090322	CSW
Boron	1.63	0.100	0.0064	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Cadmium	0.00007	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Calcium	87.2	5.00	0.311	mg/L	EPA 6020B		10	09/14/16 09:20	09/16/16 15:53	6090322	CSW
Chromium	0.0010	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Cobalt	0.0149	0.0100	0.0005	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Selenium	0.0043	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Lithium	0.0021	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:43	6090322	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 16:52	6090244	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0270
Client ID: FB-2-9-8-16
Date/Time Sampled: 9/8/2016 1:25:00PM
Matrix: DI Water

Project: CCR Event
Lab Number ID: AZI0270-05
Date/Time Received: 9/9/2016 9:30:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	09/13/16 18:10	09/13/16 18:10	6090305	JPT
Inorganic Anions											
Chloride	0.03	0.25	0.01	mg/L	EPA 300.0	J	1	09/14/16 15:11	09/15/16 05:30	6090370	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 05:30	6090370	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 05:30	6090370	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/14/16 09:20	09/16/16 15:25	6090322	CSW
Boron	0.0106	0.100	0.0064	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:48	6090322	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 16:55	6090244	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0270
Client ID: BRGWC-29I
Date/Time Sampled: 9/8/2016 1:40:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0270-06
Date/Time Received: 9/9/2016 9:30:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	654	25	10	mg/L	SM 2540 C		1	09/13/16 18:10	09/13/16 18:10	6090305	JPT
Inorganic Anions											
Chloride	6.4	0.25	0.01	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 05:51	6090370	RLC
Fluoride	0.20	0.30	0.02	mg/L	EPA 300.0	J	1	09/14/16 15:11	09/15/16 05:51	6090370	RLC
Sulfate	460	10	0.51	mg/L	EPA 300.0		10	09/14/16 15:11	09/16/16 09:46	6090370	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Barium	0.0199	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Beryllium	0.0011	0.0030	0.00008	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/16/16 15:29	6090322	CSW
Boron	1.35	0.100	0.0064	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Calcium	93.9	5.00	0.311	mg/L	EPA 6020B		10	09/14/16 09:20	09/16/16 15:59	6090322	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Cobalt	0.0122	0.0100	0.0005	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Lead	0.0004	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Selenium	0.0039	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Lithium	0.0040	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 00:54	6090322	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 17:02	6090244	MTC

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0270
Client ID: BRGWC-25I
Date/Time Sampled: 9/8/2016 2:45:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0270-07
Date/Time Received: 9/9/2016 9:30:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	460	25	10	mg/L	SM 2540 C		1	09/13/16 18:10	09/13/16 18:10	6090305	JPT
Inorganic Anions											
Chloride	5.5	0.25	0.01	mg/L	EPA 300.0		1	09/14/16 15:11	09/15/16 06:12	6090370	RLC
Fluoride	0.14	0.30	0.02	mg/L	EPA 300.0	J	1	09/14/16 15:11	09/15/16 06:12	6090370	RLC
Sulfate	280	10	0.51	mg/L	EPA 300.0		10	09/14/16 15:11	09/16/16 10:08	6090370	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Barium	0.0378	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/14/16 09:20	09/16/16 15:33	6090322	CSW
Boron	1.03	0.100	0.0064	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Calcium	59.4	5.00	0.311	mg/L	EPA 6020B		10	09/14/16 09:20	09/16/16 16:04	6090322	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Cobalt	0.0073	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/14/16 09:20	09/15/16 01:00	6090322	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 17:04	6090244	MTC

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Report No.: AZI0270

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090305 - SM 2540 C											
Blank (6090305-BLK1)						Prepared & Analyzed: 09/13/16					
Total Dissolved Solids	ND	10	10	mg/L							
LCS (6090305-BS1)						Prepared & Analyzed: 09/13/16					
Total Dissolved Solids	388	10	10	mg/L	400.00		97	84-108			
Duplicate (6090305-DUP1)		**Source: AZI0282-02**				Prepared & Analyzed: 09/13/16					
Total Dissolved Solids	295	10	10	mg/L		293			0.7	10	
Duplicate (6090305-DUP2)		**Source: AZI0284-05**				Prepared & Analyzed: 09/13/16					
Total Dissolved Solids	216	10	10	mg/L		201			7	10	

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September 16, 2016

Report No.: AZI0270

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090370 - EPA 300.0											
Blank (6090370-BLK1)						Prepared & Analyzed: 09/14/16					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6090370-BS1)						Prepared & Analyzed: 09/14/16					
Chloride	9.80	0.25	0.01	mg/L	10.010		98	90-110			
Fluoride	9.99	0.30	0.02	mg/L	10.010		100	90-110			
Sulfate	9.86	1.0	0.05	mg/L	10.010		99	90-110			
Matrix Spike (6090370-MS1)		**Source: AZI0270-04**				Prepared: 09/14/16 Analyzed: 09/15/16					
Chloride	15.7	0.25	0.01	mg/L	10.010	5.97	98	90-110			
Fluoride	10.8	0.30	0.02	mg/L	10.010	0.31	105	90-110			
Sulfate	221	1.0	0.05	mg/L	10.010	231	NR	90-110			QM-05
Matrix Spike (6090370-MS2)		**Source: AZI0270-07**				Prepared: 09/14/16 Analyzed: 09/15/16					
Chloride	15.6	0.25	0.01	mg/L	10.010	5.51	101	90-110			
Fluoride	10.3	0.30	0.02	mg/L	10.010	0.14	102	90-110			
Sulfate	220	1.0	0.05	mg/L	10.010	215	58	90-110			QM-05
Matrix Spike Dup (6090370-MSD1)		**Source: AZI0270-04**				Prepared: 09/14/16 Analyzed: 09/15/16					
Chloride	15.8	0.25	0.01	mg/L	10.010	5.97	98	90-110	0.4	15	
Fluoride	10.7	0.30	0.02	mg/L	10.010	0.31	104	90-110	0.5	15	
Sulfate	221	1.0	0.05	mg/L	10.010	231	NR	90-110	0.09	15	QM-05

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090244 - EPA 7470A											
Blank (6090244-BLK1)						Prepared & Analyzed: 09/12/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6090244-BS1)						Prepared & Analyzed: 09/12/16					
Mercury	0.00235	0.00050	0.000041	mg/L	2.5000E-3		94	80-120			
Matrix Spike (6090244-MS1)			**Source: AZI0269-04**			Prepared & Analyzed: 09/12/16					
Mercury	0.00242	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125			
Matrix Spike Dup (6090244-MSD1)			**Source: AZI0269-04**			Prepared & Analyzed: 09/12/16					
Mercury	0.00242	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125	0.06	20	
Post Spike (6090244-PS1)			**Source: AZI0269-04**			Prepared & Analyzed: 09/12/16					
Mercury	1.78			ug/L	1.6667	0.0139	106	80-120			
Batch 6090322 - EPA 3005A											
Blank (6090322-BLK1)						Prepared & Analyzed: 09/14/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							

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September 16, 2016

Report No.: AZI0270

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090322 - EPA 3005A											
LCS (6090322-BS1)						Prepared & Analyzed: 09/14/16					
Antimony	0.106	0.0030	0.0008	mg/L	0.10000		106	80-120			
Arsenic	0.0992	0.0050	0.0016	mg/L	0.10000		99	80-120			
Barium	0.0991	0.0100	0.0004	mg/L	0.10000		99	80-120			
Beryllium	0.0963	0.0030	0.00008	mg/L	0.10000		96	80-120			
Boron	1.04	0.100	0.0064	mg/L	1.0000		104	80-120			
Cadmium	0.0975	0.0010	0.00007	mg/L	0.10000		97	80-120			
Calcium	1.08	0.500	0.0311	mg/L	1.0000		108	80-120			
Chromium	0.0960	0.0100	0.0009	mg/L	0.10000		96	80-120			
Cobalt	0.0964	0.0100	0.0005	mg/L	0.10000		96	80-120			
Copper	0.0942	0.0250	0.0005	mg/L	0.10000		94	80-120			
Lead	0.0979	0.0050	0.0001	mg/L	0.10000		98	80-120			
Molybdenum	0.101	0.0100	0.0017	mg/L	0.10000		101	80-120			
Nickel	0.0968	0.0100	0.0006	mg/L	0.10000		97	80-120			
Selenium	0.103	0.0100	0.0010	mg/L	0.10000		103	80-120			
Silver	0.0980	0.0100	0.0005	mg/L	0.10000		98	80-120			
Thallium	0.0974	0.0010	0.0002	mg/L	0.10000		97	80-120			
Vanadium	0.0962	0.0100	0.0071	mg/L	0.10000		96	80-120			
Zinc	0.104	0.0100	0.0021	mg/L	0.10000		104	80-120			
Lithium	0.103	0.0500	0.0021	mg/L	0.10000		103	80-120			
Matrix Spike (6090322-MS1)			**Source: AZI0269-05**			Prepared & Analyzed: 09/14/16					
Antimony	0.105	0.0030	0.0008	mg/L	0.10000	ND	105	75-125			
Arsenic	0.102	0.0050	0.0016	mg/L	0.10000	ND	102	75-125			
Barium	0.120	0.0100	0.0004	mg/L	0.10000	0.0242	96	75-125			
Beryllium	0.0890	0.0030	0.00008	mg/L	0.10000	ND	89	75-125			
Boron	0.968	0.100	0.0064	mg/L	1.0000	ND	97	75-125			
Cadmium	0.0982	0.0010	0.00007	mg/L	0.10000	ND	98	75-125			
Calcium	27.6	0.500	0.155	mg/L	1.0000	26.8	84	75-125			
Chromium	0.0959	0.0100	0.0009	mg/L	0.10000	ND	96	75-125			
Cobalt	0.0943	0.0100	0.0005	mg/L	0.10000	ND	94	75-125			
Copper	0.0933	0.0250	0.0005	mg/L	0.10000	ND	93	75-125			
Lead	0.0970	0.0050	0.0001	mg/L	0.10000	ND	97	75-125			
Molybdenum	0.101	0.0100	0.0017	mg/L	0.10000	ND	101	75-125			
Nickel	0.0938	0.0100	0.0006	mg/L	0.10000	ND	94	75-125			
Selenium	0.102	0.0100	0.0010	mg/L	0.10000	ND	102	75-125			
Silver	0.0948	0.0100	0.0005	mg/L	0.10000	ND	95	75-125			
Thallium	0.0969	0.0010	0.0002	mg/L	0.10000	ND	97	75-125			
Vanadium	0.0966	0.0100	0.0071	mg/L	0.10000	ND	97	75-125			
Zinc	0.101	0.0100	0.0021	mg/L	0.10000	ND	101	75-125			
Lithium	0.0939	0.0500	0.0021	mg/L	0.10000	ND	94	75-125			

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Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0270

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090322 - EPA 3005A											
Matrix Spike Dup (6090322-MSD1)		**Source: AZI0269-05**			Prepared & Analyzed: 09/14/16						
Antimony	0.104	0.0030	0.0008	mg/L	0.10000	ND	104	75-125	0.6	20	
Arsenic	0.102	0.0050	0.0016	mg/L	0.10000	ND	102	75-125	0.005	20	
Barium	0.122	0.0100	0.0004	mg/L	0.10000	0.0242	97	75-125	2	20	
Beryllium	0.0918	0.0030	0.00008	mg/L	0.10000	ND	92	75-125	3	20	
Boron	0.986	0.100	0.0064	mg/L	1.0000	ND	99	75-125	2	20	
Cadmium	0.0965	0.0010	0.00007	mg/L	0.10000	ND	97	75-125	2	20	
Calcium	26.6	0.500	0.155	mg/L	1.0000	26.8	NR	75-125	4	20	QM-02
Chromium	0.0975	0.0100	0.0009	mg/L	0.10000	ND	97	75-125	2	20	
Cobalt	0.0951	0.0100	0.0005	mg/L	0.10000	ND	95	75-125	0.9	20	
Copper	0.0930	0.0250	0.0005	mg/L	0.10000	ND	93	75-125	0.3	20	
Lead	0.0965	0.0050	0.0001	mg/L	0.10000	ND	97	75-125	0.5	20	
Molybdenum	0.102	0.0100	0.0017	mg/L	0.10000	ND	102	75-125	0.7	20	
Nickel	0.0941	0.0100	0.0006	mg/L	0.10000	ND	94	75-125	0.3	20	
Selenium	0.0988	0.0100	0.0010	mg/L	0.10000	ND	99	75-125	3	20	
Silver	0.0970	0.0100	0.0005	mg/L	0.10000	ND	97	75-125	2	20	
Thallium	0.0967	0.0010	0.0002	mg/L	0.10000	ND	97	75-125	0.2	20	
Vanadium	0.0955	0.0100	0.0071	mg/L	0.10000	ND	95	75-125	1	20	
Zinc	0.101	0.0100	0.0021	mg/L	0.10000	ND	101	75-125	0.4	20	
Lithium	0.0960	0.0500	0.0021	mg/L	0.10000	ND	96	75-125	2	20	
Post Spike (6090322-PS1)		**Source: AZI0269-05**			Prepared & Analyzed: 09/14/16						
Antimony	94.5			ug/L	100.00	0.368	94	80-120			
Arsenic	100			ug/L	100.00	0.0511	100	80-120			
Barium	122			ug/L	100.00	24.2	98	80-120			
Beryllium	92.5			ug/L	100.00	0.0060	93	80-120			
Boron	952			ug/L	1000.0	5.24	95	80-120			
Cadmium	101			ug/L	100.00	-0.0105	101	80-120			
Calcium	28000			ug/L	1000.0	26800	118	80-120			
Chromium	99.3			ug/L	100.00	0.862	98	80-120			
Cobalt	97.5			ug/L	100.00	0.0548	97	80-120			
Copper	93.7			ug/L	100.00	0.0786	94	80-120			
Lead	96.3			ug/L	100.00	0.0261	96	80-120			
Molybdenum	102			ug/L	100.00	0.784	102	80-120			
Nickel	94.5			ug/L	100.00	0.0913	94	80-120			
Selenium	96.5			ug/L	100.00	-0.0345	96	80-120			
Silver	97.1			ug/L	100.00	0.0057	97	80-120			
Thallium	96.6			ug/L	100.00	0.0625	97	80-120			
Vanadium	98.0			ug/L	100.00	0.172	98	80-120			
Zinc	103			ug/L	100.00	1.20	102	80-120			
Lithium	97.0			ug/L	100.00	0.571	96	80-120			

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Attention: Mr. Joju Abraham

September 16, 2016

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: Phase 2 CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals App. III & IV (EPA 6020/7470) P 3	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C) P 7	Radium 226 & 228 (SW-846 9315/9320) P 3	P					LAB ID NUMBER
9/8/16	0850	W		✓	EB-2-9-8-16	3		1	1	1						1
9/8/16	0950	GW		✓	BRGWC-32S	3		1	1	1						2
9/8/16	1125	GW		✓	BRGWC-34S	3		1	1	1						3
9/8/16	1240	GW		✓	BRGWC-27S	3		1	1	1						4
9/8/16	1325	W		✓	FB-2-9-8-16	3		1	1	1						5
9/8/16	1340	GW		✓	BRGWC-29I	3		1	1	1						6
9/8/16	1445	GW		✓	BRGWC-25I	4		1	1	2						7

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: C. Park (AGC) — DATE/TIME: 9/8/16 1500
RECEIVED BY: — DATE/TIME:
RECEIVED BY LAB: M Salman — DATE/TIME: 09/09/16 0930

RELINQUISHED BY: C. Park — DATE/TIME: 9/9/16 0930
RELINQUISHED BY: — DATE/TIME:

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Checked: Yes No NA — Ice: Yes No NA — Temperature: 1°C Min: 1°C Max:
Custody Seal: Intact Broken Not Present — # of Coolers — Cooler ID:

FOR LAB USE ONLY
LAB #: AZI0270
Entered into LIMS: MQ
Tracking #:

PACE ANALYTICAL SERVICES, INC.

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LOG-IN CHECKLIST **Printed: 9/16/2016 7:06:45PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 09/09/16 09:30

Work Order: AZI0270
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 7 **#Containers:** 22

Minimum Temp(C): 1.0 **Maximum Temp(C):** 1.0 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 07, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Branch AP
Pace Project No.: 30195633

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on September 12, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: Plant Branch AP
Pace Project No.: 30195633

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Plant Branch AP
Pace Project No.: 30195633

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30195633001	**EB-2-9-8-16**	Water	09/08/16 08:50	09/12/16 09:25
30195633002	**BRGWC-32S**	Water	09/08/16 09:50	09/12/16 09:25
30195633003	**BRGWC-34S**	Water	09/08/16 11:25	09/12/16 09:25
30195633004	**BRGWC-27S**	Water	09/08/16 12:40	09/12/16 09:25
30195633005	**FB-2-9-8-16**	Water	09/08/16 13:25	09/12/16 09:25
30195633006	**BRGWC-29I**	Water	09/08/16 13:40	09/12/16 09:25
30195633007	**BRGWC-25I**	Water	09/08/16 14:45	09/12/16 09:25

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: Plant Branch AP
Pace Project No.: 30195633

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30195633001	**EB-2-9-8-16**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195633002	**BRGWC-32S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195633003	**BRGWC-34S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195633004	**BRGWC-27S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195633005	**FB-2-9-8-16**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195633006	**BRGWC-29I**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195633007	**BRGWC-25I**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195633

Sample: EB-2-9-8-16 **Lab ID: 30195633001** Collected: 09/08/16 08:50 Received: 09/12/16 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0215 ± 0.147 (0.390) C:91% T:NA**	pCi/L	09/30/16 09:54	13982-63-3	
Radium-228	EPA 9320	**0.616 ± 0.453 (0.875) C:70% T:71%**	pCi/L	09/30/16 16:41	15262-20-1	
Total Radium	Total Radium Calculation	**0.638 ± 0.600 (1.27)**	pCi/L	10/07/16 15:58	7440-14-4	

Sample: BRGWC-32S **Lab ID: 30195633002** Collected: 09/08/16 09:50 Received: 09/12/16 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0496 ± 0.185 (0.464) C:86% T:NA**	pCi/L	09/30/16 09:54	13982-63-3	
Radium-228	EPA 9320	**0.766 ± 0.399 (0.697) C:76% T:84%**	pCi/L	09/30/16 16:41	15262-20-1	
Total Radium	Total Radium Calculation	**0.816 ± 0.584 (1.16)**	pCi/L	10/07/16 15:58	7440-14-4	

Sample: BRGWC-34S **Lab ID: 30195633003** Collected: 09/08/16 11:25 Received: 09/12/16 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.327 ± 0.245 (0.409) C:85% T:NA**	pCi/L	09/30/16 09:54	13982-63-3	
Radium-228	EPA 9320	**1.70 ± 0.646 (0.987) C:62% T:81%**	pCi/L	09/30/16 16:41	15262-20-1	
Total Radium	Total Radium Calculation	**2.03 ± 0.891 (1.40)**	pCi/L	10/07/16 15:58	7440-14-4	

Sample: BRGWC-27S **Lab ID: 30195633004** Collected: 09/08/16 12:40 Received: 09/12/16 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.142 ± 0.234 (0.523) C:84% T:NA**	pCi/L	09/30/16 09:54	13982-63-3	
Radium-228	EPA 9320	**1.60 ± 0.588 (0.877) C:73% T:78%**	pCi/L	09/30/16 16:41	15262-20-1	
Total Radium	Total Radium Calculation	**1.74 ± 0.822 (1.40)**	pCi/L	10/07/16 15:58	7440-14-4	

Sample: FB-2-9-8-16 **Lab ID: 30195633005** Collected: 09/08/16 13:25 Received: 09/12/16 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.128 ± 0.107 (0.436) C:89% T:NA**	pCi/L	09/30/16 09:54	13982-63-3	
Radium-228	EPA 9320	**0.746 ± 0.533 (1.04) C:66% T:76%**	pCi/L	09/30/16 16:41	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195633

Sample: FB-2-9-8-16 **Lab ID: 30195633005** Collected: 09/08/16 13:25 Received: 09/12/16 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.746 ± 0.640 (1.48)**	pCi/L	10/07/16 15:58	7440-14-4	

Sample: BRGWC-29I **Lab ID: 30195633006** Collected: 09/08/16 13:40 Received: 09/12/16 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.312 ± 0.257 (0.457) C:82% T:NA**	pCi/L	09/30/16 09:54	13982-63-3	
Radium-228	EPA 9320	**2.46 ± 0.746 (0.955) C:64% T:87%**	pCi/L	09/30/16 16:41	15262-20-1	
Total Radium	Total Radium Calculation	**0.540 ± 0.661 (1.44)**	pCi/L	10/07/16 16:09	7440-14-4	

Sample: BRGWC-25I **Lab ID: 30195633007** Collected: 09/08/16 14:45 Received: 09/12/16 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.296 ± 0.247 (0.427) C:78% T:NA**	pCi/L	09/30/16 09:54	13982-63-3	
Radium-228	EPA 9320	**0.344 ± 0.405 (0.852) C:74% T:86%**	pCi/L	09/30/16 12:31	15262-20-1	
Total Radium	Total Radium Calculation	**0.471 ± 0.587 (1.21)**	pCi/L	10/07/16 16:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195633

QC Batch: 234042 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30195633001, 30195633002, 30195633003, 30195633004, 30195633005, 30195633006, 30195633007

METHOD BLANK: 1147792 Matrix: Water
Associated Lab Samples: 30195633001, 30195633002, 30195633003, 30195633004, 30195633005, 30195633006, 30195633007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0647 ± 0.343 (0.786) C:72% T:88%	pCi/L	09/30/16 12:31	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195633

QC Batch: 234040 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30195633001, 30195633002, 30195633003, 30195633004, 30195633005, 30195633006, 30195633007

METHOD BLANK: 1147790 Matrix: Water
Associated Lab Samples: 30195633001, 30195633002, 30195633003, 30195633004, 30195633005, 30195633006, 30195633007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0483 ± 0.124 (0.304) C:92% T:NA	pCi/L	09/30/16 09:54	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: Plant Branch AP
Pace Project No.: 30195633

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.

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.

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.

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.

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: Phase 2 CCR

ANALYSIS REQUESTED

Collection DATE m/d/yy	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
CONTAINER TYPE:							P	P	P	P
PRESERVATION:							3	7	3	
9/8/16	0850	W		✓	EB-2-9-8-16	3	1	1	1	001
9/8/16	0950	GW		✓	BRGWC-32S	3	1	1	1	002
9/8/16	1125	GW		✓	BRGWC-34S	3	1	1	1	003
9/8/16	1240	GW		✓	BRGWC-27S	3	1	1	1	004
9/8/16	1325	W		✓	FB-2-9-8-16	3	1	1	1	005
9/8/16	1340	GW		✓	BRGWC-29I	3	1	1	1	006
9/8/16	1445	GW		✓	BRGWC-25I	4	1	1	2	007

WO#:30195633

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: C. Park (AQ) — DATE/TIME: 9/8/16 1500
RELINQUISHED BY: C. Park — DATE/TIME: 9/9/16 0930
RECEIVED BY: Karen E. Tice — DATE/TIME: 9-12-16 0925
RELINQUISHED BY: — DATE/TIME:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:

RECEIVED BY LAB: — DATE/TIME:
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Tracking #:
pH checked: Yes P No NA — Ice: Yes No NA — Temperature: Min: Max:
Custody Seal: Intact Broken Not Present — # of Coolers: — Cooler ID:

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace, Georgia Project # 30195633

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 6812 5099 0481

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: N/A °C Final Temp: N/A °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KH 9-12-16

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT		✓		5. Sample ID for one of the bottles in sample 7 says "2nd Rad Bottle". Time and date match.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Filtered volume received for Dissolved tests			✓	12.
All containers needing preservation have been checked.	✓			13.
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed KH / Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	14.
Trip Blank Present:			✓	15.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: KH / Date: 9-12-16

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	10/3/2016
Worklist:	31519
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1147790
MB concentration:	0.048
M/B Counting Uncertainty:	0.124
MB MDC:	0.304
MB Numerical Performance Indicator:	0.77
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS31519	LCSD31519
Count Date:	9/30/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.677	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.517	
Target Conc. (pCi/L, g, F):	8.635	
Uncertainty (Calculated):	0.406	
Result (pCi/L, g, F):	7.775	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.880	
Numerical Performance Indicator:	-1.74	
Percent Recovery:	90.05%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30195633007	
Duplicate Sample I.D.	30195633007DUP	
Sample Result (pCi/L, g, F):	0.296	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.244	
Sample Duplicate Result (pCi/L, g, F):	0.148	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.230	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.864	30195633007
Duplicate RPD:	66.56%	30195633007DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	9/26/2016
Worklist:	31521
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1147792
MB concentration:	0.065
M/B Counting Uncertainty:	0.343
MB MDC:	0.786
MB Numerical Performance Indicator:	0.37
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)? LCS31521	N LCSD31521
Count Date:	9/30/2016	
Spike I.D.:	16-025	
Spike Concentration (pCi/mL):	25.540	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.807	
Target Conc. (pCi/L, g, F):	6.328	
Uncertainty (Calculated):	0.456	
Result (pCi/L, g, F):	6.520	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.814	
Numerical Performance Indicator:	0.41	
Percent Recovery:	103.05%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30195633007	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30195633007DUP	
Sample Result (pCi/L, g, F):	0.344	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.401	
Sample Duplicate Result (pCi/L, g, F):	0.396	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.433	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.172	30195633007
Duplicate RPD:	14.02%	30195633007DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AZI0245
September 16, 2016
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWC-24S	AZI0245-01	Ground Water	09/07/16 09:35	09/08/16 13:20
BRGWC-38S	AZI0245-02	Ground Water	09/07/16 11:20	09/08/16 13:20
BRGWC-35S	AZI0245-03	Ground Water	09/07/16 12:35	09/08/16 13:20
BRGWC-33S	AZI0245-04	Ground Water	09/07/16 13:55	09/08/16 13:20
BRGWC-17S	AZI0245-05	Ground Water	09/07/16 15:15	09/08/16 13:20
BRGWC-36S	AZI0245-06	Ground Water	09/07/16 16:20	09/08/16 13:20
Dup-2	AZI0245-07	Ground Water	09/07/16 00:00	09/08/16 13:20

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0245
Client ID: BRGWC-24S
Date/Time Sampled: 9/7/2016 9:35:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0245-01
Date/Time Received: 9/8/2016 1:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	235	25	10	mg/L	SM 2540 C		1	09/12/16 15:25	09/12/16 15:25	6090265	JPT
Inorganic Anions											
Chloride	14	0.25	0.01	mg/L	EPA 300.0		1	09/13/16 11:52	09/13/16 21:03	6090316	RLC
Fluoride	0.25	0.30	0.02	mg/L	EPA 300.0	J	1	09/13/16 11:52	09/13/16 21:03	6090316	RLC
Sulfate	21	1.0	0.05	mg/L	EPA 300.0		1	09/13/16 11:52	09/13/16 21:03	6090316	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Barium	0.0598	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/14/16 11:55	09/16/16 14:17	6090241	CSW
Boron	0.0179	0.100	0.0064	mg/L	EPA 6020B	B-01, J	1	09/14/16 11:55	09/16/16 14:17	6090241	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Calcium	18.9	2.50	0.155	mg/L	EPA 6020B		5	09/14/16 11:55	09/16/16 11:19	6090241	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Cobalt	0.0034	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Molybdenum	0.0026	0.0100	0.0017	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:10	6090241	CSW
Lithium	0.0036	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/16/16 14:17	6090241	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 15:48	6090243	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0245
Client ID: BRGWC-38S
Date/Time Sampled: 9/7/2016 11:20:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0245-02
Date/Time Received: 9/8/2016 1:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	750	25	10	mg/L	SM 2540 C		1	09/12/16 15:25	09/12/16 15:25	6090265	JPT
Inorganic Anions											
Chloride	5.8	0.25	0.01	mg/L	EPA 300.0		1	09/13/16 11:52	09/13/16 21:25	6090316	RLC
Fluoride	0.66	0.30	0.02	mg/L	EPA 300.0		1	09/13/16 11:52	09/13/16 21:25	6090316	RLC
Sulfate	440	10	0.51	mg/L	EPA 300.0		10	09/13/16 11:52	09/14/16 23:58	6090316	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Arsenic	0.0026	0.0050	0.0016	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Barium	0.0440	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Beryllium	0.0079	0.0030	0.00008	mg/L	EPA 6020B		1	09/14/16 11:55	09/16/16 14:21	6090241	CSW
Boron	1.73	0.500	0.0321	mg/L	EPA 6020B	B-01	5	09/14/16 11:55	09/16/16 11:25	6090241	CSW
Cadmium	0.0004	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Calcium	45.9	2.50	0.155	mg/L	EPA 6020B		5	09/14/16 11:55	09/16/16 11:25	6090241	CSW
Chromium	0.0014	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Cobalt	0.236	0.0100	0.0005	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Lead	0.0004	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Selenium	0.0311	0.0100	0.0010	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:16	6090241	CSW
Lithium	0.0193	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/16/16 14:21	6090241	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	J	1	09/12/16 08:55	09/12/16 15:51	6090243	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0245
Client ID: BRGWC-35S
Date/Time Sampled: 9/7/2016 12:35:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0245-03
Date/Time Received: 9/8/2016 1:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	486	25	10	mg/L	SM 2540 C		1	09/12/16 15:25	09/12/16 15:25	6090265	JPT
Inorganic Anions											
Chloride	5.8	0.25	0.01	mg/L	EPA 300.0		1	09/13/16 11:52	09/13/16 23:55	6090316	RLC
Fluoride	0.34	0.30	0.02	mg/L	EPA 300.0		1	09/13/16 11:52	09/13/16 23:55	6090316	RLC
Sulfate	260	10	0.51	mg/L	EPA 300.0		10	09/13/16 11:52	09/15/16 00:19	6090316	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Barium	0.101	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Beryllium	0.00009	0.0030	0.00008	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Boron	1.06	0.100	0.0064	mg/L	EPA 6020B	B-01	1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Calcium	54.1	5.00	0.311	mg/L	EPA 6020B		10	09/14/16 11:55	09/16/16 11:31	6090241	CSW
Chromium	0.0019	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Cobalt	0.0023	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Lead	0.0001	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Lithium	0.0021	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:33	6090241	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 15:53	6090243	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0245
Client ID: BRGWC-33S
Date/Time Sampled: 9/7/2016 1:55:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0245-04
Date/Time Received: 9/8/2016 1:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	382	25	10	mg/L	SM 2540 C		1	09/12/16 15:25	09/12/16 15:25	6090265	JPT
Inorganic Anions											
Chloride	5.3	0.25	0.01	mg/L	EPA 300.0		1	09/13/16 11:52	09/14/16 00:17	6090316	RLC
Fluoride	0.19	0.30	0.02	mg/L	EPA 300.0	J	1	09/13/16 11:52	09/14/16 00:17	6090316	RLC
Sulfate	260	10	0.51	mg/L	EPA 300.0		10	09/13/16 11:52	09/15/16 00:40	6090316	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Barium	0.0214	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Beryllium	0.0019	0.0030	0.00008	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Boron	1.15	0.100	0.0064	mg/L	EPA 6020B	B-01	1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Cadmium	0.0005	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Calcium	53.4	5.00	0.311	mg/L	EPA 6020B		10	09/14/16 11:55	09/16/16 11:51	6090241	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Cobalt	0.0612	0.0100	0.0005	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Lead	0.0002	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Selenium	0.0032	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Thallium	0.0002	0.0010	0.0002	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Lithium	0.0092	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:39	6090241	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 15:56	6090243	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0245
Client ID: BRGWC-17S
Date/Time Sampled: 9/7/2016 3:15:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0245-05
Date/Time Received: 9/8/2016 1:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	331	25	10	mg/L	SM 2540 C		1	09/12/16 15:25	09/12/16 15:25	6090265	JPT
Inorganic Anions											
Chloride	3.7	0.25	0.01	mg/L	EPA 300.0		1	09/13/16 11:52	09/14/16 00:39	6090316	RLC
Fluoride	0.22	0.30	0.02	mg/L	EPA 300.0	J	1	09/13/16 11:52	09/14/16 00:39	6090316	RLC
Sulfate	97	5.0	0.26	mg/L	EPA 300.0		5	09/13/16 11:52	09/15/16 01:00	6090316	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Barium	0.0377	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/14/16 11:55	09/16/16 14:26	6090241	CSW
Boron	0.0449	0.100	0.0064	mg/L	EPA 6020B	B-01, J	1	09/14/16 11:55	09/16/16 14:26	6090241	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Calcium	26.3	2.50	0.155	mg/L	EPA 6020B		5	09/14/16 11:55	09/16/16 11:57	6090241	CSW
Chromium	0.0100	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Selenium	0.0024	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:45	6090241	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/14/16 11:55	09/16/16 14:26	6090241	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 16:17	6090244	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0245
Client ID: BRGWC-36S
Date/Time Sampled: 9/7/2016 4:20:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0245-06
Date/Time Received: 9/8/2016 1:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	528	25	10	mg/L	SM 2540 C		1	09/12/16 15:25	09/12/16 15:25	6090265	JPT
Inorganic Anions											
Chloride	3.1	0.25	0.01	mg/L	EPA 300.0		1	09/13/16 11:52	09/14/16 01:01	6090316	RLC
Fluoride	0.18	0.30	0.02	mg/L	EPA 300.0	J	1	09/13/16 11:52	09/14/16 01:01	6090316	RLC
Sulfate	300	10	0.51	mg/L	EPA 300.0		10	09/13/16 11:52	09/15/16 01:21	6090316	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Barium	0.0674	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Boron	0.725	0.100	0.0064	mg/L	EPA 6020B	B-01	1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Cadmium	0.00008	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Calcium	50.6	5.00	0.311	mg/L	EPA 6020B		10	09/14/16 11:55	09/16/16 12:03	6090241	CSW
Chromium	0.0073	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Selenium	0.0079	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Lithium	0.0024	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:50	6090241	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 16:19	6090244	MTC

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 16, 2016

Report No.: AZI0245
Client ID: Dup-2
Date/Time Sampled: 9/7/2016 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0245-07
Date/Time Received: 9/8/2016 1:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	492	25	10	mg/L	SM 2540 C		1	09/12/16 15:25	09/12/16 15:25	6090265	JPT
Inorganic Anions											
Chloride	5.8	0.25	0.01	mg/L	EPA 300.0		1	09/13/16 11:52	09/14/16 01:22	6090316	RLC
Fluoride	0.18	0.30	0.02	mg/L	EPA 300.0	J	1	09/13/16 11:52	09/14/16 01:22	6090316	RLC
Sulfate	260	10	0.51	mg/L	EPA 300.0		10	09/13/16 11:52	09/15/16 01:42	6090316	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Barium	0.102	0.0100	0.0004	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Boron	1.06	0.100	0.0064	mg/L	EPA 6020B	B-01	1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Calcium	52.8	5.00	0.311	mg/L	EPA 6020B		10	09/14/16 11:55	09/14/16 12:08	6090241	CSW
Chromium	0.0016	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Cobalt	0.0024	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Lead	0.0001	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/14/16 11:55	09/14/16 21:56	6090241	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/12/16 08:55	09/12/16 16:22	6090244	MTC

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September 16, 2016

Report No.: AZI0245

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090265 - SM 2540 C											
Blank (6090265-BLK1)						Prepared & Analyzed: 09/12/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6090265-BS1)						Prepared & Analyzed: 09/12/16					
Total Dissolved Solids	403	25	10	mg/L	400.00		101	84-108			
Duplicate (6090265-DUP1)		**Source: AZI0226-03**				Prepared & Analyzed: 09/12/16					
Total Dissolved Solids	450	25	10	mg/L		443			2	10	
Duplicate (6090265-DUP2)		**Source: AZI0226-07**				Prepared & Analyzed: 09/12/16					
Total Dissolved Solids	313	25	10	mg/L		324			3	10	

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Report No.: AZI0245

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090316 - EPA 300.0											
Blank (6090316-BLK1)						Prepared & Analyzed: 09/13/16					
Chloride	ND	1.0	0.01	mg/L							
Fluoride	ND	0.10	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6090316-BS1)						Prepared & Analyzed: 09/13/16					
Chloride	10.4	0.25	0.01	mg/L	10.010		104	90-110			
Fluoride	10.8	0.30	0.02	mg/L	10.010		108	90-110			
Sulfate	10.5	1.0	0.05	mg/L	10.010		104	90-110			
Matrix Spike (6090316-MS1)		**Source: AZI0245-02**				Prepared & Analyzed: 09/13/16					
Chloride	13.6	0.25	0.01	mg/L	10.010	5.83	78	90-110			QM-05
Fluoride	12.1	0.30	0.02	mg/L	10.010	0.66	114	90-110			QM-05
Sulfate	298	1.0	0.05	mg/L	10.010	297	11	90-110			QM-05
Matrix Spike (6090316-MS2)		**Source: AZI0282-01**				Prepared: 09/13/16 Analyzed: 09/14/16					
Chloride	8.79	0.25	0.01	mg/L	10.010	0.03	88	90-110			QM-05
Fluoride	9.42	0.30	0.02	mg/L	10.010	ND	94	90-110			
Sulfate	9.03	1.0	0.05	mg/L	10.010	ND	90	90-110			
Matrix Spike Dup (6090316-MSD1)		**Source: AZI0245-02**				Prepared & Analyzed: 09/13/16					
Chloride	14.5	0.25	0.01	mg/L	10.010	5.83	86	90-110	6	15	QM-05
Fluoride	12.9	0.30	0.02	mg/L	10.010	0.66	122	90-110	6	15	QM-05
Sulfate	296	1.0	0.05	mg/L	10.010	297	NR	90-110	0.5	15	QM-05

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090241 - EPA 3005A											
Blank (6090241-BLK1)						Prepared & Analyzed: 09/14/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	0.0068	0.100	0.0064	mg/L							J
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (6090241-BS1)						Prepared & Analyzed: 09/14/16					
Antimony	0.103	0.0030	0.0008	mg/L	0.10000		103	80-120			
Arsenic	0.100	0.0050	0.0016	mg/L	0.10000		100	80-120			
Barium	0.0975	0.0100	0.0004	mg/L	0.10000		97	80-120			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000		104	80-120			
Boron	1.06	0.100	0.0064	mg/L	1.0000		106	80-120			
Cadmium	0.100	0.0010	0.00007	mg/L	0.10000		100	80-120			
Calcium	1.03	0.500	0.0311	mg/L	1.0000		103	80-120			
Chromium	0.101	0.0100	0.0009	mg/L	0.10000		101	80-120			
Cobalt	0.0963	0.0100	0.0005	mg/L	0.10000		96	80-120			
Copper	0.0983	0.0250	0.0005	mg/L	0.10000		98	80-120			
Lead	0.0990	0.0050	0.0001	mg/L	0.10000		99	80-120			
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000		103	80-120			
Nickel	0.0998	0.0100	0.0006	mg/L	0.10000		100	80-120			
Selenium	0.0969	0.0100	0.0010	mg/L	0.10000		97	80-120			
Silver	0.0985	0.0100	0.0005	mg/L	0.10000		98	80-120			
Thallium	0.0978	0.0010	0.0002	mg/L	0.10000		98	80-120			
Vanadium	0.0989	0.0100	0.0071	mg/L	0.10000		99	80-120			
Zinc	0.104	0.0100	0.0021	mg/L	0.10000		104	80-120			
Lithium	0.108	0.0500	0.0021	mg/L	0.10000		108	80-120			

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September 16, 2016

Report No.: AZI0245

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090241 - EPA 3005A											
Matrix Spike (6090241-MS1)		**Source: AZI0226-03**			Prepared & Analyzed: 09/14/16						
Antimony	0.107	0.0030	0.0008	mg/L	0.10000	0.0009	106	75-125			
Arsenic	0.104	0.0050	0.0016	mg/L	0.10000	ND	104	75-125			
Barium	0.294	0.0100	0.0004	mg/L	0.10000	0.164	130	75-125			QM-02
Beryllium	0.0956	0.0030	0.00008	mg/L	0.10000	ND	96	75-125			
Boron	1.07	0.100	0.0064	mg/L	1.0000	0.163	90	75-125			
Cadmium	0.102	0.0010	0.00007	mg/L	0.10000	ND	102	75-125			
Calcium	62.4	5.00	0.311	mg/L	1.0000	59.8	260	75-125			QM-02
Chromium	0.101	0.0100	0.0009	mg/L	0.10000	ND	101	75-125			
Cobalt	0.0996	0.0100	0.0005	mg/L	0.10000	ND	100	75-125			
Copper	0.0960	0.0250	0.0005	mg/L	0.10000	ND	96	75-125			
Lead	0.0962	0.0050	0.0001	mg/L	0.10000	ND	96	75-125			
Molybdenum	0.107	0.0100	0.0017	mg/L	0.10000	ND	107	75-125			
Nickel	0.100	0.0100	0.0006	mg/L	0.10000	ND	100	75-125			
Selenium	0.0997	0.0100	0.0010	mg/L	0.10000	ND	100	75-125			
Silver	0.0974	0.0100	0.0005	mg/L	0.10000	ND	97	75-125			
Thallium	0.0978	0.0010	0.0002	mg/L	0.10000	ND	98	75-125			
Vanadium	0.101	0.0100	0.0071	mg/L	0.10000	ND	101	75-125			
Zinc	0.106	0.0100	0.0021	mg/L	0.10000	0.0034	102	75-125			
Lithium	0.115	0.0500	0.0021	mg/L	0.10000	0.0195	96	75-125			
Matrix Spike Dup (6090241-MSD1)		**Source: AZI0226-03**			Prepared & Analyzed: 09/14/16						
Antimony	0.108	0.0030	0.0008	mg/L	0.10000	0.0009	107	75-125	1	20	
Arsenic	0.103	0.0050	0.0016	mg/L	0.10000	ND	103	75-125	0.5	20	
Barium	0.297	0.0100	0.0004	mg/L	0.10000	0.164	133	75-125	0.9	20	QM-02
Beryllium	0.0881	0.0030	0.00008	mg/L	0.10000	ND	88	75-125	8	20	
Boron	1.04	0.100	0.0064	mg/L	1.0000	0.163	88	75-125	2	20	
Cadmium	0.100	0.0010	0.00007	mg/L	0.10000	ND	100	75-125	2	20	
Calcium	60.5	5.00	0.311	mg/L	1.0000	59.8	75	75-125	3	20	
Chromium	0.0983	0.0100	0.0009	mg/L	0.10000	ND	98	75-125	3	20	
Cobalt	0.0982	0.0100	0.0005	mg/L	0.10000	ND	98	75-125	1	20	
Copper	0.0956	0.0250	0.0005	mg/L	0.10000	ND	96	75-125	0.4	20	
Lead	0.0971	0.0050	0.0001	mg/L	0.10000	ND	97	75-125	0.9	20	
Molybdenum	0.106	0.0100	0.0017	mg/L	0.10000	ND	106	75-125	2	20	
Nickel	0.0993	0.0100	0.0006	mg/L	0.10000	ND	99	75-125	1	20	
Selenium	0.0974	0.0100	0.0010	mg/L	0.10000	ND	97	75-125	2	20	
Silver	0.0985	0.0100	0.0005	mg/L	0.10000	ND	99	75-125	1	20	
Thallium	0.0992	0.0010	0.0002	mg/L	0.10000	ND	99	75-125	1	20	
Vanadium	0.100	0.0100	0.0071	mg/L	0.10000	ND	100	75-125	1	20	
Zinc	0.103	0.0100	0.0021	mg/L	0.10000	0.0034	100	75-125	2	20	
Lithium	0.115	0.0500	0.0021	mg/L	0.10000	0.0195	95	75-125	0.1	20	

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Report No.: AZI0245

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090241 - EPA 3005A											
Post Spike (6090241-PS1)			**Source: AZI0226-03**			Prepared & Analyzed: 09/14/16					
Antimony	92.1			ug/L	100.00	0.876	91	80-120			
Arsenic	101			ug/L	100.00	1.05	100	80-120			
Barium	291			ug/L	100.00	164	127	80-120			QM-02
Beryllium	88.7			ug/L	100.00	0.0152	89	80-120			
Boron	961			ug/L	1000.0	163	80	80-120			
Cadmium	97.2			ug/L	100.00	-0.0130	97	80-120			
Calcium	60700			ug/L	1000.0	59800	92	80-120			
Chromium	100			ug/L	100.00	0.275	100	80-120			
Cobalt	98.2			ug/L	100.00	0.175	98	80-120			
Copper	95.3			ug/L	100.00	0.0297	95	80-120			
Lead	96.1			ug/L	100.00	0.0240	96	80-120			
Molybdenum	108			ug/L	100.00	0.161	107	80-120			
Nickel	97.3			ug/L	100.00	0.424	97	80-120			
Selenium	99.8			ug/L	100.00	-0.260	100	80-120			
Silver	95.0			ug/L	100.00	0.0150	95	80-120			
Thallium	98.4			ug/L	100.00	0.0413	98	80-120			
Vanadium	102			ug/L	100.00	-0.0816	103	80-120			
Zinc	102			ug/L	100.00	3.38	99	80-120			
Lithium	110			ug/L	100.00	19.5	91	80-120			
Batch 6090243 - EPA 7470A											
Blank (6090243-BLK1)						Prepared & Analyzed: 09/12/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6090243-BS1)						Prepared & Analyzed: 09/12/16					
Mercury	0.00249	0.00050	0.000041	mg/L	2.5000E-3		100	80-120			

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Report No.: AZI0245

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090243 - EPA 7470A											
Matrix Spike (6090243-MS1)			**Source: AZI0211-05**			Prepared & Analyzed: 09/12/16					
Mercury	0.00237	0.00050	0.000041	mg/L	2.5000E-3	ND	95	75-125			
Matrix Spike Dup (6090243-MSD1)			**Source: AZI0211-05**			Prepared & Analyzed: 09/12/16					
Mercury	0.00241	0.00050	0.000041	mg/L	2.5000E-3	ND	96	75-125	2	20	
Post Spike (6090243-PS1)			**Source: AZI0211-05**			Prepared & Analyzed: 09/12/16					
Mercury	1.77			ug/L	1.6667	0.0125	105	80-120			
Batch 6090244 - EPA 7470A											
Blank (6090244-BLK1)						Prepared & Analyzed: 09/12/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6090244-BS1)						Prepared & Analyzed: 09/12/16					
Mercury	0.00235	0.00050	0.000041	mg/L	2.5000E-3		94	80-120			
Matrix Spike (6090244-MS1)			**Source: AZI0269-04**			Prepared & Analyzed: 09/12/16					
Mercury	0.00242	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125			
Matrix Spike Dup (6090244-MSD1)			**Source: AZI0269-04**			Prepared & Analyzed: 09/12/16					
Mercury	0.00242	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125	0.06	20	
Post Spike (6090244-PS1)			**Source: AZI0269-04**			Prepared & Analyzed: 09/12/16					
Mercury	1.78			ug/L	1.6667	0.0139	106	80-120			

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Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Joju Abraham

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: Phase 2 CCR

ANALYSIS REQUESTED

Collection DATE mm/dd/yy	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III & IV (EPA 6020/7470) — Container P, Pres. 3	Cl, F, SO_4, & TDS (EPA 300.0 & SM 2540C) — Container P, Pres. 7	Radium 226 & 228 (SW-846 9315/9320) — Container P, Pres. 3	P	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
9/7/16	0935	GW		✓	BRGWC-24S	4	1	1	2		1	
9/7/16	1120	GW		✓	BRGWC-38S	3	1	1	1		2	
9/7/16	1235	GW		✓	BRGWC-35S	3	1	1	1		3	
9/7/16	1355	GW		✓	BRGWC-33S	3	1	1	1		4	collected @ 1355
9/7/16	1515	GW		✓	BRGWC-17S	3	1	1	1		5	
9/7/16	1620	GW		✓	BRGWC-36S	3	1	1	1		6	
9/7/16	—	GW		✓	DUP-2	3	1	1	1		7	

CONTAINER TYPE:
P - PLASTIC
A - AMBER GLASS
G - CLEAR GLASS
V - VOA VIAL
S - STERILE
O - OTHER

PRESERVATION:
1 - HCl, ≤6°C
2 - H_2SO_4, ≤6°C
3 - HNO_3
4 - NaOH, ≤6°C
5 - NaOH/ZnAc, ≤6°C
6 - $Na_2S_2O_3$, ≤6°C
7 - ≤6°C not frozen

*MATRIX CODES:
DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER
S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

SAMPLED BY AND TITLE: C. Park (ACC)	DATE/TIME: 9/7/2016 / 1705	RELINQUISHED BY: Jordan Bradford	DATE/TIME: 9/8/16 1115
RECEIVED BY: T Elrod	DATE/TIME: 9-8-16 1115	RELINQUISHED BY: T Elrod	DATE/TIME: 9-8-16 1320
RECEIVED BY LAB: M Zalman	DATE/TIME: 09/08/16 1320	SAMPLE SHIPPED VIA: UPS FED-EX USPS (COURIER) CLIENT OTHER: FS	
Checked: (Yes) No NA; Ice: (Yes) No NA	Temperature: 2°C Min: 2°C Max:	Custody Seal: (Intact) Broken Not Present; # of Coolers	Cooler ID:

FOR LAB USE ONLY
LAB #: AZI0245
Entered into LIMS: MZ
Tracking #:

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 9/16/2016 5:55:00PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 09/08/16 13:20

Work Order: AZI0245
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 7 **#Containers:** 22

Minimum Temp(C): 2.0 **Maximum Temp(C):** 2.0 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 07, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Branch AP
Pace Project No.: 30195547

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on September 09, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: Plant Branch AP
Pace Project No.: 30195547

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: Plant Branch AP
Pace Project No.: 30195547

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30195547001	**BRGWC-24S**	Water	09/07/16 09:35	09/09/16 09:50
30195547002	**BRGWC-38S**	Water	09/07/16 11:20	09/09/16 09:50
30195547003	**BRGWC-35S**	Water	09/07/16 12:35	09/09/16 09:50
30195547004	**BRGWC-33S**	Water	09/07/16 13:55	09/09/16 09:50
30195547005	**BRGWC-17S**	Water	09/07/16 15:15	09/09/16 09:50
30195547006	**BRGWC-36S**	Water	09/07/16 16:20	09/09/16 09:50
30195547007	**DUP-2**	Water	09/07/16 00:01	09/09/16 09:50

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: Plant Branch AP
Pace Project No.: 30195547

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30195547001	**BRGWC-24S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195547002	**BRGWC-38S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195547003	**BRGWC-35S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195547004	**BRGWC-33S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195547005	**BRGWC-17S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195547006	**BRGWC-36S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30195547007	**DUP-2**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195547

Sample: BRGWC-24S **Lab ID: 30195547001** Collected: 09/07/16 09:35 Received: 09/09/16 09:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0396 ± 0.114 (0.344) C:89% T:NA**	pCi/L	09/30/16 08:09	13982-63-3	
Radium-228	EPA 9320	**0.862 ± 0.437 (0.758) C:74% T:80%**	pCi/L	09/28/16 16:15	15262-20-1	
Total Radium	Total Radium Calculation	**0.862 ± 0.551 (1.10)**	pCi/L	10/07/16 15:40	7440-14-4	

Sample: BRGWC-38S **Lab ID: 30195547002** Collected: 09/07/16 11:20 Received: 09/09/16 09:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.542 ± 0.275 (0.409) C:89% T:NA**	pCi/L	09/30/16 08:10	13982-63-3	
Radium-228	EPA 9320	**2.81 ± 0.762 (0.759) C:68% T:80%**	pCi/L	09/28/16 16:15	15262-20-1	
Total Radium	Total Radium Calculation	**3.35 ± 1.04 (1.17)**	pCi/L	10/07/16 15:40	7440-14-4	

Sample: BRGWC-35S **Lab ID: 30195547003** Collected: 09/07/16 12:35 Received: 09/09/16 09:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.172 ± 0.189 (0.378) C:76% T:NA**	pCi/L	09/30/16 08:10	13982-63-3	
Radium-228	EPA 9320	**0.953 ± 0.437 (0.731) C:81% T:80%**	pCi/L	09/28/16 16:15	15262-20-1	
Total Radium	Total Radium Calculation	**1.13 ± 0.626 (1.11)**	pCi/L	10/07/16 15:40	7440-14-4	

Sample: BRGWC-33S **Lab ID: 30195547004** Collected: 09/07/16 13:55 Received: 09/09/16 09:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.262 ± 0.194 (0.329) C:87% T:NA**	pCi/L	09/30/16 08:10	13982-63-3	
Radium-228	EPA 9320	**0.444 ± 0.378 (0.754) C:73% T:78%**	pCi/L	09/28/16 16:15	15262-20-1	
Total Radium	Total Radium Calculation	**0.706 ± 0.572 (1.08)**	pCi/L	10/07/16 15:40	7440-14-4	

Sample: BRGWC-17S **Lab ID: 30195547005** Collected: 09/07/16 15:15 Received: 09/09/16 09:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0184 ± 0.133 (0.350) C:85% T:NA**	pCi/L	09/30/16 08:10	13982-63-3	
Radium-228	EPA 9320	**0.523 ± 0.376 (0.717) C:69% T:79%**	pCi/L	09/28/16 16:15	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195547

Sample: BRGWC-17S **Lab ID: 30195547005** Collected: 09/07/16 15:15 Received: 09/09/16 09:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.541 ± 0.509 (1.07)**	pCi/L	10/07/16 15:40	7440-14-4	

Sample: BRGWC-36S **Lab ID: 30195547006** Collected: 09/07/16 16:20 Received: 09/09/16 09:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.244 ± 0.192 (0.339) C:86% T:NA**	pCi/L	09/30/16 08:10	13982-63-3	
Radium-228	EPA 9320	**0.754 ± 0.445 (0.809) C:68% T:76%**	pCi/L	09/28/16 16:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.998 ± 0.637 (1.15)**	pCi/L	10/07/16 15:40	7440-14-4	

Sample: DUP-2 **Lab ID: 30195547007** Collected: 09/07/16 00:01 Received: 09/09/16 09:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0598 ± 0.0935 (0.315) C:92% T:NA**	pCi/L	09/30/16 08:10	13982-63-3	
Radium-228	EPA 9320	**0.189 ± 0.370 (0.816) C:69% T:77%**	pCi/L	09/28/16 16:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.189 ± 0.464 (1.13)**	pCi/L	10/07/16 15:40	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195547

QC Batch: 233308 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30195547001, 30195547002, 30195547003, 30195547004, 30195547005, 30195547006, 30195547007

METHOD BLANK: 1143415 Matrix: Water
Associated Lab Samples: 30195547001, 30195547002, 30195547003, 30195547004, 30195547005, 30195547006, 30195547007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0884 ± 0.332 (0.753) C:77% T:77%	pCi/L	09/28/16 12:21	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch AP
Pace Project No.: 30195547

QC Batch: 233313 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30195547001, 30195547002, 30195547003, 30195547004, 30195547005, 30195547006, 30195547007

METHOD BLANK: 1143427 Matrix: Water
Associated Lab Samples: 30195547001, 30195547002, 30195547003, 30195547004, 30195547005, 30195547006, 30195547007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0767 ± 0.109 (0.226) C:95% T:NA	pCi/L	09/30/16 08:08	

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.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: Plant Branch AP
Pace Project No.: 30195547

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.

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.

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.

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.

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE B10185, Atlanta, GA 30308, 404-506-7239

REPORT TO: Joju Abraham

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: Phase 2 CCR

ANALYSIS REQUESTED

Collection DATE m/d/yy	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)		LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:							P	P	P	P		
PRESERVATION:							3	7	3			
9/7/16	0935	GW		✓	BRGWC-24S	4	1	1	2			001
9/7/16	1120	GW		✓	BRGWC-38S	3	1	1	1			002
9/7/16	1235	GW		✓	BRGWC-35S	3	1	1	1			003
9/7/16	1356	GW		✓	BRGWC-33S	3	1	1	1			collected @ 1355 004
9/7/16	1515	GW		✓	BRGWC-17S	3	1	1	1			005
9/7/16	1620	GW		✓	BRGWC-36S	3	1	1	1			006
												~~7~~ EM 9-9-16
9/7/16	—	GW		✓	DUP-2	3	1	1	1			007

WO#: 30195547

30195547

*MATRIX CODES:
DW - DRINKING WATER, WW - WASTEWATER, GW - GROUNDWATER, SW - SURFACE WATER, ST - STORM WATER, W - WATER, S - SOIL, SL - SLUDGE, SD - SOLID, A - AIR, L - LIQUID, P - PRODUCT

CONTAINER TYPE: P - PLASTIC, A - AMBER GLASS, G - CLEAR GLASS, V - VOA VIAL, S - STERILE, O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

SAMPLED BY AND TITLE: [signature] (ACC) — DATE/TIME: 9/7/2016 / 1705

RECEIVED BY: TE/roC — DATE/TIME: 9-8-16 1115

RELINQUISHED BY: Jordan Beresford — DATE/TIME: 9/8/16 1115

RELINQUISHED BY: TE/roC — DATE/TIME: 9-8-16 1320

RECEIVED BY LAB: [signature] — DATE/TIME: 9-9-16 0950

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: (Yes) No NA — Ice: Yes (No) NA — Temperature: N/A Min: Max:

Custody Seal: Intact Broken Not Present — # of Coolers — Cooler ID:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Georgia Power Project # 30195547

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 6812 5099 0058

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp _____ °C Correction Factor: _____ °C Final Temp: _____ °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ML 9-9-16

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: GW	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:		X		
Containers Intact:	X			11.
Filtered volume received for Dissolved tests				12.
All containers needing preservation have been checked.	X			13. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: ML Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	14.
Trip Blank Present:		X		15.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: ML Date: 9-9-16

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

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)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test: Ra-228
Analyst: JLW
Date: 9/21/2016
Worklist: 31428
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1143415
MB concentration:	0.088
M/B Counting Uncertainty:	0.331
MB MDC:	0.753
MB Numerical Performance Indicator:	0.52
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)? LCS31428	N LCSD31428
Count Date:	9/28/2016	
Spike I.D.:	16-025	
Spike Concentration (pCi/mL):	25.557	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.807	
Target Conc. (pCi/L, g, F):	6.336	
Uncertainty (Calculated):	0.456	
Result (pCi/L, g, F):	7.193	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.821	
Numerical Performance Indicator:	1.79	
Percent Recovery:	113.54%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30195540001	
Duplicate Sample I.D.	30195540001DUP	
Sample Result (pCi/L, g, F):	0.597	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.376	
Sample Duplicate Result (pCi/L, g, F):	1.139	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.496	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.706	30195540001
Duplicate RPD:	62.40%	30195540001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	9/28/2016
Worklist:	31430
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1143427
MB concentration:	0.077
M/B Counting Uncertainty:	0.108
MB MDC:	0.226
MB Numerical Performance Indicator:	1.39
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS31430	LCSD31430
Count Date:	9/30/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.677	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.511	
Target Conc. (pCi/L, g, F):	8.751	
Uncertainty (Calculated):	0.412	
Result (pCi/L, g, F):	7.365	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.742	
Numerical Performance Indicator:	-3.20	
Percent Recovery:	84.17%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30195376002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30195376002DUP	
Sample Result (pCi/L, g, F):	0.428	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.216	
Sample Duplicate Result (pCi/L, g, F):	0.117	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.181	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	2.170	30195376002
Duplicate RPD:	114.41%	30195376002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

February 2017

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAB0789
March 07, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWA-2S	AAB0789-01	Ground Water	02/21/17 09:50	02/22/17 16:00
BRGWA-2I	AAB0789-02	Ground Water	02/21/17 11:13	02/22/17 16:00
BRGWA-12S	AAB0789-03	Ground Water	02/21/17 09:33	02/22/17 16:00
BRGWA-12I	AAB0789-04	Ground Water	02/21/17 11:08	02/22/17 16:00
BRGWA-23S	AAB0789-05	Ground Water	02/21/17 13:40	02/22/17 16:00
BRGWC-25I	AAB0789-06	Ground Water	02/21/17 13:30	02/22/17 16:00
BRGWC-27I	AAB0789-07	Ground Water	02/21/17 15:29	02/22/17 16:00
FB-1	AAB0789-08	Water	02/21/17 11:25	02/22/17 16:00
RB-1	AAB0789-09	Water	02/21/17 11:38	02/22/17 16:00
Dup-1	AAB0789-10	Ground Water	02/21/17 00:00	02/22/17 16:00

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

March 07, 2017

Case Narrative

Plant Branch Report AAB0789 3/7/2017
Report revised per client request to move sample BRGWC-24S to a separate work order (now AAC0158).

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: BRGWA-2S
Date/Time Sampled: 2/21/2017 9:50:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0789-01
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	1.8	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 17:19	7020783	RLC
Fluoride	0.05	0.30	0.004	mg/L	EPA 300.0	J	1	02/26/17 12:42	02/26/17 17:19	7020783	RLC
Sulfate	1.5	1.0	0.09	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 17:19	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Barium	0.0094	0.0100	0.0004	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Calcium	4.02	0.500	0.0311	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Chromium	0.0036	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Cobalt	0.0028	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:39	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:15	7020713	MTC

PACE ANALYTICAL SERVICES, LLC.

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110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: BRGWA-2I
Date/Time Sampled: 2/21/2017 11:13:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0789-02
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	68	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	2.0	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 17:40	7020783	RLC
Fluoride	0.14	0.30	0.004	mg/L	EPA 300.0	J	1	02/26/17 12:42	02/26/17 17:40	7020783	RLC
Sulfate	6.1	1.0	0.09	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 17:40	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Barium	0.0109	0.0100	0.0004	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Boron	0.0088	0.0400	0.0064	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Calcium	11.4	5.00	0.311	mg/L	EPA 6020B		10	02/23/17 14:50	02/27/17 14:10	7020699	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Molybdenum	0.0021	0.0100	0.0017	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Lithium	0.0128	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 16:50	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:17	7020713	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: BRGWA-12S
Date/Time Sampled: 2/21/2017 9:33:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0789-03
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	37	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	3.2	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 20:04	7020783	RLC
Fluoride	0.04	0.30	0.004	mg/L	EPA 300.0	J	1	02/26/17 12:42	02/26/17 20:04	7020783	RLC
Sulfate	1.1	1.0	0.09	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 20:04	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Barium	0.0531	0.0100	0.0004	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Calcium	5.00	0.500	0.0311	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Chromium	0.0017	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:02	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:20	7020713	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: BRGWA-12I
Date/Time Sampled: 2/21/2017 11:08:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0789-04
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	71	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	3.2	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 20:25	7020783	RLC
Fluoride	0.16	0.30	0.004	mg/L	EPA 300.0	J	1	02/26/17 12:42	02/26/17 20:25	7020783	RLC
Sulfate	3.0	1.0	0.09	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 20:25	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Barium	0.0644	0.0100	0.0004	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Boron	0.0071	0.0400	0.0064	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Calcium	17.4	5.00	0.311	mg/L	EPA 6020B		10	02/23/17 14:50	02/27/17 14:15	7020699	CSW
Chromium	0.0010	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Lithium	0.0058	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:13	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:27	7020713	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: BRGWA-23S
Date/Time Sampled: 2/21/2017 1:40:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0789-05
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	151	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	3.5	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 21:06	7020783	RLC
Fluoride	0.10	0.30	0.004	mg/L	EPA 300.0	J	1	02/26/17 12:42	02/26/17 21:06	7020783	RLC
Sulfate	39	1.0	0.09	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 21:06	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Barium	0.0950	0.0100	0.0004	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Boron	0.0245	0.0400	0.0064	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Calcium	15.1	5.00	0.311	mg/L	EPA 6020B		10	02/23/17 14:50	02/27/17 14:21	7020699	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Cobalt	0.0045	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Selenium	0.0018	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Lithium	0.0052	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:36	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:29	7020713	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: BRGWC-25I
Date/Time Sampled: 2/21/2017 1:30:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0789-06
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	497	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	7.3	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 21:27	7020783	RLC
Fluoride	0.60	0.30	0.004	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 21:27	7020783	RLC
Sulfate	360	10	0.92	mg/L	EPA 300.0		10	02/26/17 12:42	02/27/17 20:51	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Barium	0.0447	0.0100	0.0004	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Boron	1.55	0.0400	0.0064	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Calcium	80.9	25.0	1.55	mg/L	EPA 6020B		50	02/23/17 14:50	02/25/17 17:53	7020699	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Cobalt	0.0079	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:48	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:31	7020713	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: BRGWC-27I
Date/Time Sampled: 2/21/2017 3:29:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0789-07
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	380	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	5.1	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 21:48	7020783	RLC
Fluoride	0.35	0.30	0.004	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 21:48	7020783	RLC
Sulfate	270	10	0.92	mg/L	EPA 300.0		10	02/26/17 12:42	02/27/17 21:12	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Barium	0.0150	0.0100	0.0004	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Beryllium	0.0002	0.0030	0.00008	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Boron	1.39	0.0400	0.0064	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Calcium	75.1	25.0	1.55	mg/L	EPA 6020B		50	02/23/17 14:50	02/25/17 18:05	7020699	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Cobalt	0.0099	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Selenium	0.0025	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 17:59	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:34	7020713	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: FB-1
Date/Time Sampled: 2/21/2017 11:25:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAB0789-08
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	ND	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 22:08	7020783	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 22:08	7020783	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 22:08	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:11	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:36	7020713	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: RB-1
Date/Time Sampled: 2/21/2017 11:38:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAB0789-09
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	ND	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 22:29	7020783	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 22:29	7020783	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 22:29	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Barium	0.0005	0.0100	0.0004	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:16	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:38	7020713	MTC

PACE ANALYTICAL SERVICES, LLC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789
Client ID: Dup-1
Date/Time Sampled: 2/21/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0789-10
Date/Time Received: 2/22/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	97	25	10	mg/L	SM 2540 C		1	02/24/17 12:40	02/24/17 12:40	7020729	JPT
Inorganic Anions											
Chloride	3.5	0.25	0.01	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 22:50	7020783	RLC
Fluoride	0.08	0.30	0.004	mg/L	EPA 300.0	J	1	02/26/17 12:42	02/26/17 22:50	7020783	RLC
Sulfate	50	1.0	0.09	mg/L	EPA 300.0		1	02/26/17 12:42	02/26/17 22:50	7020783	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Barium	0.0821	0.0100	0.0004	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Boron	0.0224	0.0400	0.0064	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Calcium	11.9	5.00	0.311	mg/L	EPA 6020B		10	02/23/17 14:50	02/27/17 14:27	7020699	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Cobalt	0.0039	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Selenium	0.0018	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Lithium	0.0049	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/23/17 14:50	02/25/17 18:22	7020699	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:00	7020714	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020729 - SM 2540 C											
Blank (7020729-BLK1)						Prepared & Analyzed: 02/24/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7020729-BS1)						Prepared & Analyzed: 02/24/17					
Total Dissolved Solids	357	25	10	mg/L	400.00		89	84-108			
Duplicate (7020729-DUP1)		**Source: AAB0789-08**				Prepared & Analyzed: 02/24/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7020729-DUP2)		**Source: AAB0790-03**				Prepared & Analyzed: 02/24/17					
Total Dissolved Solids	208	25	10	mg/L		198			5	10	

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020783 - EPA 300.0											
Blank (7020783-BLK1)						Prepared & Analyzed: 02/26/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7020783-BS1)						Prepared & Analyzed: 02/26/17					
Chloride	10.4	0.25	0.01	mg/L	10.010		104	90-110			
Fluoride	10.3	0.30	0.004	mg/L	10.020		103	90-110			
Sulfate	10.5	1.0	0.09	mg/L	10.020		105	90-110			
Matrix Spike (7020783-MS1)		**Source: AAB0789-02**				Prepared & Analyzed: 02/26/17					
Chloride	12.4	0.25	0.01	mg/L	10.010	2.02	104	90-110			
Fluoride	10.4	0.30	0.004	mg/L	10.020	0.14	102	90-110			
Sulfate	15.9	1.0	0.09	mg/L	10.020	6.08	98	90-110			
Matrix Spike (7020783-MS2)		**Source: AAB0789-04**				Prepared & Analyzed: 02/26/17					
Chloride	13.8	0.25	0.01	mg/L	10.010	3.23	105	90-110			
Fluoride	10.7	0.30	0.004	mg/L	10.020	0.16	105	90-110			
Sulfate	13.3	1.0	0.09	mg/L	10.020	2.99	103	90-110			
Matrix Spike Dup (7020783-MSD1)		**Source: AAB0789-02**				Prepared & Analyzed: 02/26/17					
Chloride	12.5	0.25	0.01	mg/L	10.010	2.02	104	90-110	0.6	15	
Fluoride	10.4	0.30	0.004	mg/L	10.020	0.14	103	90-110	0.4	15	
Sulfate	16.0	1.0	0.09	mg/L	10.020	6.08	99	90-110	0.4	15	

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020699 - EPA 3005A											
Blank (7020699-BLK1)						Prepared: 02/23/17 Analyzed: 02/25/17					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (7020699-BS1)						Prepared: 02/23/17 Analyzed: 02/25/17					
Antimony	0.107	0.0030	0.0008	mg/L	0.10000		107	80-120			
Arsenic	0.0985	0.0050	0.0016	mg/L	0.10000		98	80-120			
Barium	0.104	0.0100	0.0004	mg/L	0.10000		104	80-120			
Beryllium	0.102	0.0030	0.00008	mg/L	0.10000		102	80-120			
Boron	1.02	0.0400	0.0064	mg/L	1.0000		102	80-120			
Cadmium	0.105	0.0010	0.00007	mg/L	0.10000		105	80-120			
Calcium	0.995	0.500	0.0311	mg/L	1.0000		100	80-120			
Chromium	0.107	0.0100	0.0009	mg/L	0.10000		107	80-120			
Cobalt	0.0980	0.0100	0.0005	mg/L	0.10000		98	80-120			
Copper	0.102	0.0250	0.0005	mg/L	0.10000		102	80-120			
Lead	0.101	0.0050	0.0001	mg/L	0.10000		101	80-120			
Molybdenum	0.109	0.0100	0.0017	mg/L	0.10000		109	80-120			
Nickel	0.103	0.0100	0.0006	mg/L	0.10000		103	80-120			
Selenium	0.0997	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.106	0.0100	0.0005	mg/L	0.10000		106	80-120			
Thallium	0.103	0.0010	0.0002	mg/L	0.10000		103	80-120			
Vanadium	0.104	0.0100	0.0071	mg/L	0.10000		104	80-120			
Zinc	0.105	0.0100	0.0021	mg/L	0.10000		105	80-120			
Lithium	0.0985	0.0500	0.0021	mg/L	0.10000		98	80-120			

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0789

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020699 - EPA 3005A											
Matrix Spike (7020699-MS1)		**Source: AAB0741-01**			Prepared: 02/23/17 Analyzed: 02/25/17						
Antimony	0.113	0.0030	0.0008	mg/L	0.10000	0.0057	107	75-125			
Arsenic	0.102	0.0050	0.0016	mg/L	0.10000	ND	102	75-125			
Barium	0.120	0.0100	0.0004	mg/L	0.10000	0.0178	103	75-125			
Beryllium	0.105	0.0030	0.00008	mg/L	0.10000	ND	105	75-125			
Boron	1.06	0.0400	0.0064	mg/L	1.0000	0.0218	104	75-125			
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000	ND	104	75-125			
Calcium	32.4	25.0	1.55	mg/L	1.0000	31.7	70	75-125			QM-02
Chromium	0.105	0.0100	0.0009	mg/L	0.10000	0.0010	104	75-125			
Cobalt	0.0976	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Copper	0.104	0.0250	0.0005	mg/L	0.10000	ND	104	75-125			
Lead	0.100	0.0050	0.0001	mg/L	0.10000	ND	100	75-125			
Molybdenum	0.112	0.0100	0.0017	mg/L	0.10000	0.0049	107	75-125			
Nickel	0.101	0.0100	0.0006	mg/L	0.10000	0.0007	101	75-125			
Selenium	0.0984	0.0100	0.0010	mg/L	0.10000	ND	98	75-125			
Silver	0.103	0.0100	0.0005	mg/L	0.10000	ND	103	75-125			
Thallium	0.104	0.0010	0.0002	mg/L	0.10000	ND	104	75-125			
Vanadium	0.109	0.0100	0.0071	mg/L	0.10000	ND	109	75-125			
Zinc	0.106	0.0100	0.0021	mg/L	0.10000	0.0049	101	75-125			
Lithium	0.103	0.0500	0.0021	mg/L	0.10000	ND	103	75-125			
Matrix Spike Dup (7020699-MSD1)		**Source: AAB0741-01**			Prepared: 02/23/17 Analyzed: 02/25/17						
Antimony	0.113	0.0030	0.0008	mg/L	0.10000	0.0057	108	75-125	0.7	20	
Arsenic	0.102	0.0050	0.0016	mg/L	0.10000	ND	102	75-125	0.4	20	
Barium	0.123	0.0100	0.0004	mg/L	0.10000	0.0178	105	75-125	2	20	
Beryllium	0.109	0.0030	0.00008	mg/L	0.10000	ND	109	75-125	4	20	
Boron	1.02	0.0400	0.0064	mg/L	1.0000	0.0218	100	75-125	4	20	
Cadmium	0.103	0.0010	0.00007	mg/L	0.10000	ND	103	75-125	2	20	
Calcium	32.6	25.0	1.55	mg/L	1.0000	31.7	89	75-125	0.6	20	
Chromium	0.111	0.0100	0.0009	mg/L	0.10000	0.0010	110	75-125	5	20	
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000	ND	101	75-125	4	20	
Copper	0.104	0.0250	0.0005	mg/L	0.10000	ND	104	75-125	0.2	20	
Lead	0.102	0.0050	0.0001	mg/L	0.10000	ND	102	75-125	2	20	
Molybdenum	0.111	0.0100	0.0017	mg/L	0.10000	0.0049	106	75-125	0.8	20	
Nickel	0.103	0.0100	0.0006	mg/L	0.10000	0.0007	103	75-125	2	20	
Selenium	0.100	0.0100	0.0010	mg/L	0.10000	ND	100	75-125	2	20	
Silver	0.105	0.0100	0.0005	mg/L	0.10000	ND	105	75-125	2	20	
Thallium	0.107	0.0010	0.0002	mg/L	0.10000	ND	107	75-125	3	20	
Vanadium	0.114	0.0100	0.0071	mg/L	0.10000	ND	114	75-125	5	20	
Zinc	0.111	0.0100	0.0021	mg/L	0.10000	0.0049	106	75-125	4	20	
Lithium	0.104	0.0500	0.0021	mg/L	0.10000	ND	104	75-125	0.9	20	

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March 07, 2017

Report No.: AAB0789

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020699 - EPA 3005A											
Post Spike (7020699-PS1)			**Source: AAB0741-01**			Prepared: 02/23/17 Analyzed: 02/25/17					
Antimony	101			ug/L	100.00	5.71	95	80-120			
Arsenic	107			ug/L	100.00	0.925	106	80-120			
Barium	117			ug/L	100.00	17.8	99	80-120			
Beryllium	112			ug/L	100.00	0.0014	112	80-120			
Boron	1100			ug/L	1000.0	21.8	108	80-120			
Cadmium	104			ug/L	100.00	-0.0021	104	80-120			
Calcium	32700			ug/L	1000.0	31700	104	80-120			
Chromium	111			ug/L	100.00	1.03	110	80-120			
Cobalt	96.9			ug/L	100.00	0.167	97	80-120			
Copper	106			ug/L	100.00	0.267	106	80-120			
Lead	101			ug/L	100.00	0.0835	101	80-120			
Molybdenum	114			ug/L	100.00	4.94	109	80-120			
Nickel	101			ug/L	100.00	0.653	100	80-120			
Selenium	101			ug/L	100.00	0.920	100	80-120			
Silver	102			ug/L	100.00	0.0060	102	80-120			
Thallium	103			ug/L	100.00	0.0169	103	80-120			
Vanadium	113			ug/L	100.00	0.937	112	80-120			
Zinc	122			ug/L	100.00	4.93	118	80-120			
Lithium	107			ug/L	100.00	0.225	107	80-120			
Batch 7020713 - EPA 7470A											
Blank (7020713-BLK1)						Prepared & Analyzed: 02/24/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7020713-BS1)						Prepared & Analyzed: 02/24/17					
Mercury	0.00238	0.00050	0.000041	mg/L	2.5000E-3		95	80-120			

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March 07, 2017

Report No.: AAB0789

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020713 - EPA 7470A											
Matrix Spike (7020713-MS1)			**Source: AAB0789-01**			Prepared & Analyzed: 02/24/17					
Mercury	0.00231	0.00050	0.000041	mg/L	2.5000E-3	ND	92	75-125			
Matrix Spike Dup (7020713-MSD1)			**Source: AAB0789-01**			Prepared & Analyzed: 02/24/17					
Mercury	0.00235	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125	2	20	
Post Spike (7020713-PS1)			**Source: AAB0789-01**			Prepared & Analyzed: 02/24/17					
Mercury	1.64			ug/L	1.6667	-0.00567	98	80-120			
Batch 7020714 - EPA 7470A											
Blank (7020714-BLK1)						Prepared & Analyzed: 02/24/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7020714-BS1)						Prepared & Analyzed: 02/24/17					
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3		94	80-120			
Matrix Spike (7020714-MS1)			**Source: AAB0789-10**			Prepared & Analyzed: 02/24/17					
Mercury	0.00237	0.00050	0.000041	mg/L	2.5000E-3	ND	95	75-125			
Matrix Spike Dup (7020714-MSD1)			**Source: AAB0789-10**			Prepared & Analyzed: 02/24/17					
Mercury	0.00232	0.00050	0.000041	mg/L	2.5000E-3	ND	93	75-125	2	20	
Post Spike (7020714-PS1)			**Source: AAB0789-10**			Prepared & Analyzed: 02/24/17					
Mercury	1.67			ug/L	1.6667	-0.0218	100	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com
Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE:
PO #: labarch@Southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals App III & III (EPA 6020 / 7470)	Cl, F, SO4, and TDS (EPA 300.0 and SM 2540C)	Radium 226 and 228 (SW-846 9315 / 9320)							LAB ID NUMBER
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	1	3							
2/21/17	0950	GW		X	BRGWA-2S	4		1	1	2							1
2/21/17	1113	GW		X	BRGWA-2I	4		1	1	2							2
2/21/17	0933	GW		X	BRGWA-12S	4		1	1	2							3
2/21/17	1108	GW		X	BRGWA-12I	4		1	1	2							4
2/21/17	1340	GW		X	BRGWA-23S	4		1	1	2							5
2/21/17	1330	GW		X	BRGWL-25I	4		1	1	2							6
2/21/17	1529	GW		X	BRGWL-27I	6		1	1	4							7
2/21/17	1125	W		X	FB-1	4		1	1	2							8
2/21/17	1138	W		X	RB-1	4		1	1	2							9
2/21/17	—	GW		X	DUP-1	4		1	1	2							10

ANALYSIS REQUESTED

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES:
DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Travis Martinez, Scientist
DATE/TIME: 2/21/17 1640
RELINQUISHED BY:
DATE/TIME: 2/22/17 0845
RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

FOR LAB USE ONLY
LAB #: AA80789
Entered into LIMS: MR

RECEIVED BY LAB: Raman
DATE/TIME: 02/22/17 1600
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER Pace CLIENT OTHER FS
Tracking #:
Packed: No NA
Ice: Yes No NA
Temperature: 1°C Min: 1°C Max:
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

COC Revised 2016-05-17.xlsx

6994

CHAIN OF CUSTODY RECORD

Pace Analytical
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Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308
P: 404-506-7239

REPORT TO: Soja Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE: -
PO #: labcrch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III + III (EPA 6020 / 4470)	Cl, F, SO4, and TDS (EPA 300.0 and SM 2540C)	Radium-226 and 228 (SW-846 9315/9320)	LAB ID NUMBER
					CONTAINER TYPE:		P	P	P	
					PRESERVATION:		3	7	3	
2-21-17	1534	GW		X	BRGWC-245	4	1	1	2	11

CONTAINER TYPE / PRESERVATION

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Ballou, Geologist
DATE/TIME: 2-21-17 / 1645
RELINQUISHED BY: William Ballou
DATE/TIME: 2/22/17 0845

RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

FOR LAB USE ONLY
LAB #: AA80789
Entered into LIMS: MR

RECEIVED BY LAB: Latman
DATE/TIME: 02/22/17 1600
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER Pace CLIENT OTHER FS
Tracking #:

Checked: No NA
Ice: Yes No NA
Temperature: 1°C Min: 1°C Max:
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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LOG-IN CHECKLIST

Printed: 2/23/2017 1:45:43PM

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 02/22/17 16:00

Work Order: AAB0789
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 11 **#Containers:** 46

Minimum Temp(C): 1.0 **Maximum Temp(C):** 1.0 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

March 22, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAB0789 Plant Branch
Pace Project No.: 30211811

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on February 24, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30211811001	**BRGWA-2S**	Water	02/21/17 09:50	02/24/17 12:25
30211811002	**BRGWA-2I**	Water	02/21/17 11:13	02/24/17 12:25
30211811003	**BRGWA-12S**	Water	02/21/17 09:33	02/24/17 12:25
30211811004	**BRGWA-12I**	Water	02/21/17 11:08	02/24/17 12:25
30211811005	**BRGWA-23S**	Water	02/21/17 13:40	02/24/17 12:25
30211811006	**BRGWC-25I**	Water	02/21/17 13:30	02/24/17 12:25
30211811007	**BRGWC-27I**	Water	02/21/17 15:29	02/24/17 12:25
30211811008	**FB-1**	Water	02/21/17 11:25	02/24/17 12:25
30211811009	**RB-1**	Water	02/21/17 11:38	02/24/17 12:25
30211811010	**Dup-1**	Water	02/21/17 00:00	02/24/17 12:25

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
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SAMPLE ANALYTE COUNT

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30211811001	**BRGWA-2S**	EPA 9315	JC2	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1
30211811002	**BRGWA-2I**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1
30211811003	**BRGWA-12S**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1
30211811004	**BRGWA-12I**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1
30211811005	**BRGWA-23S**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1
30211811006	**BRGWC-25I**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	JAL	1
30211811007	**BRGWC-27I**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1
30211811008	**FB-1**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1
30211811009	**RB-1**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1
30211811010	**Dup-1**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

Sample: BRGWA-2S **Lab ID: 30211811001** Collected: 02/21/17 09:50 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.100 ± 0.129 (0.257) C:95% T:NA**	pCi/L	03/10/17 10:12	13982-63-3	
Radium-228	EPA 9320	**0.860 ± 0.904 (1.88) C:38% T:71%**	pCi/L	03/16/17 11:22	15262-20-1	
Total Radium	Total Radium Calculation	**0.960 ± 1.03 (2.14)**	pCi/L	03/21/17 15:23	7440-14-4	

Sample: BRGWA-2I **Lab ID: 30211811002** Collected: 02/21/17 11:13 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0261 ± 0.0613 (0.186) C:95% T:NA**	pCi/L	03/17/17 09:05	13982-63-3	
Radium-228	EPA 9320	**1.01 ± 0.828 (1.66) C:36% T:84%**	pCi/L	03/16/17 11:22	15262-20-1	
Total Radium	Total Radium Calculation	**1.01 ± 0.889 (1.85)**	pCi/L	03/21/17 15:23	7440-14-4	

Sample: BRGWA-12S **Lab ID: 30211811003** Collected: 02/21/17 09:33 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0715 ± 0.0845 (0.169) C:95% T:NA**	pCi/L	03/17/17 09:05	13982-63-3	
Radium-228	EPA 9320	**0.246 ± 0.893 (2.02) C:32% T:81%**	pCi/L	03/16/17 11:22	15262-20-1	
Total Radium	Total Radium Calculation	**0.318 ± 0.978 (2.19)**	pCi/L	03/21/17 15:23	7440-14-4	

Sample: BRGWA-12I **Lab ID: 30211811004** Collected: 02/21/17 11:08 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.169 ± 0.110 (0.173) C:97% T:NA**	pCi/L	03/17/17 09:05	13982-63-3	
Radium-228	EPA 9320	**1.58 ± 1.02 (1.92) C:39% T:76%**	pCi/L	03/16/17 13:23	15262-20-1	
Total Radium	Total Radium Calculation	**1.75 ± 1.13 (2.09)**	pCi/L	03/21/17 15:23	7440-14-4	

Sample: BRGWA-23S **Lab ID: 30211811005** Collected: 02/21/17 13:40 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.242 ± 0.134 (0.194) C:88% T:NA**	pCi/L	03/17/17 09:05	13982-63-3	
Radium-228	EPA 9320	**0.353 ± 0.932 (2.08) C:37% T:72%**	pCi/L	03/16/17 16:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

Sample: BRGWA-23S **Lab ID: 30211811005** Collected: 02/21/17 13:40 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.595 ± 1.07 (2.27)**	pCi/L	03/21/17 15:23	7440-14-4	

Sample: BRGWC-25I **Lab ID: 30211811006** Collected: 02/21/17 13:30 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.219 ± 0.119 (0.170) C:102% T:NA**	pCi/L	03/17/17 09:05	13982-63-3	
Radium-228	EPA 9320	**1.09 ± 0.514 (0.879) C:75% T:72%**	pCi/L	03/22/17 11:48	15262-20-1	
Total Radium	Total Radium Calculation	**1.31 ± 0.633 (1.05)**	pCi/L	03/22/17 17:17	7440-14-4	

Sample: BRGWC-27I **Lab ID: 30211811007** Collected: 02/21/17 15:29 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.111 ± 0.117 (0.235) C:98% T:NA**	pCi/L	03/17/17 09:05	13982-63-3	
Radium-228	EPA 9320	**1.17 ± 1.13 (2.33) C:32% T:75%**	pCi/L	03/16/17 16:56	15262-20-1	
Total Radium	Total Radium Calculation	**1.28 ± 1.25 (2.57)**	pCi/L	03/21/17 15:23	7440-14-4	

Sample: FB-1 **Lab ID: 30211811008** Collected: 02/21/17 11:25 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0443 ± 0.0452 (0.170) C:98% T:NA**	pCi/L	03/17/17 09:05	13982-63-3	
Radium-228	EPA 9320	**1.66 ± 1.12 (2.13) C:32% T:75%**	pCi/L	03/16/17 16:56	15262-20-1	
Total Radium	Total Radium Calculation	**1.66 ± 1.17 (2.30)**	pCi/L	03/21/17 15:23	7440-14-4	

Sample: RB-1 **Lab ID: 30211811009** Collected: 02/21/17 11:38 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0290 ± 0.0491 (0.164) C:99% T:NA**	pCi/L	03/17/17 09:05	13982-63-3	
Radium-228	EPA 9320	**2.64 ± 1.28 (2.19) C:31% T:78%**	pCi/L	03/16/17 16:56	15262-20-1	
Total Radium	Total Radium Calculation	**2.64 ± 1.33 (2.35)**	pCi/L	03/21/17 15:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

Sample: Dup-1 **Lab ID: 30211811010** Collected: 02/21/17 00:00 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.297 ± 0.170 (0.241) C:63% T:NA**	pCi/L	03/17/17 09:05	13982-63-3	
Radium-228	EPA 9320	**-0.182 ± 0.643 (1.55) C:41% T:82%**	pCi/L	03/16/17 16:56	15262-20-1	
Total Radium	Total Radium Calculation	**0.297 ± 0.813 (1.79)**	pCi/L	03/21/17 15:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
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QUALITY CONTROL - RADIOCHEMISTRY

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

QC Batch: 251402 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30211811001

METHOD BLANK: 1236939 Matrix: Water
Associated Lab Samples: 30211811001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0711 ± 0.137 (0.311) C:100% T:NA	pCi/L	03/09/17 08:55	

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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Greensburg, PA 15601
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QUALITY CONTROL - RADIOCHEMISTRY

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

QC Batch: 251729 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30211811002, 30211811003, 30211811004, 30211811005, 30211811006, 30211811007, 30211811008, 30211811009, 30211811010

METHOD BLANK: 1238336 Matrix: Water
Associated Lab Samples: 30211811002, 30211811003, 30211811004, 30211811005, 30211811006, 30211811007, 30211811008, 30211811009, 30211811010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0778 ± 0.0850 (0.162) C:88% T:NA	pCi/L	03/17/17 09:05	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

QC Batch: 251825 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30211811001, 30211811002, 30211811003, 30211811004, 30211811005, 30211811006, 30211811007, 30211811008, 30211811009, 30211811010

METHOD BLANK: 1238956 Matrix: Water
Associated Lab Samples: 30211811001, 30211811002, 30211811003, 30211811004, 30211811005, 30211811006, 30211811007, 30211811008, 30211811009, 30211811010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0225 ± 0.967 (2.22) C:20% T:79%	pCi/L	03/16/17 11:27	1c
Radium-228	0.155 ± 0.391 (0.872) C:75% T:70%	pCi/L	03/22/17 11:48	

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

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAB0789 Plant Branch
Pace Project No.: 30211811

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.

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.

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.

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

1c	Method Blank yttrium carrier yield is less than the 30% default minimum acceptable for carrier yield. The MB has been re-ingrowthed and will be re-analyzed on 3/22/2017.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAB0789 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 2/17/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO#:30211811

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	BRGWA-2S	G	2/21/2017 9:50	AAB0789-01	GW	2	X	001
2	BRGWA-2I	G	2/21/2017 11:13	AAB0789-02	GW	2	X	002
3	BRGWA-12S	G	2/21/2017 9:33	AAB0789-03	GW	2	X	003
4	BRGWA-12I	G	2/21/2017 11:08	AAB0789-04	GW	2	X	004
5	BRGWA-23S	G	2/21/2017 13:40	AAB0789-05	GW	2	X	005
6	BRGWC-25I	G	2/21/2017 13:30	AAB0789-06	GW	2	X	006
7	BRGWC-27I	G	2/21/2017 15:29	AAB0789-07	GW	4	X	007
8	FB-1	G	2/21/2017 11:25	AAB0789-08	~~GW~~ W	2 BMN 2/23/2017	X	008
9	RB-1	G	2/21/2017 11:38	AAB0789-09	~~GW~~ W	2	X	009
10	Dup-1	G	2/21/2017 0:00	AAB0789-10	GW	2	X	010

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			Karen Hill	2/24/17 1225	
2					
3					

Cooler Temperature on Receipt N/A °C | **Custody Seal Y or (N)** | **Received on Ice Y or (N)** | **Sample Intact (Y) or N**

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30211811

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAB0789 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 2/17/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
11	BRGWC-24S	G	2/21/2017 15:34	AAB0789-11	GW	2	X	011
12								
13								
14								
15								
16								
17								
18								
19								
20								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			Kwan Hill	2/24/17 1225	
2					
3					

Cooler Temperature on Receipt N/A °C | **Custody Seal Y or (N)** | **Received on Ice Y or (N)** | **Sample Intact (Y) or N**

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30211811

6996

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Jaju Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE:
PO #: labarch@Southernco.com

PROJECT NAME/STATE:
Plant Branch AP

PROJECT #:
State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals APP III & III (EPA 6020 / 7470)	Cl, F, SO4, and TDS (EPA 300.0 and SM 2540)	Radium 226 and 228 (SW-846 9315 / 9320)	LAB ID NUMBER
	CONTAINER TYPE:						P	P	P	
	PRESERVATION:						3	1	3	
2/21/17	0950	GW		X	BRGWA-2S	4	1	1	2	1
2/21/17	1113	GW		X	BRGWA-2I	4	1	1	2	2
2/21/17	0933	GW		X	BRGWA-12S	4	1	1	2	3
2/21/17	1108	GW		X	BRGWA-12I	4	1	1	2	4
2/21/17	1340	GW		X	BRGWA-23S	4	1	1	2	5
2/21/17	1330	GW		X	BRGWL-25I	4	1	1	2	6
2/21/17	1529	GW		X	BRGWL-27I	6	1	1	4	7
2/21/17	1125	W		X	FB-1	4	1	1	2	8
2/21/17	1138	W		X	RB-1	4	1	1	2	9
2/21/17	—	GW		X	DUP-1	4	1	1	2	10

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Travis Mahmer, Scientist
DATE/TIME: 2/21/17 1640

RELINQUISHED BY:
DATE/TIME: 2/22/17 0845

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB: Rahman
DATE/TIME: 02/22/17 1600

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER Pace CLIENT OTHER FS

pH checked: Yes No NA
Ice: Yes No NA
Temperature: 1°C Min: 1°C Max:
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AA00789
Entered into LIMS: MR
Tracking #:

COC Revised 2016-05-17.xlsx

30211811

6994

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308
P: 404-506-7239

REPORT TO: John Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE: -
PO #: labcrch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	CONTAINER TYPE: P	P	P	LAB ID NUMBER
							PRESERVATION: 3	1	3	
							Metals App. III + III (EPA 6020) / 4470	Cl, F, SO4, and TDS (EPA 300.0 and SM 2540C)	Radium-226 and 228 (SM-9315/9320)	
2-21-17	1534	GW		X	BRGWC-245	4	1	1	2	11

CONTAINER TYPE / PRESERVATION

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Ballew, Geologist
DATE/TIME: 2-21-17 1645
RELINQUISHED BY: William Baker
DATE/TIME: 2/22/17 0845

RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

FOR LAB USE ONLY
LAB #: AA00789
Entered Into LIMS: MR

RECEIVED BY LAB: Mallman
DATE/TIME: 02/22/17 1600

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER Pace CLIENT OTHER FS

Tracking #:

pH checked: Yes No NA
Ice: Yes No NA
Temperature: 1°C Min: 1°C Max:
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

COC Revised 2016-05-17.xlsx

ML

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace Atlanta Project # 30211811

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 0812 5102 5695

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: N/A °C Final Temp: N/A °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KH 2/24/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed KH; Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: KH; Date: 2/24/17

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: Sample all canceled via this WO and logged under WO 30212563 as per client request

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	3/9/2017
Worklist:	34416
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1236939
MB concentration:	0.071
M/B Counting Uncertainty:	0.137
MB MDC:	0.311
MB Numerical Performance Indicator:	1.02
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS34416	LCSD34416
Count Date:	3/10/2017	
Spike I.D.:	17-003	
Spike Concentration (pCi/mL):	38.231	
Volume Used (mL):	0.25	
Aliquot Volume (L, g, F):	0.507	
Target Conc. (pCi/L, g, F):	18.837	
Uncertainty (Calculated):	0.886	
Result (pCi/L, g, F):	15.438	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.167	
Numerical Performance Indicator:	-4.55	
Percent Recovery:	81.95%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30211537006	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30211537006DUP	
Sample Result (pCi/L, g, F):	0.608	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.272	
Sample Duplicate Result (pCi/L, g, F):	0.852	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.330	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	*-1.117	30211537006
Duplicate RPD:	33.36%	30211537006DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments: * Numerical Indicator is acceptable.

3/22/17

***Batch must be re-prepped due to unacceptable precision.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	3/15/2017
Worklist:	34493
Matrix:	DW

Method Blank Assessment

MB Sample ID	1238336
MB concentration:	0.078
M/B Counting Uncertainty:	0.084
MB MDC:	0.162
MB Numerical Performance Indicator:	1.81
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS34493	**LCSD34493**
Count Date:	3/20/2017	
Spike I.D.:	17-003	
Spike Concentration (pCi/mL):	38.230	
Volume Used (mL):	0.25	
Aliquot Volume (L, g, F):	0.501	
Target Conc. (pCi/L, g, F):	19.092	
Uncertainty (Calculated):	0.898	
Result (pCi/L, g, F):	16.544	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.905	
Numerical Performance Indicator:	-3.92	
Percent Recovery:	86.65%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30211811002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30211811002DUP	
Sample Result (pCi/L, g, F):	-0.026	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.061	
Sample Duplicate Result (pCi/L, g, F):	0.058	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.085	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.574	30211811002
Duplicate RPD:	524.01%	30211811002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments: * Numerical Indicator is acceptable.

***Batch must be re-prepped due to unacceptable precision.

3/22/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JJY
Date:	3/14/2017
Worklist:	34511
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1238956
MB concentration:	-0.022
M/B Counting Uncertainty:	0.967
MB MDC:	2.218
MB Numerical Performance Indicator:	-0.05
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS34511	LCSD34511
Count Date:	3/16/2017	3/16/2017
Spike I.D.:	17-005	17-005
Spike Concentration (pCi/mL):	25.026	25.026
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.808	0.803
Target Conc. (pCi/L, g, F):	6.191	6.231
Uncertainty (Calculated):	0.446	0.449
Result (pCi/L, g, F):	7.748	6.245
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.318	0.971
Numerical Performance Indicator:	2.19	0.03
Percent Recovery:	125.14%	100.23%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	LCS34511	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD34511	
Sample Result (pCi/L, g, F):	7.748	
Sample Result Counting Uncertainty (pCi/L, g, F):	1.318	
Sample Duplicate Result (pCi/L, g, F):	6.245	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.971	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	1.799	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	22.11%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

3/22/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAB0716
February 27, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 27, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWA-6S	AAB0716-01	Ground Water	02/20/17 13:59	02/21/17 12:55
BRGWA-5S	AAB0716-02	Ground Water	02/20/17 15:18	02/21/17 12:55
BRGWA-5I	AAB0716-03	Ground Water	02/20/17 15:17	02/21/17 12:55

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 27, 2017

Report No.: AAB0716
Client ID: BRGWA-6S
Date/Time Sampled: 2/20/2017 1:59:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0716-01
Date/Time Received: 2/21/2017 12:55:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	133	25	10	mg/L	SM 2540 C		1	02/23/17 11:30	02/23/17 11:30	7020691	JPT
Inorganic Anions											
Chloride	2.4	0.25	0.01	mg/L	EPA 300.0		1	02/21/17 16:27	02/22/17 11:57	7020617	RLC
Fluoride	0.04	0.30	0.004	mg/L	EPA 300.0	J	1	02/21/17 16:27	02/22/17 11:57	7020617	RLC
Sulfate	0.98	1.0	0.09	mg/L	EPA 300.0	B-01, J	1	02/21/17 16:27	02/22/17 11:57	7020617	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Barium	0.0142	0.0100	0.0004	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Boron	0.0157	0.0400	0.0064	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Calcium	3.52	0.500	0.0311	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Chromium	0.0140	0.0100	0.0009	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Lithium	0.0025	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 19:36	7020619	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:03	7020713	MTC

PACE ANALYTICAL SERVICES, LLC.

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110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 27, 2017

Report No.: AAB0716
Client ID: BRGWA-5S
Date/Time Sampled: 2/20/2017 3:18:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0716-02
Date/Time Received: 2/21/2017 12:55:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	158	25	10	mg/L	SM 2540 C		1	02/23/17 11:30	02/23/17 11:30	7020691	JPT
Inorganic Anions											
Chloride	3.9	0.25	0.01	mg/L	EPA 300.0		1	02/21/17 16:27	02/22/17 12:40	7020617	RLC
Fluoride	0.08	0.30	0.004	mg/L	EPA 300.0	J	1	02/21/17 16:27	02/22/17 12:40	7020617	RLC
Sulfate	1.0	1.0	0.09	mg/L	EPA 300.0	B-01	1	02/21/17 16:27	02/22/17 12:40	7020617	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Barium	0.0586	0.0100	0.0004	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Boron	0.0093	0.0400	0.0064	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Calcium	21.1	5.00	0.311	mg/L	EPA 6020B		10	02/22/17 09:45	02/25/17 14:09	7020619	CSW
Chromium	0.0047	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Cobalt	0.0009	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Lead	0.0002	0.0050	0.0001	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 19:59	7020619	CSW
Mercury	0.00008	0.00050	0.000041	mg/L	EPA 7470A	J	1	02/24/17 10:20	02/24/17 14:05	7020713	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 27, 2017

Report No.: AAB0716
Client ID: BRGWA-5I
Date/Time Sampled: 2/20/2017 3:17:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0716-03
Date/Time Received: 2/21/2017 12:55:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	170	25	10	mg/L	SM 2540 C		1	02/23/17 11:30	02/23/17 11:30	7020691	JPT
Inorganic Anions											
Chloride	4.8	0.25	0.01	mg/L	EPA 300.0		1	02/21/17 16:27	02/22/17 13:01	7020617	RLC
Fluoride	0.06	0.30	0.004	mg/L	EPA 300.0	J	1	02/21/17 16:27	02/22/17 13:01	7020617	RLC
Sulfate	3.9	1.0	0.09	mg/L	EPA 300.0	B-01	1	02/21/17 16:27	02/22/17 13:01	7020617	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Barium	0.0336	0.0100	0.0004	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Boron	0.0066	0.0400	0.0064	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Calcium	13.9	2.50	0.155	mg/L	EPA 6020B		5	02/22/17 09:45	02/24/17 20:22	7020619	CSW
Chromium	0.0049	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Cobalt	0.0012	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Molybdenum	0.0055	0.0100	0.0017	mg/L	EPA 6020B	J	1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/22/17 09:45	02/24/17 20:11	7020619	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 14:08	7020713	MTC

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General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020691 - SM 2540 C											
Blank (7020691-BLK1)						Prepared & Analyzed: 02/23/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7020691-BS1)						Prepared & Analyzed: 02/23/17					
Total Dissolved Solids	398	25	10	mg/L	400.00		100	84-108			
Duplicate (7020691-DUP1)		**Source: AAB0709-01**				Prepared & Analyzed: 02/23/17					
Total Dissolved Solids	ND	25	10	mg/L		10				10	
Duplicate (7020691-DUP2)		**Source: AAB0709-03**				Prepared & Analyzed: 02/23/17					
Total Dissolved Solids	236	25	10	mg/L		251			6	10	

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Report No.: AAB0716

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020617 - EPA 300.0											
Blank (7020617-BLK1)						Prepared: 02/21/17 Analyzed: 02/22/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	0.28	1.0	0.09	mg/L							J
LCS (7020617-BS1)						Prepared: 02/21/17 Analyzed: 02/22/17					
Chloride	10.7	0.25	0.01	mg/L	10.010		107	90-110			
Fluoride	10.9	0.30	0.004	mg/L	10.020		109	90-110			
Sulfate	10.8	1.0	0.09	mg/L	10.020		108	90-110			
Matrix Spike (7020617-MS1)			**Source: AAB0586-02**			Prepared: 02/21/17 Analyzed: 02/22/17					
Chloride	21.0	0.25	0.01	mg/L	10.010	11.5	95	90-110			
Fluoride	10.8	0.30	0.004	mg/L	10.020	0.18	106	90-110			
Sulfate	251	1.0	0.09	mg/L	10.020	264	NR	90-110			QM-02
Matrix Spike (7020617-MS2)			**Source: AAB0716-01**			Prepared: 02/21/17 Analyzed: 02/22/17					
Chloride	12.7	0.25	0.01	mg/L	10.010	2.40	102	90-110			
Fluoride	10.8	0.30	0.004	mg/L	10.020	0.04	107	90-110			
Sulfate	11.2	1.0	0.09	mg/L	10.020	0.98	102	90-110			
Matrix Spike Dup (7020617-MSD1)			**Source: AAB0586-02**			Prepared: 02/21/17 Analyzed: 02/22/17					
Chloride	21.0	0.25	0.01	mg/L	10.010	11.5	95	90-110	0.01	15	
Fluoride	10.9	0.30	0.004	mg/L	10.020	0.18	107	90-110	0.6	15	
Sulfate	251	1.0	0.09	mg/L	10.020	264	NR	90-110	0.03	15	QM-02

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020619 - EPA 3005A											
Blank (7020619-BLK1)						Prepared: 02/22/17 Analyzed: 02/24/17					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (7020619-BS1)						Prepared: 02/22/17 Analyzed: 02/24/17					
Antimony	0.0993	0.0030	0.0008	mg/L	0.10000		99	80-120			
Arsenic	0.0982	0.0050	0.0016	mg/L	0.10000		98	80-120			
Barium	0.0956	0.0100	0.0004	mg/L	0.10000		96	80-120			
Beryllium	0.0971	0.0030	0.00008	mg/L	0.10000		97	80-120			
Boron	0.937	0.0400	0.0064	mg/L	1.0000		94	80-120			
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000		104	80-120			
Calcium	0.979	0.500	0.0311	mg/L	1.0000		98	80-120			
Chromium	0.107	0.0100	0.0009	mg/L	0.10000		107	80-120			
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000		103	80-120			
Copper	0.103	0.0250	0.0005	mg/L	0.10000		103	80-120			
Lead	0.0970	0.0050	0.0001	mg/L	0.10000		97	80-120			
Molybdenum	0.0957	0.0100	0.0017	mg/L	0.10000		96	80-120			
Nickel	0.103	0.0100	0.0006	mg/L	0.10000		103	80-120			
Selenium	0.0996	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.0978	0.0100	0.0005	mg/L	0.10000		98	80-120			
Thallium	0.0991	0.0010	0.0002	mg/L	0.10000		99	80-120			
Vanadium	0.106	0.0100	0.0071	mg/L	0.10000		106	80-120			
Zinc	0.103	0.0100	0.0021	mg/L	0.10000		103	80-120			
Lithium	0.0991	0.0500	0.0021	mg/L	0.10000		99	80-120			

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Report No.: AAB0716

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020619 - EPA 3005A											
Matrix Spike (7020619-MS1)		**Source: AAB0709-03**				Prepared: 02/22/17 Analyzed: 02/24/17					
Antimony	0.101	0.0030	0.0008	mg/L	0.10000	ND	101	75-125			
Arsenic	0.107	0.0050	0.0016	mg/L	0.10000	0.0029	104	75-125			
Barium	0.122	0.0100	0.0004	mg/L	0.10000	0.0275	95	75-125			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000	ND	104	75-125			
Boron	0.974	0.0400	0.0064	mg/L	1.0000	0.0154	96	75-125			
Cadmium	0.103	0.0010	0.00007	mg/L	0.10000	ND	103	75-125			
Calcium	39.7	25.0	1.55	mg/L	1.0000	40.7	NR	75-125			QM-02
Chromium	0.110	0.0100	0.0009	mg/L	0.10000	ND	110	75-125			
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000	ND	103	75-125			
Copper	0.104	0.0250	0.0005	mg/L	0.10000	ND	104	75-125			
Lead	0.0975	0.0050	0.0001	mg/L	0.10000	0.0004	97	75-125			
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000	0.0024	100	75-125			
Nickel	0.108	0.0100	0.0006	mg/L	0.10000	ND	108	75-125			
Selenium	0.103	0.0100	0.0010	mg/L	0.10000	ND	103	75-125			
Silver	0.0970	0.0100	0.0005	mg/L	0.10000	ND	97	75-125			
Thallium	0.101	0.0010	0.0002	mg/L	0.10000	ND	101	75-125			
Vanadium	0.112	0.0100	0.0071	mg/L	0.10000	ND	112	75-125			
Zinc	0.102	0.0100	0.0021	mg/L	0.10000	ND	102	75-125			
Lithium	0.102	0.0500	0.0021	mg/L	0.10000	ND	102	75-125			
Matrix Spike Dup (7020619-MSD1)		**Source: AAB0709-03**				Prepared: 02/22/17 Analyzed: 02/24/17					
Antimony	0.103	0.0030	0.0008	mg/L	0.10000	ND	103	75-125	2	20	
Arsenic	0.105	0.0050	0.0016	mg/L	0.10000	0.0029	102	75-125	2	20	
Barium	0.127	0.0100	0.0004	mg/L	0.10000	0.0275	99	75-125	4	20	
Beryllium	0.0993	0.0030	0.00008	mg/L	0.10000	ND	99	75-125	4	20	
Boron	0.973	0.0400	0.0064	mg/L	1.0000	0.0154	96	75-125	0.1	20	
Cadmium	0.105	0.0010	0.00007	mg/L	0.10000	ND	105	75-125	2	20	
Calcium	43.2	25.0	1.55	mg/L	1.0000	40.7	241	75-125	8	20	QM-02
Chromium	0.111	0.0100	0.0009	mg/L	0.10000	ND	111	75-125	1	20	
Cobalt	0.104	0.0100	0.0005	mg/L	0.10000	ND	104	75-125	0.8	20	
Copper	0.102	0.0250	0.0005	mg/L	0.10000	ND	102	75-125	2	20	
Lead	0.0961	0.0050	0.0001	mg/L	0.10000	0.0004	96	75-125	1	20	
Molybdenum	0.104	0.0100	0.0017	mg/L	0.10000	0.0024	102	75-125	1	20	
Nickel	0.105	0.0100	0.0006	mg/L	0.10000	ND	105	75-125	2	20	
Selenium	0.0998	0.0100	0.0010	mg/L	0.10000	ND	100	75-125	3	20	
Silver	0.0958	0.0100	0.0005	mg/L	0.10000	ND	96	75-125	1	20	
Thallium	0.0984	0.0010	0.0002	mg/L	0.10000	ND	98	75-125	2	20	
Vanadium	0.113	0.0100	0.0071	mg/L	0.10000	ND	113	75-125	0.7	20	
Zinc	0.104	0.0100	0.0021	mg/L	0.10000	ND	104	75-125	2	20	
Lithium	0.0995	0.0500	0.0021	mg/L	0.10000	ND	99	75-125	2	20	

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February 27, 2017

Report No.: AAB0716

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020619 - EPA 3005A											
Post Spike (7020619-PS1)			**Source: AAB0709-03**			Prepared: 02/22/17 Analyzed: 02/24/17					
Antimony	95.0			ug/L	100.00	0.254	95	80-120			
Arsenic	105			ug/L	100.00	2.87	103	80-120			
Barium	124			ug/L	100.00	27.5	97	80-120			
Beryllium	99.5			ug/L	100.00	0.0070	99	80-120			
Boron	954			ug/L	1000.0	15.4	94	80-120			
Cadmium	102			ug/L	100.00	-0.0085	102	80-120			
Calcium	40200			ug/L	1000.0	40700	NR	80-120			QM-02
Chromium	110			ug/L	100.00	0.198	110	80-120			
Cobalt	101			ug/L	100.00	0.236	101	80-120			
Copper	101			ug/L	100.00	-0.0416	101	80-120			
Lead	93.2			ug/L	100.00	0.407	93	80-120			
Molybdenum	105			ug/L	100.00	2.42	103	80-120			
Nickel	104			ug/L	100.00	0.150	104	80-120			
Selenium	100			ug/L	100.00	-0.414	100	80-120			
Silver	98.9			ug/L	100.00	0.0038	99	80-120			
Thallium	95.6			ug/L	100.00	0.0243	96	80-120			
Vanadium	109			ug/L	100.00	0.231	109	80-120			
Zinc	102			ug/L	100.00	1.70	100	80-120			
Lithium	100			ug/L	100.00	0.0861	100	80-120			
Batch 7020713 - EPA 7470A											
Blank (7020713-BLK1)						Prepared & Analyzed: 02/24/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7020713-BS1)						Prepared & Analyzed: 02/24/17					
Mercury	0.00238	0.00050	0.000041	mg/L	2.5000E-3		95	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020713 - EPA 7470A											
Matrix Spike (7020713-MS1)			**Source: AAB0789-01**			Prepared & Analyzed: 02/24/17					
Mercury	0.00231	0.00050	0.000041	mg/L	2.5000E-3	ND	92	75-125			
Matrix Spike Dup (7020713-MSD1)			**Source: AAB0789-01**			Prepared & Analyzed: 02/24/17					
Mercury	0.00235	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125	2	20	
Post Spike (7020713-PS1)			**Source: AAB0789-01**			Prepared & Analyzed: 02/24/17					
Mercury	1.64			ug/L	1.6667	-0.00567	98	80-120			

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Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com
Pace Analytical Services, Inc
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(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308
P: 404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE: —
PO #: laburchesouthernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App III & III (EPA 6020/7470)	Li, F, SO4, and TDS (EPA 300.0 and SM 2540C)	Radium 226 and 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:							P	P	P							
PRESERVATION:							3	2	3							
2/20/17	1359	GW		X	BRGWA-6S	4	1	1	2							1
2/20/17	1518	GW		X	BRGWA-5S	4	1	1	2							2
2/20/17	1517	GW		X	BRGWA-5I	4	1	1	2							3

ANALYSIS REQUESTED

CONTAINER TYPE	
P - PLASTIC	
A - AMBER GLASS	
G - CLEAR GLASS	
V - VOA VIAL	
S - STERILE	
O - OTHER	

PRESERVATION	
1 - HCl, ≤6°C	
2 - H_2SO_4, ≤6°C	
3 - HNO_3	
4 - NaOH, ≤6°C	
5 - NaOH/ZnAc, ≤6°C	
6 - $Na_2S_2O_3$, ≤6°C	
7 - ≤6°C not frozen	

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Travis Martinez, Scientist
DATE/TIME: 2/20/17 1806
RELINQUISHED BY: [signature]
DATE/TIME: 2/21/17 0900

RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

FOR LAB USE ONLY
LAB #: AAB0716
Entered Into LIMS: MR

RECEIVED BY LAB: Kalman
DATE/TIME: 02/21/17 1255
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER Pace CLIENT OTHER FS
Tracking #:

Checked: No NA
Ice: Yes No NA
Temperature: 1°C Min: 1°C Max:
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 2/22/2017 3:13:40PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 02/21/17 12:55

Work Order: AAB0716
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 3 **#Containers:** 12

Minimum Temp(C): 1.0 **Maximum Temp(C):** 1.0 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

March 16, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 30211539

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on February 22, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 30211539

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 30211539

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30211539001	**BRGWA-6S**	Water	02/20/17 13:59	02/22/17 10:30
30211539002	**BRGWA-5S**	Water	02/20/17 15:18	02/22/17 10:30
30211539003	**BRGWA-5I**	Water	02/20/17 15:17	02/22/17 10:30

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 30211539

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30211539001	**BRGWA-6S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211539002	**BRGWA-5S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211539003	**BRGWA-5I**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1

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(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 30211539

Sample: BRGWA-6S **Lab ID: 30211539001** Collected: 02/20/17 13:59 Received: 02/22/17 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.156 ± 0.172 (0.329) C:89% T:NA**	pCi/L	03/09/17 08:55	13982-63-3	
Radium-228	EPA 9320	**0.477 ± 0.492 (1.01) C:54% T:79%**	pCi/L	03/15/17 12:13	15262-20-1	
Total Radium	Total Radium Calculation	**0.633 ± 0.664 (1.34)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: BRGWA-5S **Lab ID: 30211539002** Collected: 02/20/17 15:18 Received: 02/22/17 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0732 ± 0.163 (0.380) C:93% T:NA**	pCi/L	03/09/17 08:55	13982-63-3	
Radium-228	EPA 9320	**1.29 ± 0.446 (0.573) C:72% T:86%**	pCi/L	03/15/17 12:13	15262-20-1	
Total Radium	Total Radium Calculation	**1.36 ± 0.609 (0.953)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: BRGWA-5I **Lab ID: 30211539003** Collected: 02/20/17 15:17 Received: 02/22/17 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0475 ± 0.0799 (0.306) C:97% T:NA**	pCi/L	03/09/17 08:55	13982-63-3	
Radium-228	EPA 9320	**0.534 ± 0.392 (0.768) C:76% T:84%**	pCi/L	03/15/17 11:41	15262-20-1	
Total Radium	Total Radium Calculation	**0.534 ± 0.472 (1.07)**	pCi/L	03/16/17 12:23	7440-14-4	

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 30211539

QC Batch: 251402 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30211539001, 30211539002, 30211539003

METHOD BLANK: 1236939 Matrix: Water
Associated Lab Samples: 30211539001, 30211539002, 30211539003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0711 ± 0.137 (0.311) C:100% T:NA	pCi/L	03/09/17 08:55	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 30211539

QC Batch: 251823 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30211539001, 30211539002, 30211539003

METHOD BLANK: 1238953 Matrix: Water
Associated Lab Samples: 30211539001, 30211539002, 30211539003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.459 ± 0.401 (0.808) C:64% T:86%	pCi/L	03/15/17 12:12	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: Plant Branch
Pace Project No.: 30211539

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.

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.

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.

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.

Chain of Custody

30211539

Pace Analytical
www.pacelabs.com

Workorder: AAB0716 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 2/16/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	BRGWA-6S	G	2/20/2017 13:59	AAB0716-01	GW	2	X	001
2	BRGWA-5S	G	2/20/2017 15:18	AAB0716-02	GW	2	X	002
3	BRGWA-5I	G	2/20/2017 15:17	AAB0716-03	GW	2	X	003
4								
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			Ashley Howell/Pace	2-22-17/1030	
2					
3					

Cooler Temperature on Receipt NA °C | Custody Seal Y or (N) | Received on Ice Y or (N) | Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Friday, June 17, 2016 11:01:34 AM

WO#:30211539

30211539

ev.00 24March2009

Page 1 of 1

Page 9 of 13

6993

30211539

CHAIN OF CUSTODY RECORD

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE: —
PO #: laburchesathernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals APP III & III (EPA 6020/7470)	Cl, F, SO4, and TDS (EPA 300.0 and SM 2540C)	Radium 226 and 228 (SW-846 9315/9320)							LAB #
CONTAINER TYPE:							P	P	P							
PRESERVATION:							3	7	3							
2/20/17	1359	GW		X	BRGWA-6S	4	1	1	2							1
2/20/17	1518	GW		X	BRGWA-5S	4	1	1	2							2
2/20/17	1517	GW		X	BRGWA-5I	4	1	1	2							3

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Travis Martinez, Scientist
DATE/TIME: 2/20/17 1806

RELINQUISHED BY: [signature]
DATE/TIME: 2/21/17 0900

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB: [signature]
DATE/TIME: 02/21/17 1255

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (Pace) CLIENT OTHER FS

pH checked: (Yes) No NA
Ice: (Yes) No NA
Temperature: 1°C Min: 1°C Max:
Custody Seal: (Intact) Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AA80716
Entered into LIMS: MR
Tracking #:

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace,GB Project # 30211539

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 6812 5102 5147

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp ___ °C Correction Factor: ___ °C Final Temp: ___ °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMH 2-22-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used: -Pace Containers Used:	X			10.
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.	X			15. pH<2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: AMH Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: AMH Date: 2-22-17

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	3/9/2017
Worklist:	34416
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1236939
MB concentration:	0.071
M/B Counting Uncertainty:	0.137
MB MDC:	0.311
MB Numerical Performance Indicator:	1.02
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS34416	LCSD34416
Count Date:	3/10/2017	
Spike I.D.:	17-003	
Spike Concentration (pCi/mL):	38.231	
Volume Used (mL):	0.25	
Aliquot Volume (L, g, F):	0.507	
Target Conc. (pCi/L, g, F):	18.837	
Uncertainty (Calculated):	0.886	
Result (pCi/L, g, F):	15.438	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.167	
Numerical Performance Indicator:	-4.55	
Percent Recovery:	81.95%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30211537006	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30211537006DUP	
Sample Result (pCi/L, g, F):	0.608	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.272	
Sample Duplicate Result (pCi/L, g, F):	0.852	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.330	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.117	30211537006
Duplicate RPD:	33.36%	30211537006DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

3/16/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	3/13/2017
Worklist:	34510
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1238953
MB concentration:	0.459
M/B Counting Uncertainty:	0.393
MB MDC:	0.808
MB Numerical Performance Indicator:	2.29
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS34510	LCSD34510
Count Date:	3/15/2017	3/15/2017
Spike I.D.:	17-005	17-005
Spike Concentration (pCi/mL):	25.034	25.034
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.813	0.809
Target Conc. (pCi/L, g, F):	6.158	6.191
Uncertainty (Calculated):	0.443	0.446
Result (pCi/L, g, F):	5.061	7.125
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.628	0.720
Numerical Performance Indicator:	-2.80	2.16
Percent Recovery:	82.20%	115.08%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	LCS34510	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD34510	
Sample Result (pCi/L, g, F):	5.061	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.628	
Sample Duplicate Result (pCi/L, g, F):	7.125	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.720	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	-4.235	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	33.33%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

3/15/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAB0838
March 02, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWC-29I	AAB0838-01	Ground Water	02/22/17 09:57	02/23/17 15:30
BRGWC-30I	AAB0838-02	Ground Water	02/22/17 14:20	02/23/17 15:30
BRGWC-32S	AAB0838-03	Ground Water	02/22/17 11:10	02/23/17 15:30
BRGWC-33S	AAB0838-04	Ground Water	02/22/17 12:33	02/23/17 15:30
BRGWC-34S	AAB0838-05	Ground Water	02/22/17 14:28	02/23/17 15:30
BRGWC-17S	AAB0838-06	Ground Water	02/22/17 15:50	02/23/17 15:30
BRGWC-35S	AAB0838-07	Ground Water	02/22/17 15:56	02/23/17 15:30
RB-2	AAB0838-08	Water	02/22/17 14:18	02/23/17 15:30
FB-2	AAB0838-09	Water	02/22/17 15:44	02/23/17 15:30
Dup-2	AAB0838-10	Ground Water	02/22/17 00:00	02/23/17 15:30

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: BRGWC-29I
Date/Time Sampled: 2/22/2017 9:57:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0838-01
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	721	25	10	mg/L	SM 2540 C		1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	6.2	0.25	0.01	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 18:10	7020835	RLC
Fluoride	0.37	0.30	0.004	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 18:10	7020835	RLC
Sulfate	570	20	1.8	mg/L	EPA 300.0		20	02/28/17 09:53	03/02/17 10:54	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Barium	0.0179	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Beryllium	0.0014	0.0030	0.00008	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Boron	1.50	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Calcium	105	25.0	1.55	mg/L	EPA 6020B		50	02/27/17 09:10	02/28/17 19:48	7020761	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Cobalt	0.0136	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Lead	0.0005	0.0050	0.0001	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Selenium	0.0050	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Thallium	0.0002	0.0010	0.0002	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Lithium	0.0043	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 19:42	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:28	7020714	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: BRGWC-30I
Date/Time Sampled: 2/22/2017 2:20:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0838-02
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	504	25	10	mg/L	SM 2540 C		1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	5.6	0.25	0.01	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 18:31	7020835	RLC
Fluoride	0.20	0.30	0.004	mg/L	EPA 300.0	J	1	02/28/17 09:53	02/28/17 18:31	7020835	RLC
Sulfate	280	10	0.92	mg/L	EPA 300.0		10	02/28/17 09:53	03/01/17 12:17	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Barium	0.0219	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Boron	1.48	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Calcium	62.1	25.0	1.55	mg/L	EPA 6020B		50	02/27/17 09:10	02/28/17 20:00	7020761	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Cobalt	0.0016	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Lithium	0.0103	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 19:54	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:31	7020714	MTC

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Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: BRGWC-32S
Date/Time Sampled: 2/22/2017 11:10:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0838-03
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	635	25	10	mg/L	SM 2540 C		1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	7.0	0.25	0.01	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 19:12	7020835	RLC
Fluoride	0.08	0.30	0.004	mg/L	EPA 300.0	J	1	02/28/17 09:53	02/28/17 19:12	7020835	RLC
Sulfate	380	10	0.92	mg/L	EPA 300.0		10	02/28/17 09:53	03/01/17 12:39	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Barium	0.0498	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Boron	1.43	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Cadmium	0.0001	0.0010	0.00007	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Calcium	67.3	25.0	1.55	mg/L	EPA 6020B		50	02/27/17 09:10	02/28/17 20:11	7020761	CSW
Chromium	0.0012	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Selenium	0.0017	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Lithium	0.0023	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:05	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:33	7020714	MTC

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: BRGWC-33S
Date/Time Sampled: 2/22/2017 12:33:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0838-04
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	387	25	10	mg/L	SM 2540 C		1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	0.12	0.25	0.01	mg/L	EPA 300.0	J	1	02/28/17 09:53	02/28/17 19:33	7020835	RLC
Fluoride	0.21	0.30	0.004	mg/L	EPA 300.0	J	1	02/28/17 09:53	02/28/17 19:33	7020835	RLC
Sulfate	210	10	0.92	mg/L	EPA 300.0		10	02/28/17 09:53	03/01/17 13:21	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Barium	0.0243	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Beryllium	0.0022	0.0030	0.00008	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Boron	1.44	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Cadmium	0.0006	0.0010	0.00007	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Calcium	53.1	25.0	1.55	mg/L	EPA 6020B		50	02/27/17 09:10	02/28/17 20:23	7020761	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Cobalt	0.0567	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Lead	0.0001	0.0050	0.0001	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Selenium	0.0018	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Thallium	0.0002	0.0010	0.0002	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Lithium	0.0106	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:17	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:35	7020714	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: BRGWC-34S
Date/Time Sampled: 2/22/2017 2:28:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0838-05
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	706	25	10	mg/L	SM 2540 C		1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	7.1	0.25	0.01	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 19:53	7020835	RLC
Fluoride	0.17	0.30	0.004	mg/L	EPA 300.0	J	1	02/28/17 09:53	02/28/17 19:53	7020835	RLC
Sulfate	410	10	0.92	mg/L	EPA 300.0		10	02/28/17 09:53	03/01/17 13:42	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Barium	0.0415	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Beryllium	0.0002	0.0030	0.00008	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Boron	2.09	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Cadmium	0.0005	0.0010	0.00007	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Calcium	106	25.0	1.55	mg/L	EPA 6020B		50	02/27/17 09:10	02/28/17 20:45	7020761	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Cobalt	0.0041	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Lead	0.0003	0.0050	0.0001	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:40	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:38	7020714	MTC

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Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: BRGWC-17S
Date/Time Sampled: 2/22/2017 3:50:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0838-06
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	341	25	10	mg/L	SM 2540 C		1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	3.6	0.25	0.01	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 20:14	7020835	RLC
Fluoride	0.11	0.30	0.004	mg/L	EPA 300.0	J	1	02/28/17 09:53	02/28/17 20:14	7020835	RLC
Sulfate	120	10	0.92	mg/L	EPA 300.0		10	02/28/17 09:53	03/01/17 14:03	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Barium	0.0392	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Calcium	33.5	25.0	1.55	mg/L	EPA 6020B		50	02/27/17 09:10	02/28/17 20:57	7020761	CSW
Chromium	0.0122	0.0100	0.0009	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Selenium	0.0018	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 20:51	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:45	7020714	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: BRGWC-35S
Date/Time Sampled: 2/22/2017 3:56:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0838-07
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	541	25	10	mg/L	SM 2540 C		1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	5.6	0.25	0.01	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 20:35	7020835	RLC
Fluoride	0.09	0.30	0.004	mg/L	EPA 300.0	J	1	02/28/17 09:53	02/28/17 20:35	7020835	RLC
Sulfate	270	10	0.92	mg/L	EPA 300.0		10	02/28/17 09:53	03/01/17 14:25	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Barium	0.0701	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Beryllium	0.0001	0.0030	0.00008	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Boron	1.35	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Calcium	64.6	25.0	1.55	mg/L	EPA 6020B		50	02/27/17 09:10	02/28/17 21:08	7020761	CSW
Chromium	0.0040	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Cobalt	0.0008	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Lead	0.0001	0.0050	0.0001	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Lithium	0.0023	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 21:03	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:47	7020714	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: RB-2
Date/Time Sampled: 2/22/2017 2:18:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAB0838-08
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	22	25	10	mg/L	SM 2540 C	J	1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	ND	0.25	0.01	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 22:18	7020835	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 22:18	7020835	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 22:18	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:14	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:50	7020714	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: FB-2
Date/Time Sampled: 2/22/2017 3:44:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAB0838-09
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	17	25	10	mg/L	SM 2540 C	J	1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	ND	0.25	0.01	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 22:38	7020835	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 22:38	7020835	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 22:38	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:20	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:52	7020714	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838
Client ID: Dup-2
Date/Time Sampled: 2/22/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0838-10
Date/Time Received: 2/23/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	348	25	10	mg/L	SM 2540 C		1	02/27/17 15:40	02/27/17 15:40	7020794	JPT
Inorganic Anions											
Chloride	3.7	0.25	0.01	mg/L	EPA 300.0		1	02/28/17 09:53	02/28/17 22:59	7020835	RLC
Fluoride	0.11	0.30	0.004	mg/L	EPA 300.0	J	1	02/28/17 09:53	02/28/17 22:59	7020835	RLC
Sulfate	110	10	0.92	mg/L	EPA 300.0		10	02/28/17 09:53	03/01/17 14:46	7020835	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Barium	0.0414	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Calcium	31.8	2.50	0.155	mg/L	EPA 6020B		5	02/27/17 09:10	02/28/17 21:48	7020761	CSW
Chromium	0.0118	0.0100	0.0009	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Selenium	0.0024	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/27/17 09:10	02/28/17 21:25	7020761	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/24/17 10:20	02/24/17 15:55	7020714	MTC

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Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020794 - SM 2540 C											
Blank (7020794-BLK1)						Prepared & Analyzed: 02/27/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7020794-BS1)						Prepared & Analyzed: 02/27/17					
Total Dissolved Solids	418	25	10	mg/L	400.00		104	84-108			
Duplicate (7020794-DUP1)		**Source: AAB0838-02**				Prepared & Analyzed: 02/27/17					
Total Dissolved Solids	520	25	10	mg/L		504			3	10	
Duplicate (7020794-DUP2)		**Source: AAB0838-08**				Prepared & Analyzed: 02/27/17					
Total Dissolved Solids	20	25	10	mg/L		22			10	10	J

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March 02, 2017

Report No.: AAB0838

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020835 - EPA 300.0											
Blank (7020835-BLK1)						Prepared & Analyzed: 02/28/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7020835-BS1)						Prepared & Analyzed: 02/28/17					
Chloride	9.78	0.25	0.01	mg/L	10.010		98	90-110			
Fluoride	10.1	0.30	0.004	mg/L	10.020		101	90-110			
Sulfate	9.95	1.0	0.09	mg/L	10.020		99	90-110			
Matrix Spike (7020835-MS1)			**Source: AAB0790-01**			Prepared & Analyzed: 02/28/17					
Chloride	11.3	0.25	0.01	mg/L	10.010	1.67	97	90-110			
Fluoride	9.89	0.30	0.004	mg/L	10.020	0.05	98	90-110			
Sulfate	11.1	1.0	0.09	mg/L	10.020	1.45	97	90-110			
Matrix Spike (7020835-MS2)			**Source: AAB0838-02**			Prepared & Analyzed: 02/28/17					
Chloride	15.3	0.25	0.01	mg/L	10.010	5.64	97	90-110			
Fluoride	10.5	0.30	0.004	mg/L	10.020	0.20	103	90-110			
Sulfate	182	1.0	0.09	mg/L	10.020	191	NR	90-110			QM-02
Matrix Spike Dup (7020835-MSD1)			**Source: AAB0790-01**			Prepared & Analyzed: 02/28/17					
Chloride	11.4	0.25	0.01	mg/L	10.010	1.67	97	90-110	0.2	15	
Fluoride	9.94	0.30	0.004	mg/L	10.020	0.05	99	90-110	0.4	15	
Sulfate	11.2	1.0	0.09	mg/L	10.020	1.45	97	90-110	0.3	15	

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Report No.: AAB0838

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020714 - EPA 7470A											
Blank (7020714-BLK1)						Prepared & Analyzed: 02/24/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7020714-BS1)						Prepared & Analyzed: 02/24/17					
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3		94	80-120			
Matrix Spike (7020714-MS1)		**Source: AAB0789-10**				Prepared & Analyzed: 02/24/17					
Mercury	0.00237	0.00050	0.000041	mg/L	2.5000E-3	ND	95	75-125			
Matrix Spike Dup (7020714-MSD1)		**Source: AAB0789-10**				Prepared & Analyzed: 02/24/17					
Mercury	0.00232	0.00050	0.000041	mg/L	2.5000E-3	ND	93	75-125	2	20	
Post Spike (7020714-PS1)		**Source: AAB0789-10**				Prepared & Analyzed: 02/24/17					
Mercury	1.67			ug/L	1.6667	-0.0218	100	80-120			
Batch 7020761 - EPA 3005A											
Blank (7020761-BLK1)						Prepared: 02/27/17 Analyzed: 02/28/17					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							

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March 02, 2017

Report No.: AAB0838

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020761 - EPA 3005A											
LCS (7020761-BS1)						Prepared: 02/27/17 Analyzed: 02/28/17					
Antimony	0.115	0.0030	0.0008	mg/L	0.10000		115	80-120			
Arsenic	0.103	0.0050	0.0016	mg/L	0.10000		103	80-120			
Barium	0.107	0.0100	0.0004	mg/L	0.10000		107	80-120			
Beryllium	0.109	0.0030	0.00008	mg/L	0.10000		109	80-120			
Boron	1.08	0.0400	0.0064	mg/L	1.0000		108	80-120			
Cadmium	0.102	0.0010	0.00007	mg/L	0.10000		102	80-120			
Calcium	1.03	0.500	0.0311	mg/L	1.0000		103	80-120			
Chromium	0.108	0.0100	0.0009	mg/L	0.10000		108	80-120			
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000		103	80-120			
Copper	0.0994	0.0250	0.0005	mg/L	0.10000		99	80-120			
Lead	0.104	0.0050	0.0001	mg/L	0.10000		104	80-120			
Molybdenum	0.107	0.0100	0.0017	mg/L	0.10000		107	80-120			
Nickel	0.102	0.0100	0.0006	mg/L	0.10000		102	80-120			
Selenium	0.104	0.0100	0.0010	mg/L	0.10000		104	80-120			
Silver	0.104	0.0100	0.0005	mg/L	0.10000		104	80-120			
Thallium	0.106	0.0010	0.0002	mg/L	0.10000		106	80-120			
Vanadium	0.102	0.0100	0.0071	mg/L	0.10000		102	80-120			
Zinc	0.101	0.0100	0.0021	mg/L	0.10000		101	80-120			
Lithium	0.105	0.0500	0.0021	mg/L	0.10000		105	80-120			
Matrix Spike (7020761-MS1)		**Source: AAB0794-01**				Prepared: 02/27/17 Analyzed: 02/28/17					
Antimony	0.121	0.0030	0.0008	mg/L	0.10000	0.0018	119	75-125			
Arsenic	0.106	0.0050	0.0016	mg/L	0.10000	0.0019	104	75-125			
Barium	0.135	0.0100	0.0004	mg/L	0.10000	0.0273	108	75-125			
Beryllium	0.107	0.0030	0.00008	mg/L	0.10000	ND	107	75-125			
Boron	1.10	0.0400	0.0064	mg/L	1.0000	0.0220	108	75-125			
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000	ND	104	75-125			
Calcium	55.2	25.0	1.55	mg/L	1.0000	54.7	56	75-125			QM-02
Chromium	0.109	0.0100	0.0009	mg/L	0.10000	ND	109	75-125			
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000	ND	103	75-125			
Copper	0.102	0.0250	0.0005	mg/L	0.10000	ND	102	75-125			
Lead	0.103	0.0050	0.0001	mg/L	0.10000	0.0002	103	75-125			
Molybdenum	0.125	0.0100	0.0017	mg/L	0.10000	0.0095	116	75-125			
Nickel	0.107	0.0100	0.0006	mg/L	0.10000	ND	107	75-125			
Selenium	0.105	0.0100	0.0010	mg/L	0.10000	ND	105	75-125			
Silver	0.104	0.0100	0.0005	mg/L	0.10000	ND	104	75-125			
Thallium	0.104	0.0010	0.0002	mg/L	0.10000	ND	104	75-125			
Vanadium	0.106	0.0100	0.0071	mg/L	0.10000	ND	106	75-125			
Zinc	0.107	0.0100	0.0021	mg/L	0.10000	0.0027	104	75-125			
Lithium	0.105	0.0500	0.0021	mg/L	0.10000	ND	105	75-125			

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

Report No.: AAB0838

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020761 - EPA 3005A											
Matrix Spike Dup (7020761-MSD1)		**Source: AAB0794-01**			Prepared: 02/27/17 Analyzed: 02/28/17						
Antimony	0.119	0.0030	0.0008	mg/L	0.10000	0.0018	117	75-125	1	20	
Arsenic	0.107	0.0050	0.0016	mg/L	0.10000	0.0019	105	75-125	0.6	20	
Barium	0.133	0.0100	0.0004	mg/L	0.10000	0.0273	105	75-125	2	20	
Beryllium	0.111	0.0030	0.00008	mg/L	0.10000	ND	111	75-125	4	20	
Boron	1.10	0.0400	0.0064	mg/L	1.0000	0.0220	107	75-125	0.4	20	
Cadmium	0.105	0.0010	0.00007	mg/L	0.10000	ND	105	75-125	1	20	
Calcium	54.0	25.0	1.55	mg/L	1.0000	54.7	NR	75-125	2	20	QM-02
Chromium	0.111	0.0100	0.0009	mg/L	0.10000	ND	111	75-125	2	20	
Cobalt	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125	0.5	20	
Copper	0.0974	0.0250	0.0005	mg/L	0.10000	ND	97	75-125	5	20	
Lead	0.102	0.0050	0.0001	mg/L	0.10000	0.0002	102	75-125	1	20	
Molybdenum	0.122	0.0100	0.0017	mg/L	0.10000	0.0095	112	75-125	3	20	
Nickel	0.0991	0.0100	0.0006	mg/L	0.10000	ND	99	75-125	8	20	
Selenium	0.109	0.0100	0.0010	mg/L	0.10000	ND	109	75-125	4	20	
Silver	0.103	0.0100	0.0005	mg/L	0.10000	ND	103	75-125	0.6	20	
Thallium	0.105	0.0010	0.0002	mg/L	0.10000	ND	105	75-125	0.1	20	
Vanadium	0.108	0.0100	0.0071	mg/L	0.10000	ND	108	75-125	2	20	
Zinc	0.105	0.0100	0.0021	mg/L	0.10000	0.0027	102	75-125	2	20	
Lithium	0.107	0.0500	0.0021	mg/L	0.10000	ND	107	75-125	2	20	
Post Spike (7020761-PS1)		**Source: AAB0794-01**			Prepared: 02/27/17 Analyzed: 02/28/17						
Antimony	108			ug/L	100.00	1.82	107	80-120			
Arsenic	108			ug/L	100.00	1.86	106	80-120			
Barium	133			ug/L	100.00	27.3	105	80-120			
Beryllium	105			ug/L	100.00	0.0112	105	80-120			
Boron	1080			ug/L	1000.0	22.0	105	80-120			
Cadmium	101			ug/L	100.00	0.0069	101	80-120			
Calcium	54500			ug/L	1000.0	54700	NR	80-120			QM-02
Chromium	110			ug/L	100.00	0.463	109	80-120			
Cobalt	101			ug/L	100.00	0.475	100	80-120			
Copper	101			ug/L	100.00	0.306	100	80-120			
Lead	101			ug/L	100.00	0.198	101	80-120			
Molybdenum	122			ug/L	100.00	9.54	112	80-120			
Nickel	104			ug/L	100.00	0.412	103	80-120			
Selenium	108			ug/L	100.00	0.751	107	80-120			
Silver	102			ug/L	100.00	0.0035	102	80-120			
Thallium	102			ug/L	100.00	0.0333	102	80-120			
Vanadium	110			ug/L	100.00	0.688	110	80-120			
Zinc	105			ug/L	100.00	2.66	102	80-120			
Lithium	102			ug/L	100.00	0.0698	102	80-120			

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 02, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com
Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd. SE B10185 Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Doju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: labwrk@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Ag, III + IIIC (EPA 6020/7470)	Cl, F, SO4, and TDS (EPA 300.0 and SM2540C)	Radium-226 and 228 (GY-8446 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:							P	P	P							
PRESERVATION:							3	7	3							
2-22-17	0957	GW		X	BRGWC-29I	4	1	1	2							1
2-22-17	1420	GW		X	BRGWC-30I	4	1	1	2							2
2-22-17	1110	GW		X	BRGWC-32S	4	1	1	2							3
2-22-17	1233	GW		X	BRGWC-33S	4	1	1	2							4
2-22-17	1428	GW		X	BRGWC-34S	4	1	1	2							5
2-22-17	1550	GW		X	BRGWC-17S	4	1	1	2							6
2-22-17	1556	GW		X	BRGWC-35S	4	1	1	2							7
2-22-17	1418	W			RB-2	4	1	1	2							8
2-22-17	1544	W			FB-2	4	1	1	2							9
2-22-17	—	GW			Dup-2	4	1	1	2							10

ANALYSIS REQUESTED

CONTAINER TYPE	CONTAINER PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Ballard, Geologist | DATE/TIME: 2-22-17 / 1710 | RELINQUISHED BY: [signature] | DATE/TIME: 2-23-17 / 0940

RECEIVED BY: | DATE/TIME: | RELINQUISHED BY: | DATE/TIME:

FOR LAB USE ONLY
LAB #: AA80838
Entered into LIMS: MR

RECEIVED BY LAB: [signature] | DATE/TIME: 02/23/17 1530

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER Pace CLIENT OTHER FS

Tracking #:

Packed: No NA | Ice: Yes No NA | Temperature: 1°C Min: 1°C Max: | Custody Seal: Intact Broken Not Present | # of Coolers | Cooler ID:

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 2/24/2017 12:03:40PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 02/23/17 15:30

Work Order: AAB0838
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 10 **#Containers:** 40

Minimum Temp(C): 1.0 **Maximum Temp(C):** 1.0 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

March 17, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 30211808

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on February 24, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 30211808

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 30211808

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30211808001	**BRGWC-29I**	Water	02/22/17 09:57	02/24/17 12:25
30211808002	**BRGWC-30I**	Water	02/22/17 14:20	02/24/17 12:25
30211808003	**BRGWC-32S**	Water	02/22/17 11:10	02/24/17 12:25
30211808004	**BRGWC-33S**	Water	02/22/17 12:33	02/24/17 12:25
30211808005	**BRGWC-34S**	Water	02/22/17 14:28	02/24/17 12:25
30211808006	**BRGWC-17S**	Water	02/22/17 15:50	02/24/17 12:25
30211808007	**BRGWC-35S**	Water	02/22/17 15:56	02/24/17 12:25
30211808008	**RB-2**	Water	02/22/17 14:18	02/24/17 12:25
30211808009	**FB-2**	Water	02/22/17 15:44	02/24/17 12:25
30211808010	**Dup-2**	Water	02/22/17 00:00	02/24/17 12:25

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Greensburg, PA 15601
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SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 30211808

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30211808001	**BRGWC-29I**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211808002	**BRGWC-30I**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211808003	**BRGWC-32S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211808004	**BRGWC-33S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211808005	**BRGWC-34S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211808006	**BRGWC-17S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211808007	**BRGWC-35S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211808008	**RB-2**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211808009	**FB-2**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211808010	**Dup-2**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 30211808

Sample: BRGWC-29I **Lab ID: 30211808001** Collected: 02/22/17 09:57 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.388 ± 0.176 (0.205) C:98% T:NA**	pCi/L	03/09/17 17:05	13982-63-3	
Radium-228	EPA 9320	**1.25 ± 0.592 (1.02) C:65% T:86%**	pCi/L	03/15/17 12:40	15262-20-1	
Total Radium	Total Radium Calculation	**1.64 ± 0.768 (1.23)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: BRGWC-30I **Lab ID: 30211808002** Collected: 02/22/17 14:20 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.225 ± 0.141 (0.211) C:95% T:NA**	pCi/L	03/09/17 17:05	13982-63-3	
Radium-228	EPA 9320	**0.345 ± 0.632 (1.38) C:61% T:76%**	pCi/L	03/15/17 19:58	15262-20-1	
Total Radium	Total Radium Calculation	**0.570 ± 0.773 (1.59)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: BRGWC-32S **Lab ID: 30211808003** Collected: 02/22/17 11:10 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.120 ± 0.170 (0.362) C:91% T:NA**	pCi/L	03/09/17 17:05	13982-63-3	
Radium-228	EPA 9320	**0.952 ± 0.658 (1.24) C:57% T:81%**	pCi/L	03/15/17 19:59	15262-20-1	
Total Radium	Total Radium Calculation	**1.07 ± 0.828 (1.60)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: BRGWC-33S **Lab ID: 30211808004** Collected: 02/22/17 12:33 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.409 ± 0.187 (0.235) C:96% T:NA**	pCi/L	03/09/17 17:05	13982-63-3	
Radium-228	EPA 9320	**0.0725 ± 0.489 (1.14) C:64% T:80%**	pCi/L	03/15/17 19:59	15262-20-1	
Total Radium	Total Radium Calculation	**0.482 ± 0.676 (1.38)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: BRGWC-34S **Lab ID: 30211808005** Collected: 02/22/17 14:28 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.484 ± 0.198 (0.212) C:93% T:NA**	pCi/L	03/09/17 17:05	13982-63-3	
Radium-228	EPA 9320	**0.530 ± 0.572 (1.18) C:59% T:89%**	pCi/L	03/15/17 19:59	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 30211808

Sample: BRGWC-34S **Lab ID: 30211808005** Collected: 02/22/17 14:28 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**1.01 ± 0.770 (1.39)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: BRGWC-17S **Lab ID: 30211808006** Collected: 02/22/17 15:50 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0213 ± 0.107 (0.264) C:84% T:NA**	pCi/L	03/09/17 17:05	13982-63-3	
Radium-228	EPA 9320	**-0.425 ± 0.511 (1.30) C:64% T:82%**	pCi/L	03/15/17 19:59	15262-20-1	
Total Radium	Total Radium Calculation	**0.0213 ± 0.618 (1.56)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: BRGWC-35S **Lab ID: 30211808007** Collected: 02/22/17 15:56 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.271 ± 0.189 (0.274) C:94% T:NA**	pCi/L	03/10/17 10:12	13982-63-3	
Radium-228	EPA 9320	**0.0221 ± 0.485 (1.14) C:64% T:83%**	pCi/L	03/15/17 19:59	15262-20-1	
Total Radium	Total Radium Calculation	**0.293 ± 0.674 (1.41)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: RB-2 **Lab ID: 30211808008** Collected: 02/22/17 14:18 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0620 ± 0.118 (0.271) C:95% T:NA**	pCi/L	03/10/17 10:12	13982-63-3	
Radium-228	EPA 9320	**0.503 ± 0.587 (1.22) C:60% T:75%**	pCi/L	03/15/17 19:59	15262-20-1	
Total Radium	Total Radium Calculation	**0.565 ± 0.705 (1.49)**	pCi/L	03/16/17 12:23	7440-14-4	

Sample: FB-2 **Lab ID: 30211808009** Collected: 02/22/17 15:44 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0285 ± 0.0735 (0.272) C:91% T:NA**	pCi/L	03/10/17 10:12	13982-63-3	
Radium-228	EPA 9320	**0.461 ± 0.497 (1.03) C:72% T:80%**	pCi/L	03/15/17 19:59	15262-20-1	
Total Radium	Total Radium Calculation	**0.461 ± 0.571 (1.30)**	pCi/L	03/16/17 12:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 30211808

Sample: Dup-2 **Lab ID: 30211808010** Collected: 02/22/17 00:00 Received: 02/24/17 12:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0182 ± 0.110 (0.340) C:84% T:NA**	pCi/L	03/10/17 10:12	13982-63-3	
Radium-228	EPA 9320	**1.17 ± 0.669 (1.21) C:65% T:85%**	pCi/L	03/15/17 19:59	15262-20-1	
Total Radium	Total Radium Calculation	**1.17 ± 0.779 (1.55)**	pCi/L	03/16/17 12:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 30211808

QC Batch: 251402 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30211808001, 30211808002, 30211808003, 30211808004, 30211808005, 30211808006, 30211808007, 30211808008, 30211808009, 30211808010

METHOD BLANK: 1236939 Matrix: Water
Associated Lab Samples: 30211808001, 30211808002, 30211808003, 30211808004, 30211808005, 30211808006, 30211808007, 30211808008, 30211808009, 30211808010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0711 ± 0.137 (0.311) C:100% T:NA	pCi/L	03/09/17 08:55	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 30211808

QC Batch: 251823 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30211808001, 30211808002, 30211808003, 30211808004, 30211808005, 30211808006, 30211808007, 30211808008, 30211808009, 30211808010

METHOD BLANK: 1238953 Matrix: Water
Associated Lab Samples: 30211808001, 30211808002, 30211808003, 30211808004, 30211808005, 30211808006, 30211808007, 30211808008, 30211808009, 30211808010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.459 ± 0.401 (0.808) C:64% T:86%	pCi/L	03/15/17 12:12	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: Plant Branch
Pace Project No.: 30211808

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.

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.

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.

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.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAB0838 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 2/20/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO#:30211808

30211808

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	BRGWC-29I	G	2/22/2017 9:57	AAB0838-01	GW	2	X	001
2	BRGWC-30I	G	2/22/2017 14:20	AAB0838-02	GW	2	X	002
3	BRGWC-32S	G	2/22/2017 11:10	AAB0838-03	GW	2	X	003
4	BRGWC-33S	G	2/22/2017 12:33	AAB0838-04	GW	2	X	004
5	BRGWC-34S	G	2/22/2017 14:28	AAB0838-05	GW	2	X	005
6	BRGWC-17S	G	2/22/2017 15:50	AAB0838-06	GW	2	X	006
7	BRGWC-35S	G	2/22/2017 15:56	AAB0838-07	GW	2	X	007
8	RB-2	G	2/22/2017 14:18	AAB0838-08	W	2	X	008
9	FB-2	G	2/22/2017 15:44	AAB0838-09	W	2	X	009
10	Dup-2	G	2/22/2017 0:00	AAB0838-10	GW	2	X	010

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			Karen Hill	2/24/17 1225	
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30211808

6998

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10455
Atlanta, GA 30308
P: 404-506-7239

REPORT TO: Josh Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE:
PO #: labwork@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Ag, III + III (EPA 6020/7470)	Cl, F, SO4, and TDS (EPA 300.0 and SM2540C)	Radium-226 and 228 (GL-846 9315/9320)	LAB ID NUMBER
							P	P	P	
							3	1	2	
2-22-17	0957	GW		X	BRGWC-29I	4	1	1	2	1
2-22-17	1420	GW		X	BRGWC-30I	4	1	1	2	2
2-22-17	1110	GW		X	BRGWC-32S	4	1	1	2	3
2-22-17	1233	GW		X	BRGWC-33S	4	1	1	2	4
2-22-17	1428	GW		X	BRGWC-34S	4	1	1	2	5
2-22-17	1550	GW		X	BRGWC-17S	4	1	1	2	6
2-22-17	1556	GW		X	BRGWC-35S	4	1	1	2	7
2-22-17	1418	W			RB-2	4	1	1	2	8
2-22-17	1514	W			FB-2	4	1	1	2	9
2-22-17	—	GW			Dup-2	4	1	1	2	10

ANALYSIS REQUESTED

CONTAINER TYPE	CONTAINER TYPE
P - PLASTIC	A - AMBER GLASS
G - CLEAR GLASS	V - VOA VIAL
S - STERILE	O - OTHER

PRESERVATION	PRESERVATION
1 - HCl, ≤6°C	2 - H_2SO_4, ≤6°C
3 - HNO_3	4 - NaOH, ≤6°C
5 - NaOH/ZnAc, ≤6°C	6 - $Na_2S_2O_3$, ≤6°C
7 - ≤6°C not frozen	

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Ballard, Geologist
DATE/TIME: 2-22-17 / 1710

RELINQUISHED BY: [signature]
DATE/TIME: 2-23-17 / 0940

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: [signature]
DATE/TIME: 02/23/17 1530

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: Yes No NA
Ice: Yes No NA
Temperature: 1°C Min: 1°C Max:
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AAB0838
Entered into LIMS: MR

Tracking #:

COC Revised 2016-05-17.xlsx

KH

Sample Condition Upon Receipt Pittsburgh

30211808

Pace Analytical

Client Name: Pace Atlanta Project #

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 0812 5102 5695

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: N/A °C Final Temp: N/A °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KH 2/24/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed KH / Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: KH / Date: 2/24/17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	3/13/2017
Worklist:	34510
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1238953
MB concentration:	0.459
M/B Counting Uncertainty:	0.393
MB MDC:	0.808
MB Numerical Performance Indicator:	2.29
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS34510	LCSD34510
Count Date:	3/15/2017	3/15/2017
Spike I.D.:	17-005	17-005
Spike Concentration (pCi/mL):	25.034	25.034
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.813	0.809
Target Conc. (pCi/L, g, F):	6.158	6.191
Uncertainty (Calculated):	0.443	0.446
Result (pCi/L, g, F):	5.061	7.125
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.628	0.720
Numerical Performance Indicator:	-2.80	2.16
Percent Recovery:	82.20%	115.08%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	LCS34510	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD34510	
Sample Result (pCi/L, g, F):	5.061	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.628	
Sample Duplicate Result (pCi/L, g, F):	7.125	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.720	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	-4.235	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	33.33%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

3/17/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	3/9/2017
Worklist:	34416
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1236939
MB concentration:	0.071
M/B Counting Uncertainty:	0.137
MB MDC:	0.311
MB Numerical Performance Indicator:	1.02
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS34416	LCSD34416
Count Date:	3/10/2017	
Spike I.D.:	17-003	
Spike Concentration (pCi/mL):	38.231	
Volume Used (mL):	0.25	
Aliquot Volume (L, g, F):	0.507	
Target Conc. (pCi/L, g, F):	18.837	
Uncertainty (Calculated):	0.886	
Result (pCi/L, g, F):	15.438	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.167	
Numerical Performance Indicator:	-4.55	
Percent Recovery:	81.95%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30211537006	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30211537006DUP	
Sample Result (pCi/L, g, F):	0.608	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.272	
Sample Duplicate Result (pCi/L, g, F):	0.852	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.330	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.117	30211537006
Duplicate RPD:	33.36%	30211537006DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

3/17/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAB0884
March 07, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWC-36S	AAB0884-01	Ground Water	02/23/17 10:09	02/24/17 15:30
BRGWC-38S	AAB0884-02	Ground Water	02/23/17 10:35	02/24/17 15:30
BRGWC-37S	AAB0884-03	Ground Water	02/23/17 12:20	02/24/17 15:30

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0884
Client ID: BRGWC-36S
Date/Time Sampled: 2/23/2017 10:09:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0884-01
Date/Time Received: 2/24/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	517	25	10	mg/L	SM 2540 C		1	02/28/17 17:10	02/28/17 17:10	7020841	JPT
Inorganic Anions											
Chloride	3.2	0.25	0.01	mg/L	EPA 300.0		1	03/01/17 14:00	03/02/17 08:00	7030053	RLC
Fluoride	0.07	0.30	0.004	mg/L	EPA 300.0	J	1	03/01/17 14:00	03/02/17 08:00	7030053	RLC
Sulfate	330	10	0.92	mg/L	EPA 300.0		10	03/01/17 14:00	03/06/17 01:13	7030053	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Barium	0.0489	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Beryllium	0.0001	0.0030	0.00008	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Boron	0.949	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Cadmium	0.0001	0.0010	0.00007	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Calcium	51.0	5.00	0.311	mg/L	EPA 6020B		10	02/27/17 16:00	03/03/17 15:49	7020811	KLH
Chromium	0.0086	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Selenium	0.0061	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Lithium	0.0026	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:10	7020811	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/28/17 10:00	02/28/17 15:48	7020822	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0884
Client ID: BRGWC-38S
Date/Time Sampled: 2/23/2017 10:35:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0884-02
Date/Time Received: 2/24/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	733	25	10	mg/L	SM 2540 C		1	02/28/17 17:10	02/28/17 17:10	7020841	JPT
Inorganic Anions											
Chloride	4.1	0.25	0.01	mg/L	EPA 300.0		1	03/01/17 14:00	03/02/17 08:22	7030053	RLC
Fluoride	0.75	0.30	0.004	mg/L	EPA 300.0		1	03/01/17 14:00	03/02/17 08:22	7030053	RLC
Sulfate	470	10	0.92	mg/L	EPA 300.0		10	03/01/17 14:00	03/06/17 01:34	7030053	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Arsenic	0.0030	0.0050	0.0016	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Barium	0.0338	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Beryllium	0.0100	0.0030	0.00008	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Boron	1.77	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Cadmium	0.0007	0.0010	0.00007	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Calcium	43.5	5.00	0.311	mg/L	EPA 6020B		10	02/27/17 16:00	03/03/17 15:54	7020811	KLH
Chromium	0.0028	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Cobalt	0.277	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Lead	0.0005	0.0050	0.0001	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Selenium	0.0354	0.0100	0.0010	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Thallium	0.0003	0.0010	0.0002	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Lithium	0.0229	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:33	7020811	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	J	1	02/28/17 10:00	02/28/17 15:50	7020822	MTC

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Report No.: AAB0884
Client ID: BRGWC-37S
Date/Time Sampled: 2/23/2017 12:20:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0884-03
Date/Time Received: 2/24/2017 3:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	45	25	10	mg/L	SM 2540 C		1	02/28/17 17:10	02/28/17 17:10	7020841	JPT
Inorganic Anions											
Chloride	2.1	0.25	0.01	mg/L	EPA 300.0		1	03/01/17 14:00	03/02/17 10:33	7030053	RLC
Fluoride	0.10	0.30	0.004	mg/L	EPA 300.0	J	1	03/01/17 14:00	03/02/17 10:33	7030053	RLC
Sulfate	0.55	1.0	0.09	mg/L	EPA 300.0	J	1	03/01/17 14:00	03/02/17 10:33	7030053	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Barium	0.0229	0.0100	0.0004	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Calcium	3.26	0.500	0.0311	mg/L	EPA 6020B		1	02/27/17 16:00	03/03/17 16:00	7020811	KLH
Chromium	0.0010	0.0100	0.0009	mg/L	EPA 6020B	J	1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/27/17 16:00	03/02/17 19:44	7020811	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/28/17 10:00	02/28/17 15:53	7020822	MTC

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March 07, 2017

Report No.: AAB0884

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020841 - SM 2540 C											
Blank (7020841-BLK1)						Prepared & Analyzed: 02/28/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7020841-BS1)						Prepared & Analyzed: 02/28/17					
Total Dissolved Solids	396	25	10	mg/L	400.00		99	84-108			
Duplicate (7020841-DUP1)		**Source: AAB0884-02**				Prepared & Analyzed: 02/28/17					
Total Dissolved Solids	772	25	10	mg/L		733			5	10	
Duplicate (7020841-DUP2)		**Source: AAB0887-05**				Prepared & Analyzed: 02/28/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

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Report No.: AAB0884

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7030053 - EPA 300.0											
Blank (7030053-BLK1)						Prepared: 03/01/17 Analyzed: 03/02/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7030053-BS1)						Prepared: 03/01/17 Analyzed: 03/02/17					
Chloride	9.94	0.25	0.01	mg/L	10.010		99	90-110			
Fluoride	10.4	0.30	0.004	mg/L	10.020		104	90-110			
Sulfate	10.2	1.0	0.09	mg/L	10.020		102	90-110			
Matrix Spike (7030053-MS1)			**Source: AAB0889-04**			Prepared: 03/01/17 Analyzed: 03/02/17					
Chloride	22.4	0.25	0.01	mg/L	10.010	13.5	88	90-110			QM-05
Fluoride	10.5	0.30	0.004	mg/L	10.020	0.08	104	90-110			
Sulfate	14.4	1.0	0.09	mg/L	10.020	4.90	95	90-110			
Matrix Spike Dup (7030053-MSD1)			**Source: AAB0889-04**			Prepared: 03/01/17 Analyzed: 03/02/17					
Chloride	22.4	0.25	0.01	mg/L	10.010	13.5	88	90-110	0.02	15	QM-05
Fluoride	10.4	0.30	0.004	mg/L	10.020	0.08	103	90-110	0.4	15	
Sulfate	14.4	1.0	0.09	mg/L	10.020	4.90	95	90-110	0.4	15	

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020811 - EPA 3005A											
Blank (7020811-BLK1)						Prepared: 02/27/17 Analyzed: 03/02/17					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (7020811-BS1)						Prepared: 02/27/17 Analyzed: 03/02/17					
Antimony	0.111	0.0030	0.0008	mg/L	0.10000		111	80-120			
Arsenic	0.100	0.0050	0.0016	mg/L	0.10000		100	80-120			
Barium	0.104	0.0100	0.0004	mg/L	0.10000		104	80-120			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000		104	80-120			
Boron	1.07	0.0400	0.0064	mg/L	1.0000		107	80-120			
Cadmium	0.106	0.0010	0.00007	mg/L	0.10000		106	80-120			
Calcium	0.944	0.500	0.0311	mg/L	1.0000		94	80-120			
Chromium	0.103	0.0100	0.0009	mg/L	0.10000		103	80-120			
Cobalt	0.0998	0.0100	0.0005	mg/L	0.10000		100	80-120			
Copper	0.102	0.0250	0.0005	mg/L	0.10000		102	80-120			
Lead	0.101	0.0050	0.0001	mg/L	0.10000		101	80-120			
Molybdenum	0.105	0.0100	0.0017	mg/L	0.10000		105	80-120			
Nickel	0.103	0.0100	0.0006	mg/L	0.10000		103	80-120			
Selenium	0.0967	0.0100	0.0010	mg/L	0.10000		97	80-120			
Silver	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Thallium	0.105	0.0010	0.0002	mg/L	0.10000		105	80-120			
Vanadium	0.103	0.0100	0.0071	mg/L	0.10000		103	80-120			
Zinc	0.104	0.0100	0.0021	mg/L	0.10000		104	80-120			
Lithium	0.104	0.0500	0.0021	mg/L	0.10000		104	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020811 - EPA 3005A											
Matrix Spike (7020811-MS1)		**Source: AAB0887-01**				Prepared: 02/27/17 Analyzed: 03/02/17					
Antimony	0.112	0.0030	0.0008	mg/L	0.10000	ND	112	75-125			
Arsenic	0.0984	0.0050	0.0016	mg/L	0.10000	ND	98	75-125			
Barium	0.163	0.0100	0.0004	mg/L	0.10000	0.0607	102	75-125			
Beryllium	0.0962	0.0030	0.00008	mg/L	0.10000	ND	96	75-125			
Boron	0.987	0.0400	0.0064	mg/L	1.0000	ND	99	75-125			
Cadmium	0.106	0.0010	0.00007	mg/L	0.10000	ND	106	75-125			
Calcium	12.2	2.50	0.155	mg/L	1.0000	10.4	182	75-125			QM-02
Chromium	0.107	0.0100	0.0009	mg/L	0.10000	ND	107	75-125			
Cobalt	0.107	0.0100	0.0005	mg/L	0.10000	0.0049	102	75-125			
Copper	0.105	0.0250	0.0005	mg/L	0.10000	0.0011	104	75-125			
Lead	0.102	0.0050	0.0001	mg/L	0.10000	ND	102	75-125			
Molybdenum	0.105	0.0100	0.0017	mg/L	0.10000	ND	105	75-125			
Nickel	0.111	0.0100	0.0006	mg/L	0.10000	0.0051	106	75-125			
Selenium	0.0995	0.0100	0.0010	mg/L	0.10000	ND	99	75-125			
Silver	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125			
Thallium	0.104	0.0010	0.0002	mg/L	0.10000	ND	104	75-125			
Vanadium	0.107	0.0100	0.0071	mg/L	0.10000	ND	107	75-125			
Zinc	0.106	0.0100	0.0021	mg/L	0.10000	0.0042	102	75-125			
Lithium	0.0941	0.0500	0.0021	mg/L	0.10000	ND	94	75-125			
Matrix Spike Dup (7020811-MSD1)		**Source: AAB0887-01**				Prepared: 02/27/17 Analyzed: 03/02/17					
Antimony	0.109	0.0030	0.0008	mg/L	0.10000	ND	109	75-125	3	20	
Arsenic	0.102	0.0050	0.0016	mg/L	0.10000	ND	102	75-125	4	20	
Barium	0.158	0.0100	0.0004	mg/L	0.10000	0.0607	97	75-125	3	20	
Beryllium	0.103	0.0030	0.00008	mg/L	0.10000	ND	103	75-125	7	20	
Boron	0.990	0.0400	0.0064	mg/L	1.0000	ND	99	75-125	0.3	20	
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000	ND	104	75-125	2	20	
Calcium	11.6	2.50	0.155	mg/L	1.0000	10.4	121	75-125	5	20	
Chromium	0.101	0.0100	0.0009	mg/L	0.10000	ND	101	75-125	5	20	
Cobalt	0.105	0.0100	0.0005	mg/L	0.10000	0.0049	100	75-125	2	20	
Copper	0.106	0.0250	0.0005	mg/L	0.10000	0.0011	105	75-125	1	20	
Lead	0.103	0.0050	0.0001	mg/L	0.10000	ND	103	75-125	0.2	20	
Molybdenum	0.104	0.0100	0.0017	mg/L	0.10000	ND	104	75-125	1	20	
Nickel	0.107	0.0100	0.0006	mg/L	0.10000	0.0051	102	75-125	3	20	
Selenium	0.100	0.0100	0.0010	mg/L	0.10000	ND	100	75-125	0.6	20	
Silver	0.0985	0.0100	0.0005	mg/L	0.10000	ND	99	75-125	4	20	
Thallium	0.104	0.0010	0.0002	mg/L	0.10000	ND	104	75-125	0.6	20	
Vanadium	0.103	0.0100	0.0071	mg/L	0.10000	ND	103	75-125	4	20	
Zinc	0.105	0.0100	0.0021	mg/L	0.10000	0.0042	101	75-125	0.5	20	
Lithium	0.0979	0.0500	0.0021	mg/L	0.10000	ND	98	75-125	4	20	

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March 07, 2017

Report No.: AAB0884

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020811 - EPA 3005A											
Post Spike (7020811-PS1)			**Source: AAB0887-01**			Prepared: 02/27/17 Analyzed: 03/02/17					
Antimony	108			ug/L	100.00	0.0232	108	80-120			
Arsenic	108			ug/L	100.00	0.317	108	80-120			
Barium	166			ug/L	100.00	60.7	105	80-120			
Beryllium	104			ug/L	100.00	0.0030	104	80-120			
Boron	1020			ug/L	1000.0	3.84	102	80-120			
Cadmium	106			ug/L	100.00	0.0155	105	80-120			
Calcium	19300			ug/L	1000.0	10400	889	80-120			QM-02
Chromium	105			ug/L	100.00	0.517	105	80-120			
Cobalt	107			ug/L	100.00	4.88	102	80-120			
Copper	109			ug/L	100.00	1.11	108	80-120			
Lead	105			ug/L	100.00	0.0384	105	80-120			
Molybdenum	110			ug/L	100.00	0.474	109	80-120			
Nickel	111			ug/L	100.00	5.12	106	80-120			
Selenium	105			ug/L	100.00	0.256	105	80-120			
Silver	104			ug/L	100.00	0.0008	104	80-120			
Thallium	106			ug/L	100.00	0.0613	106	80-120			
Vanadium	110			ug/L	100.00	2.49	108	80-120			
Zinc	114			ug/L	100.00	4.24	109	80-120			
Lithium	102			ug/L	100.00	1.34	101	80-120			
Batch 7020822 - EPA 7470A											
Blank (7020822-BLK1)						Prepared & Analyzed: 02/28/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7020822-BS1)						Prepared & Analyzed: 02/28/17					
Mercury	0.00247	0.00050	0.000041	mg/L	2.5000E-3		99	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020822 - EPA 7470A											
Matrix Spike (7020822-MS1)			**Source: AAB0885-01**			Prepared & Analyzed: 02/28/17					
Mercury	0.00242	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125			
Matrix Spike Dup (7020822-MSD1)			**Source: AAB0885-01**			Prepared & Analyzed: 02/28/17					
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125	2	20	
Post Spike (7020822-PS1)			**Source: AAB0885-01**			Prepared & Analyzed: 02/28/17					
Mercury	1.76			ug/L	1.6667	-0.00567	106	80-120			

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

March 07, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com
Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Jim Abraham
CC: Marica Padilla
REQUESTED COMPLETION DATE: -
PO #: labarch@southernco.com

PROJECT NAME/STATE: Plant Branch AP
PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App III & IV (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 & SM2540C)	Radium-226 & 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
2-23-17	1009	GW		X	BRGWC-365	4	1	1	2	1	
2-23-17	1035	GW		X	BRGWC-385	4	1	1	2	2	
2-23-17	1220	GW		X	BRGWC-375	6	1	1	4	3	

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

SAMPLED BY AND TITLE: William Ballo, Geologist
DATE/TIME: 2-23-17/1445
RELINQUISHED BY: [signature]
DATE/TIME: 2-24-17/1157
RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

FOR LAB USE ONLY
LAB #: AA80884
Entered into LIMS: [signature]

RECEIVED BY LAB: Rahman
DATE/TIME: 02/24/17 1530
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER Pace CLIENT OTHER FS
Tracking #:
Packed: No NA
Ice: Yes No NA
Temperature: 1°C Min: 1°C Max:
Custody Seal: Intact Broken Not Present
# of Coolers
Cooler ID:

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 2/27/2017 9:51:35AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 02/24/17 15:30

Work Order: AAB0884
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 3 **#Containers:** 14

Minimum Temp(C): 1.0 **Maximum Temp(C):** 1.0 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

March 22, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAB0884 Plant Branch
Pace Project No.: 30211896

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on February 27, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAB0884 Plant Branch
Pace Project No.: 30211896

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAB0884 Plant Branch
Pace Project No.: 30211896

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30211896001	**BRGWC-36S**	Water	02/23/17 10:09	02/27/17 09:40
30211896002	**BRGWC-38S**	Water	02/23/17 10:35	02/27/17 09:40
30211896003	**BRGWC-37S**	Water	02/23/17 12:20	02/27/17 09:40

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAB0884 Plant Branch
Pace Project No.: 30211896

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30211896001	**BRGWC-36S**	EPA 9315	LAL	1
		EPA 9320	JJY	1
		Total Radium Calculation	RMK	1
30211896002	**BRGWC-38S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30211896003	**BRGWC-37S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAB0884 Plant Branch
Pace Project No.: 30211896

Sample: BRGWC-36S **Lab ID: 30211896001** Collected: 02/23/17 10:09 Received: 02/27/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:
Comments: • The sampler's signature was not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.238 ± 0.121 (0.130) C:98% T:NA**	pCi/L	03/20/17 08:53	13982-63-3	
Radium-228	EPA 9320	**0.316 ± 0.342 (0.710) C:73% T:83%**	pCi/L	03/16/17 16:09	15262-20-1	
Total Radium	Total Radium Calculation	**0.554 ± 0.463 (0.840)**	pCi/L	03/21/17 16:18	7440-14-4	

Sample: BRGWC-38S **Lab ID: 30211896002** Collected: 02/23/17 10:35 Received: 02/27/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:
Comments: • The sampler's signature was not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.438 ± 0.167 (0.138) C:98% T:NA**	pCi/L	03/20/17 08:53	13982-63-3	
Radium-228	EPA 9320	**1.48 ± 0.591 (0.902) C:74% T:64%**	pCi/L	03/22/17 11:49	15262-20-1	2c
Total Radium	Total Radium Calculation	**1.92 ± 0.758 (1.04)**	pCi/L	03/22/17 17:17	7440-14-4	

Sample: BRGWC-37S **Lab ID: 30211896003** Collected: 02/23/17 12:20 Received: 02/27/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:
Comments: • The sampler's signature was not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.125 ± 0.0994 (0.158) C:86% T:NA**	pCi/L	03/20/17 08:33	13982-63-3	
Radium-228	EPA 9320	**0.442 ± 0.890 (1.96) C:33% T:86%**	pCi/L	03/17/17 17:03	15262-20-1	2c
Total Radium	Total Radium Calculation	**0.567 ± 0.989 (2.12)**	pCi/L	03/21/17 16:18	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAB0884 Plant Branch
Pace Project No.: 30211896

QC Batch: 251730 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30211896002, 30211896003

METHOD BLANK: 1238368 Matrix: Water
Associated Lab Samples: 30211896002, 30211896003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0746 ± 0.0820 (0.155) C:90% T:NA	pCi/L	03/20/17 08:53	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAB0884 Plant Branch
Pace Project No.: 30211896

QC Batch: 251826 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30211896002, 30211896003

METHOD BLANK: 1238972 Matrix: Water
Associated Lab Samples: 30211896002, 30211896003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.116 ± 0.419 (0.946) C:72% T:69%	pCi/L	03/22/17 11:49	2c
Radium-228	1.30 ± 0.578 (0.877) C:37% T:82%	pCi/L	03/17/17 16:51	2c,3c

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAB0884 Plant Branch
Pace Project No.: 30211896

QC Batch: 251729 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30211896001

METHOD BLANK: 1238336 Matrix: Water
Associated Lab Samples: 30211896001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0778 ± 0.0850 (0.162) C:88% T:NA	pCi/L	03/17/17 09:05	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAB0884 Plant Branch
Pace Project No.: 30211896

QC Batch: 251825 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30211896001

METHOD BLANK: 1238956 Matrix: Water
Associated Lab Samples: 30211896001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0225 ± 0.967 (2.22) C:20% T:79%	pCi/L	03/16/17 11:27	1c
Radium-228	0.155 ± 0.391 (0.872) C:75% T:70%	pCi/L	03/22/17 11:48	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAB0884 Plant Branch
Pace Project No.: 30211896

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.

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.

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.

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.

BATCH QUALIFIERS

Batch: 251826

[1] The Ra-228 LCS recovery is high and outside of the default acceptance limit for LCS recovery at 136.77%. The upper limit for Ra-228 LCS recovery is 136%. Samples with results below their associated MDC are reportable without qualification.

ANALYTE QUALIFIERS

1c Method Blank yttrium carrier yield is less than the 30% default minimum acceptable for carrier yield. The MB has been re-ingrowthed and will be re-analyzed on 3/22/2017.

2c The Ra-228 LCS recovery is high and outside of the default acceptance limit for LCS recovery at 136.77%. The upper limit for Ra-228 LCS recovery is 136%. Samples with results below their associated MDC are reportable without qualification.

3c The Ra-228 MB result is above the associated MDC and RL of 1.0 pCi/L. Sample results are reportable without qualification if they are below their associated MDC. The MB is has been re-ingrowthed and is being re-analyzed on 3/22/2017, along with samples with results greater than their associated MDC.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAB0884 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 3/20/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO#:30211896

30211896

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	BRGWC-36S	G	2/23/2017 10:09	AAB0884-01	GW	2	X	001
2	BRGWC-38S	G	2/23/2017 10:35	AAB0884-02	GW	2	X	002
3	BRGWC-37S	G	2/23/2017 12:20	AAB0884-03	GW	4	X	003
4								
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			RBig Pace	2/27/17	0940
2					
3					

Cooler Temperature on Receipt	Custody Seal Y or (N)	Received on Ice Y or (N)	Sample Intact (Y) or N
N/A °C			

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30211896

6989

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd. SE B10185 Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Soju Abraham | CC: Marta Padilla

REQUESTED COMPLETION DATE: – | PO #: labarch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

ANALYSIS REQUESTED:

	Metals App III & IV (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 & SM2540C)	Radium-226 & 228 (SW-846 9315/9320)
CONTAINER TYPE:	P	P	P
PRESERVATION:	3	7	3

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App III & IV (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 & SM2540C)	Radium-226 & 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
2-23-17	1009	GW		X	BRGWC-36S	4	1	1	2	1	
2-23-17	1035	GW		X	BRGWC-38S	4	1	1	2	2	
2-23-17	1220	GW		X	BRGWC-37S	6	1	1	4	3	

CONTAINER TYPE:
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION:
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

SAMPLED BY AND TITLE: William Ball, Geologist | DATE/TIME: 2-23-17/1445 | RELINQUISHED BY: [signature] | DATE/TIME: 2-24-17/1157

RECEIVED BY: | DATE/TIME: | RELINQUISHED BY: | DATE/TIME:

RECEIVED BY LAB: [signature] | DATE/TIME: 02/24/17 1530 | SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (Pace) CLIENT OTHER FS

pH checked: (Yes) No NA | Ice: (Yes) No NA | Temperature: 1°C Min: 1°C Max: | Custody Seal: (Intact) Broken Not Present | # of Coolers | Cooler ID:

FOR LAB USE ONLY
LAB #: AAB0884
Entered into LIMS: [initials]
Tracking #:

COC Revised 2016-05-17.xlsx

RTB

Sample Condition Upon Receipt Pittsburgh

30211896

Pace Analytical

Client Name: Pace GA Project #

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 6812 5102 6051

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: N/A °C Final Temp: N/A °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: RTB 2/27/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished: RTB 2/27/17	~~X~~	~~X~~		3. jw 2/28/17
Sampler Name & Signature on COC:	X	X		4. Signature missing jw 2/28/17
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed 2/27/17 RTB; Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:			X	17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: RTB Date: 2/27/17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	3/14/2017
Worklist:	34512
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1238972
MB concentration:	0.116
M/B Counting Uncertainty:	0.418
MB MDC:	0.946
MB Numerical Performance Indicator:	0.54
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS34512	LCSD34512
Count Date:	3/22/2017	3/22/2017
Spike I.D.:	17-005	17-005
Spike Concentration (pCi/mL):	24.976	24.976
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.811	0.830
Target Conc. (pCi/L, g, F):	6.158	6.019
Uncertainty (Calculated):	0.443	0.433
Result (pCi/L, g, F):	7.369	6.660
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.801	0.778
Numerical Performance Indicator:	2.59	1.41
Percent Recovery:	119.68%	110.65%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	LCS34512	
Duplicate Sample I.D.	LCSD34512	
Sample Result (pCi/L, g, F):	7.369	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.801	
Sample Duplicate Result (pCi/L, g, F):	6.660	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.778	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	1.244	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	7.84%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

3/22/17

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	JJY
Date:	3/14/2017
Worklist:	34511
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1238956
MB concentration:	-0.022
M/B Counting Uncertainty:	0.967
MB MDC:	2.218
MB Numerical Performance Indicator:	-0.05
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS34511	LCSD34511
Count Date:	3/16/2017	3/16/2017
Spike I.D.:	17-005	17-005
Spike Concentration (pCi/mL):	25.026	25.026
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.808	0.803
Target Conc. (pCi/L, g, F):	6.191	6.231
Uncertainty (Calculated):	0.446	0.449
Result (pCi/L, g, F):	7.748	6.245
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.318	0.971
Numerical Performance Indicator:	2.19	0.03
Percent Recovery:	125.14%	100.23%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	LCS34511	
Duplicate Sample I.D.	LCSD34511	
Sample Result (pCi/L, g, F):	7.748	
Sample Result Counting Uncertainty (pCi/L, g, F):	1.318	
Sample Duplicate Result (pCi/L, g, F):	6.245	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.971	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	1.799	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	22.11%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

3/22/17

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	3/15/2017
Worklist:	34494
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1238368
MB concentration:	0.075
M/B Counting Uncertainty:	0.081
MB MDC:	0.155
MB Numerical Performance Indicator:	1.80
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS34494	LCSD34494
Count Date:	3/20/2017	
Spike I.D.:	17-003	
Spike Concentration (pCi/mL):	38.230	
Volume Used (mL):	0.25	
Aliquot Volume (L, g, F):	0.509	
Target Conc. (pCi/L, g, F):	18.761	
Uncertainty (Calculated):	0.883	
Result (pCi/L, g, F):	15.336	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.861	
Numerical Performance Indicator:	-5.45	
Percent Recovery:	81.74%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):
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):
Spike uncertainty (calculated):
Sample Result:
Sample Result Counting Uncertainty (pCi/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:
MSD Status vs Recovery:

Duplicate Sample Assessment		
Sample I.D.:	30211896002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30211896002DUP	
Sample Result (pCi/L, g, F):	0.438	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.154	
Sample Duplicate Result (pCi/L, g, F):	0.382	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.152	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.511	30211896002
Duplicate RPD:	13.76%	30211896002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):
Duplicate Numerical Performance Indicator:
MS/ MSD Duplicate RPD:
MS/ MSD Duplicate Status vs Numerical Indicator:
MS/ MSD Duplicate Status vs RPD:

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

Comments:

3/22/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	3/15/2017
Worklist:	34493
Matrix:	DW

Method Blank Assessment

MB Sample ID	1238336
MB concentration:	0.078
M/B Counting Uncertainty:	0.084
MB MDC:	0.162
MB Numerical Performance Indicator:	1.81
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS34493	LCSD34493
Count Date:	3/20/2017	
Spike I.D.:	17-003	
Spike Concentration (pCi/mL):	38.230	
Volume Used (mL):	0.25	
Aliquot Volume (L, g, F):	0.501	
Target Conc. (pCi/L, g, F):	19.092	
Uncertainty (Calculated):	0.898	
Result (pCi/L, g, F):	16.544	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.905	
Numerical Performance Indicator:	-3.92	
Percent Recovery:	86.65%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30211811002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30211811002DUP	
Sample Result (pCi/L, g, F):	-0.026	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.061	
Sample Duplicate Result (pCi/L, g, F):	0.058	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.085	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.574	30211811002
Duplicate RPD:	524.01%	30211811002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments: * Numerical Indicator is acceptable.

***Batch must be re-prepped due to unacceptable precision.

3/22/17

April 2017

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAD0601
April 25, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 25, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWC-37S	AAD0601-01	Ground Water	04/17/17 14:25	04/18/17 09:04
Dup-1	AAD0601-02	Ground Water	04/17/17 00:00	04/18/17 09:04
FB-1	AAD0601-03	Water	04/17/17 14:40	04/18/17 09:04

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 25, 2017

Report No.: AAD0601
Client ID: BRGWC-37S
Date/Time Sampled: 4/17/2017 2:25:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAD0601-01
Date/Time Received: 4/18/2017 9:04:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	53	25	10	mg/L	SM 2540 C		1	04/21/17 13:33	04/21/17 13:33	7040662	JPT
Inorganic Anions											
Chloride	1.8	0.25	0.01	mg/L	EPA 300.0		1	04/18/17 15:28	04/19/17 00:21	7040536	RLC
Fluoride	0.08	0.30	0.004	mg/L	EPA 300.0	J	1	04/18/17 15:28	04/19/17 00:21	7040536	RLC
Sulfate	0.44	1.0	0.09	mg/L	EPA 300.0	J	1	04/18/17 15:28	04/19/17 00:21	7040536	RLC
Metals, Total											
Antimony	0.0004	0.0030	0.0003	mg/L	EPA 6020B	J	1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Barium	0.0227	0.0100	0.0003	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Calcium	3.23	0.500	0.0104	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Chromium	0.0018	0.0100	0.0003	mg/L	EPA 6020B	J	1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 09:49	7040597	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	04/19/17 08:00	04/19/17 13:22	7040534	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 25, 2017

Report No.: AAD0601
Client ID: Dup-1
Date/Time Sampled: 4/17/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAD0601-02
Date/Time Received: 4/18/2017 9:04:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	33	25	10	mg/L	SM 2540 C		1	04/21/17 13:33	04/21/17 13:33	7040662	JPT
Inorganic Anions											
Chloride	1.8	0.25	0.01	mg/L	EPA 300.0		1	04/18/17 15:28	04/19/17 00:41	7040536	RLC
Fluoride	0.03	0.30	0.004	mg/L	EPA 300.0	J	1	04/18/17 15:28	04/19/17 00:41	7040536	RLC
Sulfate	0.44	1.0	0.09	mg/L	EPA 300.0	J	1	04/18/17 15:28	04/19/17 00:41	7040536	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Barium	0.0233	0.0100	0.0003	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Calcium	3.34	0.500	0.0104	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Chromium	0.0016	0.0100	0.0003	mg/L	EPA 6020B	J	1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:09	7040597	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	04/19/17 08:00	04/19/17 13:24	7040534	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 25, 2017

Report No.: AAD0601
Client ID: FB-1
Date/Time Sampled: 4/17/2017 2:40:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAD0601-03
Date/Time Received: 4/18/2017 9:04:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	04/21/17 13:33	04/21/17 13:33	7040662	JPT
Inorganic Anions											
Chloride	ND	0.25	0.01	mg/L	EPA 300.0		1	04/18/17 15:28	04/19/17 01:02	7040536	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	04/18/17 15:28	04/19/17 01:02	7040536	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	04/18/17 15:28	04/19/17 01:02	7040536	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Barium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Calcium	0.0190	0.500	0.0104	mg/L	EPA 6020B	J	1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Chromium	0.0007	0.0100	0.0003	mg/L	EPA 6020B	J	1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	04/20/17 09:05	04/21/17 10:14	7040597	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	04/19/17 08:00	04/19/17 13:27	7040534	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 25, 2017

Report No.: AAD0601

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7040662 - SM 2540 C											
Blank (7040662-BLK1)						Prepared & Analyzed: 04/21/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7040662-BS1)						Prepared & Analyzed: 04/21/17					
Total Dissolved Solids	407	25	10	mg/L	400.00		102	84-108			
Duplicate (7040662-DUP1)		**Source: AAD0653-05**				Prepared & Analyzed: 04/21/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7040662-DUP2)		**Source: AAD0665-01**				Prepared & Analyzed: 04/21/17					
Total Dissolved Solids	958	25	10	mg/L		944			1	10	

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Attention: Mr. Joju Abraham

April 25, 2017

Report No.: AAD0601

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7040536 - EPA 300.0											
Blank (7040536-BLK1)						Prepared & Analyzed: 04/18/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7040536-BS1)						Prepared & Analyzed: 04/18/17					
Chloride	10.0	0.25	0.01	mg/L	10.010		100	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020		102	90-110			
Sulfate	10.0	1.0	0.09	mg/L	10.020		100	90-110			
Matrix Spike (7040536-MS1)		**Source: AAD0550-03**				Prepared & Analyzed: 04/18/17					
Chloride	29.9	0.25	0.01	mg/L	10.010	21.9	79	90-110			QM-02
Fluoride	10.4	0.30	0.004	mg/L	10.020	0.03	103	90-110			
Sulfate	24.0	1.0	0.09	mg/L	10.020	15.3	87	90-110			QM-02
Matrix Spike (7040536-MS2)		**Source: AAD0550-07**				Prepared: 04/18/17 Analyzed: 04/19/17					
Chloride	11.8	0.25	0.01	mg/L	10.010	1.50	103	90-110			
Fluoride	10.5	0.30	0.004	mg/L	10.020	0.01	105	90-110			
Sulfate	14.5	1.0	0.09	mg/L	10.020	4.43	100	90-110			
Matrix Spike Dup (7040536-MSD1)		**Source: AAD0550-03**				Prepared & Analyzed: 04/18/17					
Chloride	29.9	0.25	0.01	mg/L	10.010	21.9	80	90-110	0.2	15	QM-02
Fluoride	10.4	0.30	0.004	mg/L	10.020	0.03	103	90-110	0.09	15	
Sulfate	24.1	1.0	0.09	mg/L	10.020	15.3	88	90-110	0.2	15	QM-02

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April 25, 2017

Report No.: AAD0601

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7040534 - EPA 7470A											
Blank (7040534-BLK1)						Prepared & Analyzed: 04/19/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7040534-BS1)						Prepared & Analyzed: 04/19/17					
Mercury	0.00239	0.00050	0.000041	mg/L	2.5000E-3		96	80-120			
Matrix Spike (7040534-MS1)		**Source: AAD0601-01**				Prepared & Analyzed: 04/19/17					
Mercury	0.00229	0.00050	0.000041	mg/L	2.5000E-3	ND	91	75-125			
Matrix Spike Dup (7040534-MSD1)		**Source: AAD0601-01**				Prepared & Analyzed: 04/19/17					
Mercury	0.00226	0.00050	0.000041	mg/L	2.5000E-3	ND	91	75-125	1	20	
Post Spike (7040534-PS1)		**Source: AAD0601-01**				Prepared & Analyzed: 04/19/17					
Mercury	1.72			ug/L	1.6667	-0.00110	103	80-120			
Batch 7040597 - EPA 3005A											
Blank (7040597-BLK1)						Prepared & Analyzed: 04/20/17					
Antimony	ND	0.0030	0.0003	mg/L							
Arsenic	ND	0.0050	0.0004	mg/L							
Barium	ND	0.0100	0.0003	mg/L							
Beryllium	ND	0.0030	0.00007	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.00006	mg/L							
Calcium	ND	0.500	0.0104	mg/L							
Chromium	ND	0.0100	0.0003	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0006	mg/L							
Nickel	ND	0.0100	0.0003	mg/L							
Selenium	ND	0.0100	0.0014	mg/L							
Silver	ND	0.0100	0.0003	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0014	mg/L							
Zinc	0.0015	0.0100	0.0013	mg/L							J
Lithium	ND	0.0500	0.0011	mg/L							

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 25, 2017

Report No.: AAD0601

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7040597 - EPA 3005A											
LCS (7040597-BS1)						Prepared & Analyzed: 04/20/17					
Antimony	0.0996	0.0030	0.0003	mg/L	0.10000		100	80-120			
Arsenic	0.0964	0.0050	0.0004	mg/L	0.10000		96	80-120			
Barium	0.0949	0.0100	0.0003	mg/L	0.10000		95	80-120			
Beryllium	0.0972	0.0030	0.00007	mg/L	0.10000		97	80-120			
Boron	1.02	0.0400	0.0060	mg/L	1.0000		102	80-120			
Cadmium	0.100	0.0010	0.00006	mg/L	0.10000		100	80-120			
Calcium	1.02	0.500	0.0104	mg/L	1.0000		102	80-120			
Chromium	0.102	0.0100	0.0003	mg/L	0.10000		102	80-120			
Cobalt	0.0985	0.0100	0.0005	mg/L	0.10000		98	80-120			
Copper	0.100	0.0250	0.0003	mg/L	0.10000		100	80-120			
Lead	0.0951	0.0050	0.00007	mg/L	0.10000		95	80-120			
Molybdenum	0.101	0.0100	0.0006	mg/L	0.10000		101	80-120			
Nickel	0.101	0.0100	0.0003	mg/L	0.10000		101	80-120			
Selenium	0.0998	0.0100	0.0014	mg/L	0.10000		100	80-120			
Silver	0.0976	0.0100	0.0003	mg/L	0.10000		98	80-120			
Thallium	0.0957	0.0010	0.00005	mg/L	0.10000		96	80-120			
Vanadium	0.103	0.0100	0.0014	mg/L	0.10000		103	80-120			
Zinc	0.103	0.0100	0.0013	mg/L	0.10000		103	80-120			
Lithium	0.106	0.0500	0.0011	mg/L	0.10000		106	80-120			
Matrix Spike (7040597-MS1)			**Source: AAD0601-02**			Prepared & Analyzed: 04/20/17					
Antimony	0.100	0.0030	0.0003	mg/L	0.10000	ND	100	75-125			
Arsenic	0.0981	0.0050	0.0004	mg/L	0.10000	ND	98	75-125			
Barium	0.119	0.0100	0.0003	mg/L	0.10000	0.0233	96	75-125			
Beryllium	0.0975	0.0030	0.00007	mg/L	0.10000	ND	97	75-125			
Boron	1.02	0.0400	0.0060	mg/L	1.0000	ND	102	75-125			
Cadmium	0.101	0.0010	0.00006	mg/L	0.10000	ND	101	75-125			
Calcium	4.26	0.500	0.0104	mg/L	1.0000	3.34	92	75-125			
Chromium	0.109	0.0100	0.0003	mg/L	0.10000	0.0016	107	75-125			
Cobalt	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125			
Copper	0.101	0.0250	0.0003	mg/L	0.10000	ND	101	75-125			
Lead	0.0979	0.0050	0.00007	mg/L	0.10000	0.0001	98	75-125			
Molybdenum	0.105	0.0100	0.0006	mg/L	0.10000	ND	105	75-125			
Nickel	0.103	0.0100	0.0003	mg/L	0.10000	0.0006	103	75-125			
Selenium	0.103	0.0100	0.0014	mg/L	0.10000	ND	103	75-125			
Silver	0.101	0.0100	0.0003	mg/L	0.10000	ND	101	75-125			
Thallium	0.0979	0.0010	0.00005	mg/L	0.10000	ND	98	75-125			
Vanadium	0.109	0.0100	0.0014	mg/L	0.10000	0.0014	108	75-125			
Zinc	0.105	0.0100	0.0013	mg/L	0.10000	0.0030	103	75-125			
Lithium	0.105	0.0500	0.0011	mg/L	0.10000	ND	105	75-125			

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 25, 2017

Report No.: AAD0601

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7040597 - EPA 3005A											
Matrix Spike Dup (7040597-MSD1)		**Source: AAD0601-02**			Prepared: 04/20/17 Analyzed: 04/21/17						
Antimony	0.107	0.0030	0.0003	mg/L	0.10000	ND	107	75-125	6	20	
Arsenic	0.101	0.0050	0.0004	mg/L	0.10000	ND	101	75-125	3	20	
Barium	0.127	0.0100	0.0003	mg/L	0.10000	0.0233	104	75-125	7	20	
Beryllium	0.103	0.0030	0.00007	mg/L	0.10000	ND	103	75-125	5	20	
Boron	1.03	0.0400	0.0060	mg/L	1.0000	ND	103	75-125	1	20	
Cadmium	0.104	0.0010	0.00006	mg/L	0.10000	ND	104	75-125	3	20	
Calcium	4.43	0.500	0.0104	mg/L	1.0000	3.34	109	75-125	4	20	
Chromium	0.109	0.0100	0.0003	mg/L	0.10000	0.0016	107	75-125	0.05	20	
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000	ND	103	75-125	2	20	
Copper	0.101	0.0250	0.0003	mg/L	0.10000	ND	101	75-125	0.7	20	
Lead	0.0993	0.0050	0.00007	mg/L	0.10000	0.0001	99	75-125	1	20	
Molybdenum	0.104	0.0100	0.0006	mg/L	0.10000	ND	104	75-125	1	20	
Nickel	0.104	0.0100	0.0003	mg/L	0.10000	0.0006	104	75-125	1	20	
Selenium	0.104	0.0100	0.0014	mg/L	0.10000	ND	104	75-125	0.2	20	
Silver	0.0994	0.0100	0.0003	mg/L	0.10000	ND	99	75-125	2	20	
Thallium	0.0993	0.0010	0.00005	mg/L	0.10000	ND	99	75-125	1	20	
Vanadium	0.105	0.0100	0.0014	mg/L	0.10000	0.0014	103	75-125	4	20	
Zinc	0.101	0.0100	0.0013	mg/L	0.10000	0.0030	98	75-125	4	20	
Lithium	0.101	0.0500	0.0011	mg/L	0.10000	ND	101	75-125	4	20	
Post Spike (7040597-PS1)		**Source: AAD0601-02**			Prepared: 04/20/17 Analyzed: 04/21/17						
Antimony	100			ug/L	100.00	0.146	100	80-120			
Arsenic	106			ug/L	100.00	0.0354	106	80-120			
Barium	128			ug/L	100.00	23.3	104	80-120			
Beryllium	101			ug/L	100.00	0.0367	101	80-120			
Boron	1060			ug/L	1000.0	5.19	105	80-120			
Cadmium	104			ug/L	100.00	0.0157	104	80-120			
Calcium	4350			ug/L	1000.0	3340	101	80-120			
Chromium	111			ug/L	100.00	1.62	109	80-120			
Cobalt	103			ug/L	100.00	0.160	103	80-120			
Copper	109			ug/L	100.00	0.173	109	80-120			
Lead	101			ug/L	100.00	0.121	101	80-120			
Molybdenum	108			ug/L	100.00	0.158	107	80-120			
Nickel	112			ug/L	100.00	0.584	112	80-120			
Selenium	100			ug/L	100.00	1.02	99	80-120			
Silver	101			ug/L	100.00	-0.0007	101	80-120			
Thallium	102			ug/L	100.00	0.0194	102	80-120			
Vanadium	109			ug/L	100.00	1.38	108	80-120			
Zinc	106			ug/L	100.00	2.98	104	80-120			
Lithium	108			ug/L	100.00	0.381	107	80-120			

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Attention: Mr. Joju Abraham

April 25, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Southern Company

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308 P: 404-506-7[illegible]

REPORT TO: Joju, Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE:
SCS Plant Branch

PROJECT #:
State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals APP III & TE (LE)	Metals APP III & TD (EPA 6020 / 7470)	Radium 226 and 228 (SW 846 9315 / 4320)	Cl, F, SO4, and TDS (EPA 300.0 and SM2540C)	LAB ID NUMBER
					CONTAINER TYPE:		P	P	P		
					PRESERVATION:		3	3	7		
4/17/17	1425	GW		X	BRGWC-375	6		1	4	1	1
4/17/17	—	GW		X	DUP-1	4		1	2	1	2
4/17/17	1440	W		X	FB-1	4		1	2	1	3

CONTAINER TYPE
P - PLASTIC
A - AMBER GLASS
G - CLEAR GLASS
V - VOA VIAL
S - STERILE
O - OTHER

PRESERVATION
1 - HCl, ≤6°C
2 - H_2SO_4, ≤6°C
3 - HNO_3
4 - NaOH, ≤6°C
5 - NaOH/ZnAc, ≤6°C
6 - $Na_2S_2O_3$, ≤6°C
7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER
WW - WASTEWATER
GW - GROUNDWATER
SW - SURFACE WATER
ST - STORM WATER
W - WATER
S - SOIL
SL - SLUDGE
SD - SOLID
A - AIR
L - LIQUID
P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Daniela Hertog, Hydrologist
DATE/TIME: 4/18/17 904
RELINQUISHED BY:
DATE/TIME:

RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB:
DATE/TIME: 4/18/17 0904

Checked: No NA
Ice: Yes No NA
Temperature: 1°C Min: °C Max:

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Custody Seal: Intact Broken Not Present N/A
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AA01601
Entered into LIMS:
Tracking #:

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 4/19/2017 2:40:34PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 04/18/17 09:04

Work Order: AAD0601
Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 3 **#Containers:** 14

Minimum Temp(C): 1.0 **Maximum Temp(C):** 1.0 **Custody Seal(s) Used:** N/A

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	NO
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

May 12, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAD0601 Plant Branch
Pace Project No.: 30216664

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on April 20, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAD0601 Plant Branch
Pace Project No.: 30216664

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAD0601 Plant Branch
Pace Project No.: 30216664

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30216664001	**BRGWC-37S**	Water	04/17/17 14:25	04/20/17 10:30
30216664002	**Dup-1**	Water	04/17/17 00:00	04/20/17 10:30
30216664003	**FB-1**	Water	04/17/17 14:40	04/20/17 10:30

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SAMPLE ANALYTE COUNT

Project: AAD0601 Plant Branch
Pace Project No.: 30216664

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30216664001	**BRGWC-37S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30216664002	**Dup-1**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30216664003	**FB-1**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAD0601 Plant Branch
Pace Project No.: 30216664

Sample: BRGWC-37S **Lab ID: 30216664001** Collected: 04/17/17 14:25 Received: 04/20/17 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.130 ± 0.109 (0.198) C:97% T:NA**	pCi/L	04/27/17 12:20	13982-63-3	
Radium-228	EPA 9320	**0.205 ± 0.298 (0.639) C:79% T:82%**	pCi/L	04/29/17 13:29	15262-20-1	
Total Radium	Total Radium Calculation	**0.335 ± 0.407 (0.837)**	pCi/L	05/10/17 09:45	7440-14-4	

Sample: Dup-1 **Lab ID: 30216664002** Collected: 04/17/17 00:00 Received: 04/20/17 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0437 ± 0.0860 (0.192) C:97% T:NA**	pCi/L	04/27/17 12:20	13982-63-3	
Radium-228	EPA 9320	**0.304 ± 0.347 (0.728) C:76% T:81%**	pCi/L	05/11/17 14:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.347 ± 0.433 (0.920) C:NA T:NA**	pCi/L	05/12/17 16:31	7440-14-4	

Sample: FB-1 **Lab ID: 30216664003** Collected: 04/17/17 14:40 Received: 04/20/17 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0188 ± 0.0896 (0.281) C:83% T:NA**	pCi/L	04/28/17 08:29	13982-63-3	
Radium-228	EPA 9320	**0.734 ± 0.386 (0.679) C:86% T:77%**	pCi/L	04/29/17 13:29	15262-20-1	
Total Radium	Total Radium Calculation	**0.734 ± 0.476 (0.960)**	pCi/L	05/10/17 09:45	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAD0601 Plant Branch
Pace Project No.: 30216664

QC Batch: 256244 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30216664001, 30216664002, 30216664003

METHOD BLANK: 1262380 Matrix: Water
Associated Lab Samples: 30216664001, 30216664002, 30216664003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0396 ± 0.117 (0.291) C:98% T:NA	pCi/L	04/27/17 08:21	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: AAD0601 Plant Branch
Pace Project No.: 30216664

QC Batch: 256378 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30216664001, 30216664003

METHOD BLANK: 1263005 Matrix: Water
Associated Lab Samples: 30216664001, 30216664003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0143 ± 0.302 (0.709) C:82% T:77%	pCi/L	04/29/17 13:28	

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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(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAD0601 Plant Branch
Pace Project No.: 30216664

QC Batch: 257587 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30216664002

METHOD BLANK: 1268847 Matrix: Water
Associated Lab Samples: 30216664002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.178 ± 0.368 (0.813) C:72% T:73%	pCi/L	05/11/17 14:47	

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.

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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAD0601 Plant Branch
Pace Project No.: 30216664

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.

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.

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.

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.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAD0601 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 5/11/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO#:30216664

30216664

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	BRGWC-37S	G	4/17/2017 14:25	AAD0601-01	GW	4	X	001
2	Dup-1	G	4/17/2017 0:00	AAD0601-02	GW	2	X	002
3	FB-1	G	4/17/2017 14:40	AAD0601-03	GW	2	X	003
4								
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	Charles Hamby	4/19/17 1730	Ashley Rae/Pace	4-20-17/1080	
2					
3					

Cooler Temperature on Receipt NA °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC

This chain of custody is considered complete as is since this information is available in the owner laboratory.

30216664

CHAIN OF CUSTODY RECORD

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Southern Company

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308 P: 404-506-78

REPORT TO: Joju, Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: | PO #: laborch@southernco.com

PROJECT NAME/STATE: SCS Plant Branch

PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals APP III & V (EPA 6020 / 7470)	Radium 226 and 228 (SW 846 9315 / 9320)	Cl, F, SO4, and TDS (EPA 300.0 and SM2540C)	LAB ID NUMBER
4/17/17	1425	GW		X	BRGWC-375	6	1	4	1	1
4/17/17	—	GW		X	DUP-1	4	1	2	1	2
4/17/17	1440	W		X	FB-1	4	1	2	1	3

ANALYSIS REQUESTED
CONTAINER TYPE: P P P
PRESERVATION: 3 3 7

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER
PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES:
DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Daniela Hevia, Hydrologist | DATE/TIME: 4/18/17 904
RECEIVED BY: | DATE/TIME:
RECEIVED BY LAB: [signature] | DATE/TIME: 4/18/17 0904

RELINQUISHED BY: | DATE/TIME:
RELINQUISHED BY: | DATE/TIME:

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Custody Seal: Intact Broken Not Present N/A | # of Coolers | Cooler ID:
pH checked: Yes No NA | Ice: Yes No NA | Temperature: 1 °C Min: °C Max:

FOR LAB USE ONLY
LAB #: AA00601
Entered into LIMS:
Tracking #:

Sample Condition Upon Receipt Pittsburgh 30216664

Pace Analytical

Client Name: Pace, GA Project #

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking # 6812 5103 8011

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMR 4-20-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used: -Pace Containers Used:	X X			10.
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, Phenolics	X X			15. pH<2 Initial when completed AMR Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: AMR Date: 4-20-17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

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Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	5/9/2017
Worklist:	35501
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1268847
MB concentration:	0.178
M/B Counting Uncertainty:	0.366
MB MDC:	0.813
MB Numerical Performance Indicator:	0.95
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS35501	LCSD35501
Count Date:	5/11/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.566	
Volume Used (mL):	0.30	
Aliquot Volume (L, g, F):	0.801	
Target Conc. (pCi/L, g, F):	9.205	
Uncertainty (Calculated):	0.663	
Result (pCi/L, g, F):	8.924	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.039	
Numerical Performance Indicator:	-0.45	
Percent Recovery:	96.95%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30217925006	
Duplicate Sample I.D.	30217925006DUP	
Sample Result (pCi/L, g, F):	0.111	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.358	
Sample Duplicate Result (pCi/L, g, F):	0.171	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.364	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.231	30217925006
Duplicate RPD:	42.55%	30217925006DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

results < 5x MDC numerical indicator < 2 acceptable for all matrices

~~***Batch must be re-prepped due to unacceptable precision.~~ MLS 5/12/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	4/27/2017
Worklist:	35287
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1263005
MB concentration:	-0.014
M/B Counting Uncertainty:	0.302
MB MDC:	0.709
MB Numerical Performance Indicator:	-0.09
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS35287	LCSD35287
Count Date:	4/29/2017	4/29/2017
Spike I.D.:	17-005	17-005
Spike Concentration (pCi/mL):	24.664	24.664
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.809	0.817
Target Conc. (pCi/L, g, F):	6.095	6.041
Uncertainty (Calculated):	0.439	0.435
Result (pCi/L, g, F):	6.050	5.551
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.733	0.627
Numerical Performance Indicator:	-0.10	-1.26
Percent Recovery:	99.26%	91.90%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Duplicate Sample Assessment		
Sample I.D.:	LCS35287	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD35287	
Sample Result (pCi/L, g, F):	6.050	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.733	
Sample Duplicate Result (pCi/L, g, F):	5.551	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.627	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	1.014	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	7.71%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

5/5/2017

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	4/26/2017
Worklist:	35270
Matrix:	DW

Method Blank Assessment

MB Sample ID	1262380
MB concentration:	0.040
M/B Counting Uncertainty:	0.117
MB MDC:	0.291
MB Numerical Performance Indicator:	0.67
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS35270	LCSD35270
Count Date:	4/28/2017	
Spike I.D.:	17-003	
Spike Concentration (pCi/mL):	38.229	
Volume Used (mL):	0.25	
Aliquot Volume (L, g, F):	0.506	
Target Conc. (pCi/L, g, F):	18.891	
Uncertainty (Calculated):	0.889	
Result (pCi/L, g, F):	15.356	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.734	
Numerical Performance Indicator:	-6.01	
Percent Recovery:	81.29%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30216664001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30216664001DUP	
Sample Result (pCi/L, g, F):	0.130	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.108	
Sample Duplicate Result (pCi/L, g, F):	0.217	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.103	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.141	30216664001
Duplicate RPD:	~~<50.05%~~	30216664001DUP
Duplicate Status vs Numerical Indicator:	~~N/A~~	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

***~~Batch must be re-prepped due to unacceptable precision.~~

results < 5x MDC, numerical indicator < 2 acceptable for all matrices

MU 5/12/17

May 2017

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAE0503
May 24, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

May 24, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FB-1	AAE0503-01	Water	05/15/17 13:15	05/15/17 17:20
BRGWC-37S	AAE0503-02	Ground Water	05/15/17 13:20	05/15/17 17:20
Dup-1	AAE0503-03	Ground Water	05/15/17 00:00	05/15/17 17:20

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May 24, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

May 24, 2017

Report No.: AAE0503
Client ID: FB-1
Date/Time Sampled: 5/15/2017 1:15:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAE0503-01
Date/Time Received: 5/15/2017 5:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	05/18/17 12:40	05/18/17 12:40	7050535	JPT
Inorganic Anions											
Chloride	ND	0.25	0.01	mg/L	EPA 300.0		1	05/15/17 19:30	05/16/17 20:04	7050518	SLH
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	05/15/17 19:30	05/16/17 20:04	7050518	SLH
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	05/15/17 19:30	05/16/17 20:04	7050518	SLH
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Barium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Calcium	ND	0.500	0.0104	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:23	7050560	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	05/22/17 12:00	05/22/17 16:46	7050690	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

May 24, 2017

Report No.: AAE0503
Client ID: BRGWC-37S
Date/Time Sampled: 5/15/2017 1:20:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAE0503-02
Date/Time Received: 5/15/2017 5:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	48	25	10	mg/L	SM 2540 C		1	05/18/17 12:40	05/18/17 12:40	7050535	JPT
Inorganic Anions											
Chloride	1.8	0.25	0.01	mg/L	EPA 300.0		1	05/15/17 19:30	05/16/17 20:25	7050518	SLH
Fluoride	0.02	0.30	0.004	mg/L	EPA 300.0	J	1	05/15/17 19:30	05/16/17 20:25	7050518	SLH
Sulfate	0.45	1.0	0.09	mg/L	EPA 300.0	J	1	05/15/17 19:30	05/16/17 20:25	7050518	SLH
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Barium	0.0227	0.0100	0.0003	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Calcium	2.97	0.500	0.0104	mg/L	EPA 6020B	B-01	1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Chromium	0.0014	0.0100	0.0003	mg/L	EPA 6020B	J	1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:29	7050560	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	05/22/17 12:00	05/22/17 16:48	7050690	MTC

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Attention: Mr. Joju Abraham

May 24, 2017

Report No.: AAE0503
Client ID: Dup-1
Date/Time Sampled: 5/15/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAE0503-03
Date/Time Received: 5/15/2017 5:20:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	34	25	10	mg/L	SM 2540 C		1	05/18/17 12:40	05/18/17 12:40	7050535	JPT
Inorganic Anions											
Chloride	1.8	0.25	0.01	mg/L	EPA 300.0		1	05/15/17 19:30	05/16/17 22:29	7050518	SLH
Fluoride	0.02	0.30	0.004	mg/L	EPA 300.0	J	1	05/15/17 19:30	05/16/17 22:29	7050518	SLH
Sulfate	0.40	1.0	0.09	mg/L	EPA 300.0	J	1	05/15/17 19:30	05/16/17 22:29	7050518	SLH
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Barium	0.0231	0.0100	0.0003	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Calcium	3.05	0.500	0.0104	mg/L	EPA 6020B	B-01	1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Chromium	0.0015	0.0100	0.0003	mg/L	EPA 6020B	J	1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	05/17/17 14:40	05/18/17 20:40	7050560	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	05/22/17 12:00	05/22/17 16:51	7050690	MTC

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

May 24, 2017

Report No.: AAE0503

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050535 - SM 2540 C											
Blank (7050535-BLK1)						Prepared & Analyzed: 05/18/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7050535-BS1)						Prepared & Analyzed: 05/18/17					
Total Dissolved Solids	408	25	10	mg/L	400.00		102	84-108			
Duplicate (7050535-DUP1)		**Source: AAE0482-07**				Prepared & Analyzed: 05/18/17					
Total Dissolved Solids	132	25	10	mg/L		243			59	10	QR-03
Duplicate (7050535-DUP2)		**Source: AAE0548-05**				Prepared & Analyzed: 05/18/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

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Report No.: AAE0503

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050518 - EPA 300.0											
Blank (7050518-BLK1)						Prepared: 05/15/17 Analyzed: 05/16/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7050518-BS1)						Prepared: 05/15/17 Analyzed: 05/16/17					
Chloride	10.1	0.25	0.01	mg/L	10.020		101	90-110			
Fluoride	9.90	0.30	0.004	mg/L	10.020		99	90-110			
Sulfate	10.2	1.0	0.09	mg/L	10.050		102	90-110			
Matrix Spike (7050518-MS1)		**Source: AAE0482-03**				Prepared: 05/15/17 Analyzed: 05/16/17					
Chloride	36.4	0.25	0.01	mg/L	10.020	28.9	75	90-110			QM-02
Fluoride	10.3	0.30	0.004	mg/L	10.020	ND	103	90-110			
Sulfate	356	1.0	0.09	mg/L	10.050	376	NR	90-110			QM-02
Matrix Spike (7050518-MS2)		**Source: AAE0503-02**				Prepared: 05/15/17 Analyzed: 05/16/17					
Chloride	12.0	0.25	0.01	mg/L	10.020	1.82	101	90-110			
Fluoride	10.1	0.30	0.004	mg/L	10.020	0.02	101	90-110			
Sulfate	10.8	1.0	0.09	mg/L	10.050	0.45	103	90-110			
Matrix Spike Dup (7050518-MSD1)		**Source: AAE0482-03**				Prepared: 05/15/17 Analyzed: 05/16/17					
Chloride	36.4	0.25	0.01	mg/L	10.020	28.9	75	90-110	0.2	15	QM-02
Fluoride	10.5	0.30	0.004	mg/L	10.020	ND	105	90-110	2	15	
Sulfate	356	1.0	0.09	mg/L	10.050	376	NR	90-110	0.04	15	QM-02

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Report No.: AAE0503

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050560 - EPA 3005A											
Blank (7050560-BLK1)						Prepared: 05/17/17 Analyzed: 05/18/17					
Antimony	ND	0.0030	0.0003	mg/L							
Arsenic	ND	0.0050	0.0004	mg/L							
Barium	ND	0.0100	0.0003	mg/L							
Beryllium	ND	0.0030	0.00007	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.00006	mg/L							
Calcium	0.0124	0.500	0.0104	mg/L							J
Chromium	ND	0.0100	0.0003	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0006	mg/L							
Nickel	ND	0.0100	0.0003	mg/L							
Selenium	ND	0.0100	0.0014	mg/L							
Silver	ND	0.0100	0.0003	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0014	mg/L							
Zinc	ND	0.0100	0.0013	mg/L							
Lithium	ND	0.0500	0.0011	mg/L							
LCS (7050560-BS1)						Prepared: 05/17/17 Analyzed: 05/18/17					
Antimony	0.107	0.0030	0.0003	mg/L	0.10000		107	80-120			
Arsenic	0.103	0.0050	0.0004	mg/L	0.10000		103	80-120			
Barium	0.106	0.0100	0.0003	mg/L	0.10000		106	80-120			
Beryllium	0.106	0.0030	0.00007	mg/L	0.10000		106	80-120			
Boron	1.07	0.0400	0.0060	mg/L	1.0000		107	80-120			
Cadmium	0.108	0.0010	0.00006	mg/L	0.10000		108	80-120			
Calcium	1.05	0.500	0.0104	mg/L	1.0000		105	80-120			
Chromium	0.105	0.0100	0.0003	mg/L	0.10000		105	80-120			
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000		103	80-120			
Copper	0.102	0.0250	0.0003	mg/L	0.10000		102	80-120			
Lead	0.104	0.0050	0.00007	mg/L	0.10000		104	80-120			
Molybdenum	0.108	0.0100	0.0006	mg/L	0.10000		108	80-120			
Nickel	0.103	0.0100	0.0003	mg/L	0.10000		103	80-120			
Selenium	0.105	0.0100	0.0014	mg/L	0.10000		105	80-120			
Silver	0.107	0.0100	0.0003	mg/L	0.10000		107	80-120			
Thallium	0.107	0.0010	0.00005	mg/L	0.10000		107	80-120			
Vanadium	0.103	0.0100	0.0014	mg/L	0.10000		103	80-120			
Zinc	0.102	0.0100	0.0013	mg/L	0.10000		102	80-120			
Lithium	0.111	0.0500	0.0011	mg/L	0.10000		111	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050560 - EPA 3005A											
Matrix Spike (7050560-MS1)		**Source: AAE0498-01**			Prepared: 05/17/17 Analyzed: 05/18/17						
Antimony	0.108	0.0030	0.0003	mg/L	0.10000	ND	108	75-125			
Arsenic	0.0999	0.0050	0.0004	mg/L	0.10000	ND	100	75-125			
Barium	0.129	0.0100	0.0003	mg/L	0.10000	0.0181	111	75-125			
Beryllium	0.103	0.0030	0.00007	mg/L	0.10000	ND	103	75-125			
Boron	0.980	0.0400	0.0060	mg/L	1.0000	0.0073	97	75-125			
Cadmium	0.106	0.0010	0.00006	mg/L	0.10000	ND	106	75-125			
Calcium	7.92	25.0	0.522	mg/L	1.0000	6.50	142	75-125			QM-02, J
Chromium	0.104	0.0100	0.0003	mg/L	0.10000	0.0006	103	75-125			
Cobalt	0.104	0.0100	0.0005	mg/L	0.10000	0.0024	101	75-125			
Copper	0.103	0.0250	0.0003	mg/L	0.10000	0.0007	102	75-125			
Lead	0.103	0.0050	0.00007	mg/L	0.10000	0.0001	103	75-125			
Molybdenum	0.106	0.0100	0.0006	mg/L	0.10000	ND	106	75-125			
Nickel	0.106	0.0100	0.0003	mg/L	0.10000	0.0021	104	75-125			
Selenium	0.101	0.0100	0.0014	mg/L	0.10000	ND	101	75-125			
Silver	0.107	0.0100	0.0003	mg/L	0.10000	ND	107	75-125			
Thallium	0.106	0.0010	0.00005	mg/L	0.10000	ND	106	75-125			
Vanadium	0.103	0.0100	0.0014	mg/L	0.10000	ND	103	75-125			
Zinc	0.117	0.0100	0.0013	mg/L	0.10000	0.0142	103	75-125			
Lithium	0.105	0.0500	0.0011	mg/L	0.10000	0.0020	103	75-125			
Matrix Spike Dup (7050560-MSD1)		**Source: AAE0498-01**			Prepared: 05/17/17 Analyzed: 05/18/17						
Antimony	0.109	0.0030	0.0003	mg/L	0.10000	ND	109	75-125	0.8	20	
Arsenic	0.102	0.0050	0.0004	mg/L	0.10000	ND	102	75-125	2	20	
Barium	0.128	0.0100	0.0003	mg/L	0.10000	0.0181	109	75-125	1	20	
Beryllium	0.105	0.0030	0.00007	mg/L	0.10000	ND	105	75-125	2	20	
Boron	1.05	0.0400	0.0060	mg/L	1.0000	0.0073	104	75-125	7	20	
Cadmium	0.108	0.0010	0.00006	mg/L	0.10000	ND	108	75-125	2	20	
Calcium	7.66	25.0	0.522	mg/L	1.0000	6.50	116	75-125	3	20	J
Chromium	0.105	0.0100	0.0003	mg/L	0.10000	0.0006	104	75-125	1	20	
Cobalt	0.105	0.0100	0.0005	mg/L	0.10000	0.0024	102	75-125	1	20	
Copper	0.102	0.0250	0.0003	mg/L	0.10000	0.0007	102	75-125	0.3	20	
Lead	0.105	0.0050	0.00007	mg/L	0.10000	0.0001	105	75-125	1	20	
Molybdenum	0.107	0.0100	0.0006	mg/L	0.10000	ND	107	75-125	1	20	
Nickel	0.106	0.0100	0.0003	mg/L	0.10000	0.0021	104	75-125	0.5	20	
Selenium	0.104	0.0100	0.0014	mg/L	0.10000	ND	104	75-125	3	20	
Silver	0.106	0.0100	0.0003	mg/L	0.10000	ND	106	75-125	0.8	20	
Thallium	0.107	0.0010	0.00005	mg/L	0.10000	ND	107	75-125	0.6	20	
Vanadium	0.106	0.0100	0.0014	mg/L	0.10000	ND	106	75-125	3	20	
Zinc	0.119	0.0100	0.0013	mg/L	0.10000	0.0142	105	75-125	2	20	
Lithium	0.109	0.0500	0.0011	mg/L	0.10000	0.0020	107	75-125	4	20	

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

May 24, 2017

Report No.: AAE0503

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050560 - EPA 3005A											
Post Spike (7050560-PS1)			**Source: AAE0498-01**			Prepared: 05/17/17 Analyzed: 05/18/17					
Antimony	104			ug/L	100.00	0.198	104	80-120			
Arsenic	106			ug/L	100.00	-0.203	106	80-120			
Barium	129			ug/L	100.00	18.1	110	80-120			
Beryllium	106			ug/L	100.00	0.0341	106	80-120			
Boron	1000			ug/L	1000.0	7.26	100	80-120			
Cadmium	107			ug/L	100.00	0.0444	107	80-120			
Calcium	8060			ug/L	1000.0	6500	156	80-120			QM-02
Chromium	106			ug/L	100.00	0.597	106	80-120			
Cobalt	107			ug/L	100.00	2.40	104	80-120			
Copper	106			ug/L	100.00	0.726	105	80-120			
Lead	107			ug/L	100.00	0.108	107	80-120			
Molybdenum	108			ug/L	100.00	0.264	108	80-120			
Nickel	108			ug/L	100.00	2.06	106	80-120			
Selenium	106			ug/L	100.00	0.0945	106	80-120			
Silver	106			ug/L	100.00	0.0012	106	80-120			
Thallium	108			ug/L	100.00	0.0100	108	80-120			
Vanadium	107			ug/L	100.00	0.297	107	80-120			
Zinc	120			ug/L	100.00	14.2	106	80-120			
Lithium	110			ug/L	100.00	2.03	108	80-120			
Batch 7050690 - EPA 7470A											
Blank (7050690-BLK1)						Prepared & Analyzed: 05/22/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7050690-BS1)						Prepared & Analyzed: 05/22/17					
Mercury	0.00248	0.00050	0.000041	mg/L	2.5000E-3		99	80-120			

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

May 24, 2017

Report No.: AAE0503

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050690 - EPA 7470A											
Matrix Spike (7050690-MS1)		**Source: AAE0503-02**				Prepared & Analyzed: 05/22/17					
Mercury	0.00250	0.00050	0.000041	mg/L	2.5000E-3	ND	100	75-125			
Matrix Spike Dup (7050690-MSD1)		**Source: AAE0503-02**				Prepared & Analyzed: 05/22/17					
Mercury	0.00247	0.00050	0.000041	mg/L	2.5000E-3	ND	99	75-125	1	20	
Post Spike (7050690-PS1)		**Source: AAE0503-02**				Prepared & Analyzed: 05/22/17					
Mercury	1.74			ug/L	1.6667	-0.00105	105	80-120			

PACE ANALYTICAL SERVICES, LLC.

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

May 24, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to suspected matrix interference and/or non-homogeneous sample matrix.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: _____ OF _____

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd. SE 1310185 Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Soju Abraham CC: Maria Padilla

REQUESTED COMPLETION DATE: PO #: labwich@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App III & IV (EPA 6020) (34720) Ptt	Metals App III & IV (EPA 6020) (34720)	TDS, Cl, & SO4 (EPA 300.0 & SM2540C)	Radium-226 & 228 (SW 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
					CONTAINER TYPE:	P		P	P	P		
					PRESERVATION:	3		7	3			
5/15/17	1315	W		X	FB-1	4		1	1	2	1	
5/15/17	1320	GW			BRGWC-37S	6		1	1	4	2	2 radium at 1325 on 5/15/17
5/15/17	—	GW			DUP-1	4		1	1	2	3	
	DH	~~GW~~										

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Daniela Herrera Geologist DATE/TIME: 5/15/17 1720

RELINQUISHED BY: DATE/TIME: 5/15/17 1920

RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME:

RECEIVED BY/LAB: DATE/TIME: 05/15/17 1720

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Custody Seal: Intact Broken Not Present N/A

# of Coolers:

Cooler ID:

Temperature: 2.2 Min: 2.2 Max:

Received on Ice: Yes No NA

Samples Intact: Yes No NA

FOR LAB USE ONLY

LAB #: AAE0523

Entered into LIMS: MP

Tracking #:

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 5/16/2017 11:59:41AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 05/15/17 17:20

Work Order: AAE0503
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 3 **#Containers:** 14

Minimum Temp(C): 2.2 **Maximum Temp(C):** 2.2 **Custody Seal(s) Used:** N/A

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	N/A
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

June 07, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAE0503 Plant Branch
Pace Project No.: 30219103

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on May 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAE0503 Plant Branch
Pace Project No.: 30219103

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAE0503 Plant Branch
Pace Project No.: 30219103

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30219103001	**FB-1**	Water	05/15/17 13:15	05/17/17 10:00
30219103002	**BRGWC-37S**	Water	05/15/17 13:20	05/17/17 10:00
30219103003	**Dup-1**	Water	05/15/17 00:00	05/17/17 10:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAE0503 Plant Branch
Pace Project No.: 30219103

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30219103001	**FB-1**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30219103002	**BRGWC-37S**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30219103003	**Dup-1**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAE0503 Plant Branch
Pace Project No.: 30219103

Sample: FB-1 **Lab ID: 30219103001** Collected: 05/15/17 13:15 Received: 05/17/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0815 ± 0.0915 (0.180) C:93% T:NA**	pCi/L	05/24/17 11:25	13982-63-3	
Radium-228	EPA 9320	**0.553 ± 0.408 (0.797) C:93% T:69%**	pCi/L	06/02/17 16:29	15262-20-1	
Total Radium	Total Radium Calculation	**0.635 ± 0.500 (0.977)**	pCi/L	06/06/17 14:45	7440-14-4	

Sample: BRGWC-37S **Lab ID: 30219103002** Collected: 05/15/17 13:20 Received: 05/17/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.111 ± 0.102 (0.188) C:90% T:NA**	pCi/L	05/24/17 11:22	13982-63-3	
Radium-228	EPA 9320	**0.150 ± 0.315 (0.697) C:93% T:79%**	pCi/L	06/02/17 16:29	15262-20-1	
Total Radium	Total Radium Calculation	**0.261 ± 0.417 (0.885)**	pCi/L	06/06/17 14:45	7440-14-4	

Sample: Dup-1 **Lab ID: 30219103003** Collected: 05/15/17 00:00 Received: 05/17/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.107 ± 0.0977 (0.173) C:87% T:NA**	pCi/L	05/24/17 11:22	13982-63-3	
Radium-228	EPA 9320	**0.764 ± 0.340 (0.552) C:94% T:90%**	pCi/L	06/02/17 16:29	15262-20-1	
Total Radium	Total Radium Calculation	**0.871 ± 0.438 (0.725)**	pCi/L	06/06/17 14:45	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAE0503 Plant Branch
Pace Project No.: 30219103

QC Batch: 258733 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30219103001, 30219103002, 30219103003

METHOD BLANK: 1274461 Matrix: Water
Associated Lab Samples: 30219103001, 30219103002, 30219103003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.00989 ± 0.108 (0.288) C:89% T:NA	pCi/L	05/22/17 09:24	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAE0503 Plant Branch
Pace Project No.: 30219103

QC Batch: 259469 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30219103001, 30219103002, 30219103003

METHOD BLANK: 1278134 Matrix: Water
Associated Lab Samples: 30219103001, 30219103002, 30219103003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.550 ± 0.338 (0.616) C:94% T:73%	pCi/L	06/02/17 16:30	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAE0503 Plant Branch
Pace Project No.: 30219103

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.

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.

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.

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.

30219103

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAE0503 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 6/8/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	FB-1	G	5/15/2017 13:15	AAE0503-01	GW	2	X	001
2	BRGWC-37S	G	5/15/2017 13:20	AAE0503-02	GW	4	X	002
3	Dup-1	G	5/15/2017 0:00	AAE0503-03	GW	2	X	003
4								
5								
6								
7								
8								
9								
10								

WO#:30219103

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	5/16/17	Kiara Lee	5/17/17 1008	
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: ______ OF ______

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd. SE 1310185 Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Joju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: labirch@southernco.com

PROJECT NAME/STATE: Plant Branch AP

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	~~Metals App III & IV (EPA 6020/7470) pH~~	Metals App III & IV (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 & SM2540C)	Radium-226 & 228 (EPA 9315/9320)						LAB I.D. NUMBER
CONTAINER TYPE:								P	P	P						
PRESERVATION:								3	7	3						
5/15/17	1315	W		X	FB-1	4		1	1	2						1
5/15/17	1320	GW		↓	BRGWC-37S	6		1	1	4						2
5/15/17	—	GW		↓	DUP-1	4		1	1	2						3
		DIT ~~GW~~														

CONTAINER TYPE:
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION:
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

2 radiums at 1325 on 5/15/17

SAMPLED BY AND TITLE: Daniela Herrera Geologist | DATE/TIME: 5/15/17 1720 | RELINQUISHED BY: [signature] | DATE/TIME: 5/15/17 1720

RECEIVED BY: | DATE/TIME: | RELINQUISHED BY: | DATE/TIME:

RECEIVED BY LAB: M Rahman | DATE/TIME: 05/15/17 1720

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (CLIENT circled) OTHER FS

pH checked: (Yes circled) No NA | Ice: (Yes circled) No NA | Temperature: 2.2 Min: 2.2 Max:

Custody Seal: Intact Broken Not Present (N/A circled) | # of Coolers | Cooler ID:

FOR LAB USE ONLY
LAB #: AAE0503
Entered into LIMS: MR
Tracking #:

Rev. 12/15/2016

KEH

Sample Condition Upon Receipt Pittsburgh

Face Analytical

30219103

Client Name: Pace Georgia Project #

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 0512 5104 4072

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used NA Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp NA °C Correction Factor: NA °C Final Temp: NA °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KH 5/17/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15. pH < 2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed KH; Date/time of preservation; Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓	-	Initial when completed: KH Date: 5/17/17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	5/27/2017
Worklist:	35805
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1278134
MB concentration:	0.550
M/B Counting Uncertainty:	0.323
MB MDC:	0.616
MB Numerical Performance Indicator:	3.34
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS35805	LCSD35805
Count Date:	6/2/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.388	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.829	
Target Conc. (pCi/L, g, F):	5.885	
Uncertainty (Calculated):	0.424	
Result (pCi/L, g, F):	6.176	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.678	
Numerical Performance Indicator:	0.71	
Percent Recovery:	104.93%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Duplicate Sample Assessment

		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30218862001	
Duplicate Sample I.D.	30218862001DUP	
Sample Result (pCi/L, g, F):	0.669	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.335	
Sample Duplicate Result (pCi/L, g, F):	0.732	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.329	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.265	30218862001
Duplicate RPD:	9.05%	30218862001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

Comments:

6/7/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	5/22/2017
Worklist:	35680
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1274461
MB concentration:	0.010
M/B Counting Uncertainty:	0.108
MB MDC:	0.288
MB Numerical Performance Indicator:	0.18
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS35680	LCSD35680
Count Date:	5/24/2017	
Spike I.D.:	13-033	
Spike Concentration (pCi/mL):	19.848	
Volume Used (mL):	0.40	
Aliquot Volume (L, g, F):	0.502	
Target Conc. (pCi/L, g, F):	15.827	
Uncertainty (Calculated):	0.745	
Result (pCi/L, g, F):	14.483	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.895	
Numerical Performance Indicator:	-2.26	
Percent Recovery:	91.51%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30218862001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30218862001DUP	
Sample Result (pCi/L, g, F):	0.223	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.195	
Sample Duplicate Result (pCi/L, g, F):	0.160	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.143	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.510	30218862001
Duplicate RPD:	32.90%	30218862001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

2nd 6/7/17

June 2017

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAF0543
June 22, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWA-2S	AAF0543-01	Ground Water	06/13/17 09:33	06/14/17 14:05
BRGWA-12S	AAF0543-02	Ground Water	06/13/17 10:07	06/14/17 14:05
BRGWA-23S	AAF0543-03	Ground Water	06/13/17 11:09	06/14/17 14:05
BRGWC-25I	AAF0543-04	Ground Water	06/13/17 13:42	06/14/17 14:05
PZ-42S	AAF0543-05	Ground Water	06/13/17 13:50	06/14/17 14:05
FB-1	AAF0543-06	Water	06/13/17 14:00	06/14/17 14:05
BRGWC-24S	AAF0543-07	Ground Water	06/13/17 15:01	06/14/17 14:05
BRGWC-27I	AAF0543-08	Ground Water	06/13/17 15:19	06/14/17 14:05
Dup-1	AAF0543-09	Ground Water	06/13/17 00:00	06/14/17 14:05
RB-1	AAF0543-10	Water	06/14/17 09:15	06/14/17 14:05

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

June 22, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

PACE ANALYTICAL SERVICES, LLC.

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: BRGWA-2S
Date/Time Sampled: 6/13/2017 9:33:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0543-01
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	53	25	10	mg/L	SM 2540 C		1	06/19/17 12:55	06/19/17 12:55	7060547	JPT
Inorganic Anions											
Chloride	1.7	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/16/17 13:46	7060443	RLC
Fluoride	0.04	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/16/17 13:46	7060443	RLC
Sulfate	0.67	1.0	0.09	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/16/17 13:46	7060443	RLC
Metals, Total											
Antimony	0.0011	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Barium	0.0094	0.0100	0.0004	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Calcium	3.84	0.500	0.0404	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Chromium	0.0038	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Cobalt	0.0025	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:33	7060458	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/19/17 13:30	06/19/17 17:30	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: BRGWA-12S
Date/Time Sampled: 6/13/2017 10:07:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0543-02
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	84	25	10	mg/L	SM 2540 C		1	06/19/17 12:55	06/19/17 12:55	7060547	JPT
Inorganic Anions											
Chloride	3.3	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 18:30	7060443	RLC
Fluoride	0.008	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 18:30	7060443	RLC
Sulfate	1.1	1.0	0.09	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 18:30	7060443	RLC
Metals, Total											
Antimony	0.0009	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Barium	0.0543	0.0100	0.0004	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Calcium	4.98	0.500	0.0404	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Chromium	0.0019	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 17:58	7060458	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/19/17 13:30	06/19/17 17:33	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: BRGWA-23S
Date/Time Sampled: 6/13/2017 11:09:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0543-03
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	130	25	10	mg/L	SM 2540 C		1	06/19/17 12:55	06/19/17 12:55	7060547	JPT
Inorganic Anions											
Chloride	3.2	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 18:52	7060443	RLC
Fluoride	0.07	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 18:52	7060443	RLC
Sulfate	35	1.0	0.09	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 18:52	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Arsenic	0.0008	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Barium	0.0861	0.0100	0.0004	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Calcium	10.2	5.00	2.02	mg/L	EPA 6020B		50	06/15/17 11:35	06/16/17 18:16	7060458	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Cobalt	0.0036	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Lithium	0.0061	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:10	7060458	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/19/17 13:30	06/19/17 17:35	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: BRGWC-25I
Date/Time Sampled: 6/13/2017 1:42:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0543-04
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	474	25	10	mg/L	SM 2540 C		1	06/19/17 12:55	06/19/17 12:55	7060547	JPT
Inorganic Anions											
Chloride	7.5	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 19:13	7060443	RLC
Fluoride	0.19	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 19:13	7060443	RLC
Sulfate	290	10	0.92	mg/L	EPA 300.0		10	06/14/17 18:44	06/16/17 14:07	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Arsenic	0.0006	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Barium	0.0351	0.0100	0.0004	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Boron	1.77	0.0400	0.0060	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Calcium	62.0	25.0	2.02	mg/L	EPA 6020B		50	06/15/17 11:35	06/16/17 18:27	7060458	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Cobalt	0.0083	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:21	7060458	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/19/17 13:30	06/19/17 17:38	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: PZ-42S
Date/Time Sampled: 6/13/2017 1:50:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0543-05
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	145	25	10	mg/L	SM 2540 C		1	06/19/17 12:55	06/19/17 12:55	7060547	JPT
Inorganic Anions											
Chloride	5.7	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 19:34	7060443	RLC
Fluoride	0.19	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 19:34	7060443	RLC
Sulfate	13	1.0	0.09	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 19:34	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Arsenic	0.0009	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Barium	0.0133	0.0100	0.0004	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Boron	0.0201	0.0400	0.0060	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Calcium	14.7	5.00	2.02	mg/L	EPA 6020B		50	06/15/17 11:35	06/16/17 18:38	7060458	KLH
Chromium	0.0010	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Molybdenum	0.0046	0.0100	0.0010	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:33	7060458	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/19/17 13:30	06/19/17 17:45	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: FB-1
Date/Time Sampled: 6/13/2017 2:00:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAF0543-06
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	06/19/17 12:55	06/19/17 12:55	7060547	JPT
Inorganic Anions											
Chloride	0.08	0.25	0.01	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 19:56	7060443	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 19:56	7060443	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 19:56	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Lead	0.0007	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 18:44	7060458	KLH
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/19/17 13:30	06/19/17 17:47	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: BRGWC-24S
Date/Time Sampled: 6/13/2017 3:01:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0543-07
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	220	25	10	mg/L	SM 2540 C		1	06/19/17 12:55	06/19/17 12:55	7060547	JPT
Inorganic Anions											
Chloride	14	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 20:17	7060443	RLC
Fluoride	0.09	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 20:17	7060443	RLC
Sulfate	18	1.0	0.09	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 20:17	7060443	RLC
Metals, Total											
Antimony	0.0008	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Arsenic	0.0012	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Barium	0.0509	0.0100	0.0004	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Boron	0.0105	0.0400	0.0060	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Calcium	19.1	5.00	2.02	mg/L	EPA 6020B		50	06/15/17 11:35	06/16/17 19:13	7060458	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Cobalt	0.0021	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Lithium	0.0038	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:07	7060458	KLH
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/19/17 13:30	06/19/17 17:49	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: BRGWC-27I
Date/Time Sampled: 6/13/2017 3:19:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0543-08
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	354	25	10	mg/L	SM 2540 C		1	06/19/17 12:55	06/19/17 12:55	7060547	JPT
Inorganic Anions											
Chloride	4.7	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 22:03	7060443	RLC
Fluoride	0.19	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 22:03	7060443	RLC
Sulfate	230	10	0.92	mg/L	EPA 300.0		10	06/14/17 18:44	06/16/17 14:27	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Arsenic	0.0009	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Barium	0.0143	0.0100	0.0004	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Beryllium	0.0002	0.0030	0.00009	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Boron	1.62	0.0400	0.0060	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Calcium	61.0	25.0	2.02	mg/L	EPA 6020B		50	06/15/17 11:35	06/16/17 19:25	7060458	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Cobalt	0.0094	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Selenium	0.0036	0.0100	0.0018	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Lithium	0.0017	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:19	7060458	KLH
Mercury	0.00005	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/19/17 13:30	06/19/17 17:52	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: Dup-1
Date/Time Sampled: 6/13/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0543-09
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	266	25	10	mg/L	SM 2540 C		1	06/19/17 12:55	06/19/17 12:55	7060547	JPT
Inorganic Anions											
Chloride	15	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 22:24	7060443	RLC
Fluoride	0.12	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 22:24	7060443	RLC
Sulfate	18	1.0	0.09	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 22:24	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Arsenic	0.0012	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Barium	0.0516	0.0100	0.0004	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Boron	0.0103	0.0400	0.0060	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Calcium	19.2	25.0	2.02	mg/L	EPA 6020B	J	50	06/15/17 11:35	06/16/17 19:36	7060458	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Cobalt	0.0020	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Lithium	0.0036	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:30	7060458	KLH
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/19/17 13:30	06/19/17 17:54	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543
Client ID: RB-1
Date/Time Sampled: 6/14/2017 9:15:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAF0543-10
Date/Time Received: 6/14/2017 2:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	0.09	0.25	0.01	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 22:45	7060443	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 22:45	7060443	RLC
Sulfate	0.09	1.0	0.09	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 22:45	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Lead	0.0007	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/15/17 11:35	06/16/17 19:42	7060458	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/19/17 13:30	06/19/17 17:57	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060547 - SM 2540 C											
Blank (7060547-BLK1)						Prepared & Analyzed: 06/19/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7060547-BS1)						Prepared & Analyzed: 06/19/17					
Total Dissolved Solids	412	25	10	mg/L	400.00		103	84-108			
Duplicate (7060547-DUP1)		**Source: AAF0543-04**				Prepared & Analyzed: 06/19/17					
Total Dissolved Solids	500	25	10	mg/L		474			5	10	
Batch 7060584 - SM 2540 C											
Blank (7060584-BLK1)						Prepared & Analyzed: 06/20/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7060584-BS1)						Prepared & Analyzed: 06/20/17					
Total Dissolved Solids	394	25	10	mg/L	400.00		98	84-108			
Duplicate (7060584-DUP1)		**Source: AAF0595-07**				Prepared & Analyzed: 06/20/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7060584-DUP2)		**Source: AAF0652-12**				Prepared & Analyzed: 06/20/17					
Total Dissolved Solids	105	25	10	mg/L		97			8	10	

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June 22, 2017

Report No.: AAF0543

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060443 - EPA 300.0											
Blank (7060443-BLK1)						Prepared: 06/14/17 Analyzed: 06/15/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7060443-BS1)						Prepared: 06/14/17 Analyzed: 06/15/17					
Chloride	9.95	0.25	0.01	mg/L	10.020		99	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020		102	90-110			
Sulfate	10.0	1.0	0.09	mg/L	10.050		100	90-110			
Matrix Spike (7060443-MS1)			**Source: AAF0435-06**			Prepared: 06/14/17 Analyzed: 06/15/17					
Chloride	11.2	0.25	0.01	mg/L	10.020	1.38	98	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020	ND	102	90-110			
Sulfate	10.6	1.0	0.09	mg/L	10.050	0.68	98	90-110			
Matrix Spike (7060443-MS2)			**Source: AAF0486-04**			Prepared: 06/14/17 Analyzed: 06/16/17					
Chloride	11.9	0.25	0.01	mg/L	10.020	2.11	98	90-110			
Fluoride	10.5	0.30	0.004	mg/L	10.020	0.16	103	90-110			
Sulfate	14.8	1.0	0.09	mg/L	10.050	5.04	97	90-110			
Matrix Spike Dup (7060443-MSD1)			**Source: AAF0435-06**			Prepared: 06/14/17 Analyzed: 06/15/17					
Chloride	11.2	0.25	0.01	mg/L	10.020	1.38	98	90-110	0.1	15	
Fluoride	10.2	0.30	0.004	mg/L	10.020	ND	102	90-110	0.4	15	
Sulfate	10.5	1.0	0.09	mg/L	10.050	0.68	98	90-110	0.7	15	

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June 22, 2017

Report No.: AAF0543

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060458 - EPA 3005A											
Blank (7060458-BLK1)						Prepared: 06/15/17 Analyzed: 06/16/17					
Antimony	0.0008	0.0030	0.0006	mg/L							J
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	0.0014	0.0100	0.0012	mg/L							J
Lithium	ND	0.0500	0.0015	mg/L							
LCS (7060458-BS1)						Prepared: 06/15/17 Analyzed: 06/16/17					
Antimony	0.106	0.0030	0.0006	mg/L	0.10000		106	80-120			
Arsenic	0.0994	0.0050	0.0005	mg/L	0.10000		99	80-120			
Barium	0.0976	0.0100	0.0004	mg/L	0.10000		98	80-120			
Beryllium	0.111	0.0030	0.00009	mg/L	0.10000		111	80-120			
Boron	1.11	0.0400	0.0060	mg/L	1.0000		111	80-120			
Cadmium	0.105	0.0010	0.0001	mg/L	0.10000		105	80-120			
Calcium	0.996	0.500	0.0404	mg/L	1.0000		100	80-120			
Chromium	0.105	0.0100	0.0005	mg/L	0.10000		105	80-120			
Cobalt	0.107	0.0100	0.0003	mg/L	0.10000		107	80-120			
Copper	0.107	0.0250	0.0003	mg/L	0.10000		107	80-120			
Lead	0.102	0.0050	0.00007	mg/L	0.10000		102	80-120			
Molybdenum	0.104	0.0100	0.0010	mg/L	0.10000		104	80-120			
Nickel	0.106	0.0100	0.0005	mg/L	0.10000		106	80-120			
Selenium	0.0983	0.0100	0.0018	mg/L	0.10000		98	80-120			
Silver	0.102	0.0100	0.0002	mg/L	0.10000		102	80-120			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000		103	80-120			
Vanadium	0.105	0.0100	0.0012	mg/L	0.10000		105	80-120			
Zinc	0.111	0.0100	0.0012	mg/L	0.10000		111	80-120			
Lithium	0.109	0.0500	0.0015	mg/L	0.10000		109	80-120			

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June 22, 2017

Report No.: AAF0543

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060458 - EPA 3005A											
Matrix Spike (7060458-MS1)		**Source: AAF0543-01**			Prepared: 06/15/17 Analyzed: 06/16/17						
Antimony	0.108	0.0030	0.0006	mg/L	0.10000	0.0011	107	75-125			
Arsenic	0.100	0.0050	0.0005	mg/L	0.10000	ND	100	75-125			
Barium	0.109	0.0100	0.0004	mg/L	0.10000	0.0094	99	75-125			
Beryllium	0.109	0.0030	0.00009	mg/L	0.10000	ND	109	75-125			
Boron	1.08	0.0400	0.0060	mg/L	1.0000	ND	108	75-125			
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125			
Calcium	4.84	0.500	0.0404	mg/L	1.0000	3.84	100	75-125			
Chromium	0.112	0.0100	0.0005	mg/L	0.10000	0.0038	108	75-125			
Cobalt	0.105	0.0100	0.0003	mg/L	0.10000	0.0025	102	75-125			
Copper	0.105	0.0250	0.0003	mg/L	0.10000	ND	105	75-125			
Lead	0.102	0.0050	0.00007	mg/L	0.10000	ND	102	75-125			
Molybdenum	0.105	0.0100	0.0010	mg/L	0.10000	ND	105	75-125			
Nickel	0.109	0.0100	0.0005	mg/L	0.10000	0.0045	105	75-125			
Selenium	0.101	0.0100	0.0018	mg/L	0.10000	ND	101	75-125			
Silver	0.101	0.0100	0.0002	mg/L	0.10000	ND	101	75-125			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000	ND	103	75-125			
Vanadium	0.105	0.0100	0.0012	mg/L	0.10000	ND	105	75-125			
Zinc	0.113	0.0100	0.0012	mg/L	0.10000	0.0035	110	75-125			
Lithium	0.109	0.0500	0.0015	mg/L	0.10000	ND	109	75-125			
Matrix Spike Dup (7060458-MSD1)		**Source: AAF0543-01**			Prepared: 06/15/17 Analyzed: 06/16/17						
Antimony	0.107	0.0030	0.0006	mg/L	0.10000	0.0011	106	75-125	1	20	
Arsenic	0.0990	0.0050	0.0005	mg/L	0.10000	ND	99	75-125	1	20	
Barium	0.106	0.0100	0.0004	mg/L	0.10000	0.0094	96	75-125	3	20	
Beryllium	0.104	0.0030	0.00009	mg/L	0.10000	ND	104	75-125	4	20	
Boron	1.06	0.0400	0.0060	mg/L	1.0000	ND	106	75-125	2	20	
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125	0.3	20	
Calcium	4.83	0.500	0.0404	mg/L	1.0000	3.84	99	75-125	0.3	20	
Chromium	0.109	0.0100	0.0005	mg/L	0.10000	0.0038	106	75-125	2	20	
Cobalt	0.107	0.0100	0.0003	mg/L	0.10000	0.0025	105	75-125	2	20	
Copper	0.103	0.0250	0.0003	mg/L	0.10000	ND	103	75-125	2	20	
Lead	0.101	0.0050	0.00007	mg/L	0.10000	ND	101	75-125	0.8	20	
Molybdenum	0.102	0.0100	0.0010	mg/L	0.10000	ND	102	75-125	3	20	
Nickel	0.111	0.0100	0.0005	mg/L	0.10000	0.0045	106	75-125	1	20	
Selenium	0.104	0.0100	0.0018	mg/L	0.10000	ND	104	75-125	2	20	
Silver	0.0992	0.0100	0.0002	mg/L	0.10000	ND	99	75-125	2	20	
Thallium	0.102	0.0010	0.00005	mg/L	0.10000	ND	102	75-125	1	20	
Vanadium	0.106	0.0100	0.0012	mg/L	0.10000	ND	106	75-125	1	20	
Zinc	0.109	0.0100	0.0012	mg/L	0.10000	0.0035	106	75-125	3	20	
Lithium	0.105	0.0500	0.0015	mg/L	0.10000	ND	105	75-125	4	20	

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0543

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060458 - EPA 3005A											
Post Spike (7060458-PS1)			**Source: AAF0543-01**			Prepared: 06/15/17 Analyzed: 06/16/17					
Antimony	97.3			ug/L	100.00	1.13	96	80-120			
Arsenic	101			ug/L	100.00	-0.0040	101	80-120			
Barium	106			ug/L	100.00	9.42	96	80-120			
Beryllium	104			ug/L	100.00	0.0052	104	80-120			
Boron	1030			ug/L	1000.0	2.31	103	80-120			
Cadmium	104			ug/L	100.00	-0.0264	104	80-120			
Calcium	4960			ug/L	1000.0	3840	113	80-120			
Chromium	113			ug/L	100.00	3.81	109	80-120			
Cobalt	107			ug/L	100.00	2.55	104	80-120			
Copper	101			ug/L	100.00	0.120	101	80-120			
Lead	100			ug/L	100.00	0.0232	100	80-120			
Molybdenum	99.7			ug/L	100.00	0.0532	100	80-120			
Nickel	109			ug/L	100.00	4.51	104	80-120			
Selenium	101			ug/L	100.00	-0.138	101	80-120			
Silver	99.1			ug/L	100.00	-0.0007	99	80-120			
Thallium	100			ug/L	100.00	0.0265	100	80-120			
Vanadium	108			ug/L	100.00	0.316	108	80-120			
Zinc	113			ug/L	100.00	3.48	110	80-120			
Lithium	104			ug/L	100.00	0.744	103	80-120			
Batch 7060550 - EPA 7470A											
Blank (7060550-BLK1)						Prepared & Analyzed: 06/19/17					
Mercury	0.00004	0.00050	0.000041	mg/L							B-01, J
LCS (7060550-BS1)						Prepared & Analyzed: 06/19/17					
Mercury	0.00246	0.00050	0.000041	mg/L	2.5000E-3		98	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060550 - EPA 7470A											
Matrix Spike (7060550-MS1)		**Source: AAF0435-01**				Prepared & Analyzed: 06/19/17					
Mercury	0.00246	0.00050	0.000041	mg/L	2.5000E-3	0.00005	97	75-125			
Matrix Spike Dup (7060550-MSD1)		**Source: AAF0435-01**				Prepared & Analyzed: 06/19/17					
Mercury	0.00244	0.00050	0.000041	mg/L	2.5000E-3	0.00005	96	75-125	1	20	
Post Spike (7060550-PS1)		**Source: AAF0435-01**				Prepared & Analyzed: 06/19/17					
Mercury	1.77			ug/L	1.6667	0.0301	104	80-120			

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Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE 30185
Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE: —
PO #: laburcheSouthernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		metals APP 3&4 (EPA 6020/7470)	TDS, Cl, F, SO_4 (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)						LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
6-13-17	0933	GW		X	BRGWA-25	4		1	1	2						1	
6-13-17	1007	GW		X	BRGWA-12S	4		1	1	2						2	
6-13-17	1109	GW		X	BRGWA-23S	4		1	1	2						3	
~~6-13-17~~	~~1118~~	~~GW~~		~~X~~	~~BRGWA-23I~~ (TM, 6-13-17) BRGWA-12I	4		1	1	2	(TM 6-14-17)						
6-13-17	1342	GW		X	BRGWL-25I	4		1	1	2						4	
6-13-17	1350	GW		X	P2-42S	4		1	1	2						5	
6-13-17	1400	W		X	FB-1	4		1	1	2						6	
6-13-17	1501	GW		X	BRGWL-24S	4		1	1	2						7	
6-13-17	1519	GW		X	BRGWL-27I	6		1	1	4						8	extra Radium (x2)
6-13-17	—	GW		X	DUP-1	4		1	1	2						9	
6-14-17	0915	W		X	RB-1	4		1	1	2						10	

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

SAMPLED BY AND TITLE: Travis Martinez, Scientist
DATE/TIME: 6-13-17 1700
RELINQUISHED BY:
DATE/TIME: 6-14-17 1115

RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB: Rachman
DATE/TIME: 06/14/17 1405

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Custody Seal: Intact Broken Not Present N/A
# of Coolers:
Cooler ID:

Temperature: 2 Min: 2 Max:

Received on Ice: Yes No NA
Custody Seals Intact: Yes No NA

FOR LAB USE ONLY
LAB #: AAF0543
Entered into LIMS: mp
Tracking #:

Rev. 12/15/2016

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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LOG-IN CHECKLIST **Printed: 6/15/2017 9:13:43AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 06/14/17 14:05

Work Order: AAF0543
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 10 **#Containers:** 42

Minimum Temp(C): 2.1 **Maximum Temp(C):** 2.1 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 07, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAF0543 Plant Branch
Pace Project No.: 30221632

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on June 15, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30221632001	**BRGWA-2S**	Water	06/13/17 09:33	06/15/17 11:20
30221632002	**BRGWA-12S**	Water	06/13/17 10:07	06/15/17 11:20
30221632003	**BRGWA-23S**	Water	06/13/17 11:09	06/15/17 11:20
30221632004	**BRGWC-25I**	Water	06/13/17 13:42	06/15/17 11:20
30221632005	**PZ-42S**	Water	06/13/17 13:50	06/15/17 11:20
30221632006	**FB-1**	Water	06/13/17 14:00	06/15/17 11:20
30221632007	**BRGWC-24S**	Water	06/13/17 15:01	06/15/17 11:20
30221632008	**BRGWC-27I**	Water	06/13/17 15:19	06/15/17 11:20
30221632009	**Dup-1**	Water	06/13/17 00:00	06/15/17 11:20
30221632010	**RB-1**	Water	06/14/17 09:15	06/15/17 11:20

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30221632001	**BRGWA-2S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221632002	**BRGWA-12S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221632003	**BRGWA-23S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221632004	**BRGWC-25I**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221632005	**PZ-42S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221632006	**FB-1**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221632007	**BRGWC-24S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221632008	**BRGWC-27I**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221632009	**Dup-1**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221632010	**RB-1**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

Sample: BRGWA-2S **Lab ID: 30221632001** Collected: 06/13/17 09:33 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.155 ± 0.209 (0.441) C:76% T:NA**	pCi/L	07/07/17 08:34	13982-63-3	
Radium-228	EPA 9320	**0.490 ± 0.351 (0.670) C:73% T:83%**	pCi/L	06/27/17 14:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.645 ± 0.560 (1.11)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: BRGWA-12S **Lab ID: 30221632002** Collected: 06/13/17 10:07 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.226 ± 0.180 (0.737) C:48% T:NA**	pCi/L	07/07/17 08:34	13982-63-3	
Radium-228	EPA 9320	**0.163 ± 0.334 (0.738) C:73% T:86%**	pCi/L	06/27/17 14:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.163 ± 0.514 (1.48)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: BRGWA-23S **Lab ID: 30221632003** Collected: 06/13/17 11:09 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0452 ± 0.182 (0.530) C:77% T:NA**	pCi/L	07/07/17 08:35	13982-63-3	
Radium-228	EPA 9320	**0.618 ± 0.352 (0.634) C:73% T:92%**	pCi/L	06/27/17 14:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.618 ± 0.534 (1.16)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: BRGWC-25I **Lab ID: 30221632004** Collected: 06/13/17 13:42 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.215 ± 0.227 (0.434) C:69% T:NA**	pCi/L	07/07/17 08:35	13982-63-3	
Radium-228	EPA 9320	**0.523 ± 0.316 (0.569) C:73% T:90%**	pCi/L	06/27/17 14:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.738 ± 0.543 (1.00)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: PZ-42S **Lab ID: 30221632005** Collected: 06/13/17 13:50 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0466 ± 0.213 (0.532) C:87% T:NA**	pCi/L	07/07/17 08:35	13982-63-3	
Radium-228	EPA 9320	**0.397 ± 0.321 (0.631) C:75% T:85%**	pCi/L	06/27/17 14:52	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

Sample: PZ-42S **Lab ID: 30221632005** Collected: 06/13/17 13:50 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.444 ± 0.534 (1.16)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: FB-1 **Lab ID: 30221632006** Collected: 06/13/17 14:00 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0551 ± 0.146 (0.466) C:75% T:NA**	pCi/L	07/07/17 08:35	13982-63-3	
Radium-228	EPA 9320	**0.154 ± 0.302 (0.665) C:73% T:88%**	pCi/L	06/27/17 14:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.154 ± 0.448 (1.13)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: BRGWC-24S **Lab ID: 30221632007** Collected: 06/13/17 15:01 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.176 ± 0.203 (0.408) C:87% T:NA**	pCi/L	07/07/17 08:35	13982-63-3	
Radium-228	EPA 9320	**0.112 ± 0.282 (0.630) C:80% T:87%**	pCi/L	06/27/17 11:04	15262-20-1	
Total Radium	Total Radium Calculation	**0.288 ± 0.485 (1.04)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: BRGWC-27I **Lab ID: 30221632008** Collected: 06/13/17 15:19 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0742 ± 0.143 (0.329) C:95% T:NA**	pCi/L	07/07/17 08:35	13982-63-3	
Radium-228	EPA 9320	**0.447 ± 0.306 (0.582) C:80% T:89%**	pCi/L	06/27/17 11:02	15262-20-1	
Total Radium	Total Radium Calculation	**0.521 ± 0.449 (0.911)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: Dup-1 **Lab ID: 30221632009** Collected: 06/13/17 00:00 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0644 ± 0.191 (0.467) C:89% T:NA**	pCi/L	07/07/17 08:35	13982-63-3	
Radium-228	EPA 9320	**0.104 ± 0.263 (0.591) C:77% T:80%**	pCi/L	06/27/17 11:02	15262-20-1	
Total Radium	Total Radium Calculation	**0.168 ± 0.454 (1.06)**	pCi/L	07/07/17 11:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

Sample: RB-1 **Lab ID: 30221632010** Collected: 06/14/17 09:15 Received: 06/15/17 11:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.126 ± 0.161 (0.338) C:88% T:NA**	pCi/L	06/29/17 08:18	13982-63-3	
Radium-228	EPA 9320	**1.28 ± 0.447 (0.613) C:77% T:84%**	pCi/L	06/30/17 16:03	15262-20-1	
Total Radium	Total Radium Calculation	**1.41 ± 0.608 (0.951)**	pCi/L	07/07/17 09:37	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

QC Batch: 262650 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30221632001, 30221632002, 30221632003, 30221632004, 30221632005, 30221632006, 30221632007, 30221632008, 30221632009

METHOD BLANK: 1293445 Matrix: Water
Associated Lab Samples: 30221632001, 30221632002, 30221632003, 30221632004, 30221632005, 30221632006, 30221632007, 30221632008, 30221632009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0676 ± 0.127 (0.289) C:88% T:NA	pCi/L	07/07/17 08:26	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

QC Batch: 262720 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30221632010

METHOD BLANK: 1293766 Matrix: Water
Associated Lab Samples: 30221632010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0275 ± 0.105 (0.325) C:84% T:NA	pCi/L	06/29/17 08:18	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

QC Batch: 262718 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30221632010

METHOD BLANK: 1293764 Matrix: Water
Associated Lab Samples: 30221632010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.132 ± 0.385 (0.862) C:75% T:74%	pCi/L	06/30/17 16:03	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

QC Batch: 262273 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30221632001, 30221632002, 30221632003, 30221632004, 30221632005, 30221632006, 30221632007, 30221632008, 30221632009

METHOD BLANK: 1291833 Matrix: Water
Associated Lab Samples: 30221632001, 30221632002, 30221632003, 30221632004, 30221632005, 30221632006, 30221632007, 30221632008, 30221632009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.584 ± 0.353 (0.653) C:79% T:89%	pCi/L	06/27/17 11:02	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAF0543 Plant Branch
Pace Project No.: 30221632

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.

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.

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.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAF0543 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 7/10/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO#:30221632

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	BRGWA-2S	G	6/13/2017 9:33	AAF0543-01	GW	2	X	001
2	BRGWA-12S	G	6/13/2017 10:07	AAF0543-02	GW	2	X	002
3	BRGWA-23S	G	6/13/2017 11:09	AAF0543-03	GW	2	X	003
4	BRGWC-25I	G	6/13/2017 13:42	AAF0543-04	GW	2	X	004
5	PZ-42S	G	6/13/2017 13:50	AAF0543-05	GW	2	X	005
6	FB-1	G	6/13/2017 14:00	AAF0543-06	W	2	X	006
7	BRGWC-24S	G	6/13/2017 15:01	AAF0543-07	GW	2	X	007
8	BRGWC-27I	G	6/13/2017 15:19	AAF0543-08	GW	4	X	008
9	Dup-1	G	6/13/2017 0:00	AAF0543-09	GW	2	X	009
10	RB-1	G	6/14/2017 9:15	AAF0543-10	W	2	X	010

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	6/14/17	Ashleyhaul/Pace	6-15-17/1120	
2					
3					

Cooler Temperature on Receipt NIA °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30221632

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE 310185
Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Jaju Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE: —
PO #: laburche@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals (EPA 6020/7470)	TDS (LL) SO_4 (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
						PRESERVATION:	P 3	P 7	P 3							
6-13-17	0933	GW		X	BRGWA-2S	4	1	1	2							1
6-13-17	1007	GW		X	BRGWA-12S	4	1	1	2							2
6-13-17	1109	GW		X	BRGWA-23S	4	1	1	2							3
~~6-13-17~~	~~1118~~	~~GW~~		~~X~~	~~BRGWA-23I~~ (TM 6-13-17)	4	1	1	2	(TM 6-14-17)						
6-13-17	1342	GW		X	BRGWL-25I	4	1	1	2							4
6-13-17	1350	GW		X	PZ-42S	4	1	1	2							5
6-13-17	1400	W		X	FB-1	4	1	1	2							6
6-13-17	1501	GW		X	BRGWL-24S	4	1	1	2							7
6-13-17	1519	GW		X	BRGWL-27I	6	1	1	4							8
6-13-17	—	GW		X	DUP-1	4	1	1	2							9
6-14-17	0915	W		X	RB-1	4	1	1	2							10

ANALYSIS REQUESTED

CONTAINER TYPE	CONTAINER TYPE	PRESERVATION
P - PLASTIC	P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
		7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

8 extra Radium (x2)

SAMPLED BY AND TITLE: Travis Martinez, Scientist
DATE/TIME: 6-13-17 /1700

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY: [signature]
DATE/TIME: 6-14-17 /1115

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB: [signature]
DATE/TIME: 06/14/17 1405

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Custody Seal: Intact Broken Not Present N/A
of Coolers:
Cooler ID:

pH checked: Yes No NA
Temperature: 2.1 / Min: 2.1 / Max:

FOR LAB USE ONLY
LAB #: AAF0543
Entered into LIMS: mp
Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt Pittsburgh

Face Analytical

30221632

Client Name: Pace, GA Project #

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 6812 5105 0148

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DMR 6-15-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used: -Pace Containers Used:	X X			10.
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.	X X			15. pH<2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: DMR Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: DMR Date: 6-15-17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	JC2
Date:	6/27/2017
Worklist:	36334
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1293766
MB concentration:	-0.028
M/B Counting Uncertainty:	0.105
MB MDC:	0.325
MB Numerical Performance Indicator:	-0.51
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36334	LCSD36334
Count Date:	6/29/2017	
Spike I.D.:	17-030	
Spike Concentration (pCi/mL):	80.200	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.508	
Target Conc. (pCi/L, g, F):	15.789	
Uncertainty (Calculated):	1.454	
Result (pCi/L, g, F):	12.340	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.015	
Numerical Performance Indicator:	-3.81	
Percent Recovery:	78.16%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Duplicate Sample Assessment		
Sample I.D.:	30222149005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30222149005DUP	
Sample Result (pCi/L, g, F):	0.243	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.156	
Sample Duplicate Result (pCi/L, g, F):	0.296	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.178	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.439	30222149005
Duplicate RPD:	19.60%	30222149005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Comments:

6/27/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	6/26/2017
Worklist:	36332
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1293764
MB concentration:	0.132
M/B Counting Uncertainty:	0.384
MB MDC:	0.862
MB Numerical Performance Indicator:	0.67
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36332	LCSD36332
Count Date:	6/30/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.164	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.800	
Target Conc. (pCi/L, g, F):	6.043	
Uncertainty (Calculated):	0.435	
Result (pCi/L, g, F):	5.700	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.668	
Numerical Performance Indicator:	-0.84	
Percent Recovery:	94.32%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30222149005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30222149005DUP	
Sample Result (pCi/L, g, F):	0.527	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.363	
Sample Duplicate Result (pCi/L, g, F):	0.843	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.406	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.137	30222149005
Duplicate RPD:	46.14%	30222149005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

7/7/17

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	7/6/2017
Worklist:	36322
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1293445
MB concentration:	0.068
M/B Counting Uncertainty:	0.127
MB MDC:	0.289
MB Numerical Performance Indicator:	1.05
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36322	LCSD36322
Count Date:	7/7/2017	
Spike I.D.:	17-030	
Spike Concentration (pCi/mL):	80.199	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.503	
Target Conc. (pCi/L, g, F):	15.944	
Uncertainty (Calculated):	1.469	
Result (pCi/L, g, F):	13.290	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.240	
Numerical Performance Indicator:	-2.71	
Percent Recovery:	83.35%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30221512003	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30221512003DUP	
Sample Result (pCi/L, g, F):	0.252	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.225	
Sample Duplicate Result (pCi/L, g, F):	0.223	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.207	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.184	30221512003
Duplicate RPD:	12.09%	30221512003DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

7/7/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	6/21/2017
Worklist:	36248
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1291833
MB concentration:	0.584
M/B Counting Uncertainty:	0.337
MB MDC:	0.653
MB Numerical Performance Indicator:	3.40
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)? LCS36248	N LCSD36248
Count Date:	6/27/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.189	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.810	
Target Conc. (pCi/L, g, F):	5.975	
Uncertainty (Calculated):	0.430	
Result (pCi/L, g, F):	7.767	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.780	
Numerical Performance Indicator:	3.94	
Percent Recovery:	129.99%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30221632008	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30221632008DUP	
Sample Result (pCi/L, g, F):	0.447	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.296	
Sample Duplicate Result (pCi/L, g, F):	0.381	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.295	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.308	30221632008
Duplicate RPD:	15.86%	30221632008DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

7/7/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAF0486
June 20, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 20, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWA-6S	AAF0486-01	Ground Water	06/12/17 14:30	06/13/17 14:55
BRGWA-5S	AAF0486-02	Ground Water	06/12/17 14:35	06/13/17 14:55
BRGWA-5I	AAF0486-03	Ground Water	06/12/17 13:44	06/13/17 14:55
BRGWA-2I	AAF0486-04	Ground Water	06/12/17 16:01	06/13/17 14:55

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 20, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 20, 2017

Report No.: AAF0486
Client ID: BRGWA-6S
Date/Time Sampled: 6/12/2017 2:30:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0486-01
Date/Time Received: 6/13/2017 2:55:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	61	25	10	mg/L	SM 2540 C		1	06/15/17 13:35	06/15/17 13:35	7060462	JPT
Inorganic Anions											
Chloride	2.2	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 15:05	7060443	RLC
Fluoride	0.06	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 15:05	7060443	RLC
Sulfate	0.54	1.0	0.09	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 15:05	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Barium	0.0134	0.0100	0.0004	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Calcium	3.11	0.500	0.0404	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Chromium	0.0160	0.0100	0.0005	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Cobalt	0.0003	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Lead	0.00008	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Lithium	0.0027	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/15/17 23:57	7060391	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/19/17 13:30	06/19/17 17:21	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 20, 2017

Report No.: AAF0486
Client ID: BRGWA-5S
Date/Time Sampled: 6/12/2017 2:35:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0486-02
Date/Time Received: 6/13/2017 2:55:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	142	25	10	mg/L	SM 2540 C		1	06/15/17 13:35	06/15/17 13:35	7060462	JPT
Inorganic Anions											
Chloride	3.8	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 15:26	7060443	RLC
Fluoride	0.07	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 15:26	7060443	RLC
Sulfate	0.94	1.0	0.09	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 15:26	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Arsenic	0.0006	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Barium	0.0567	0.0100	0.0004	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Calcium	21.5	5.00	2.02	mg/L	EPA 6020B		50	06/14/17 09:20	06/16/17 00:15	7060391	KLH
Chromium	0.0041	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Cobalt	0.0006	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:09	7060391	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/19/17 13:30	06/19/17 17:23	7060550	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 20, 2017

Report No.: AAF0486
Client ID: BRGWA-5I
Date/Time Sampled: 6/12/2017 1:44:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0486-03
Date/Time Received: 6/13/2017 2:55:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	132	25	10	mg/L	SM 2540 C		1	06/15/17 13:35	06/15/17 13:35	7060462	JPT
Inorganic Anions											
Chloride	4.2	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 17:12	7060443	RLC
Fluoride	0.008	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 17:12	7060443	RLC
Sulfate	3.7	1.0	0.09	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 17:12	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Barium	0.0322	0.0100	0.0004	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Calcium	13.7	5.00	2.02	mg/L	EPA 6020B		50	06/14/17 09:20	06/16/17 00:26	7060391	KLH
Chromium	0.0052	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Cobalt	0.0011	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Molybdenum	0.0050	0.0100	0.0010	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Lithium	0.0019	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:20	7060391	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/19/17 13:30	06/19/17 17:26	7060550	DDN

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Attention: Mr. Joju Abraham

June 20, 2017

Report No.: AAF0486
Client ID: BRGWA-2I
Date/Time Sampled: 6/12/2017 4:01:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0486-04
Date/Time Received: 6/13/2017 2:55:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	161	25	10	mg/L	SM 2540 C		1	06/15/17 13:35	06/15/17 13:35	7060462	JPT
Inorganic Anions											
Chloride	2.1	0.25	0.01	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 17:34	7060443	RLC
Fluoride	0.16	0.30	0.004	mg/L	EPA 300.0	J	1	06/14/17 18:44	06/15/17 17:34	7060443	RLC
Sulfate	5.0	1.0	0.09	mg/L	EPA 300.0		1	06/14/17 18:44	06/15/17 17:34	7060443	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Barium	0.0094	0.0100	0.0004	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Boron	0.0133	0.0400	0.0060	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Calcium	9.34	0.500	0.0404	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Chromium	0.0005	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Lead	0.00008	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Molybdenum	0.0021	0.0100	0.0010	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Lithium	0.0245	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/14/17 09:20	06/16/17 00:32	7060391	KLH
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/19/17 13:30	06/19/17 17:28	7060550	DDN

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June 20, 2017

Report No.: AAF0486

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060462 - SM 2540 C											
Blank (7060462-BLK1)						Prepared & Analyzed: 06/15/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7060462-BS1)						Prepared & Analyzed: 06/15/17					
Total Dissolved Solids	389	25	10	mg/L	400.00		97	84-108			
Duplicate (7060462-DUP1)		**Source: AAF0435-06**				Prepared & Analyzed: 06/15/17					
Total Dissolved Solids	14	25	10	mg/L		20			35	10	QR-03, J

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Report No.: AAF0486

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060443 - EPA 300.0											
Blank (7060443-BLK1)						Prepared: 06/14/17 Analyzed: 06/15/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7060443-BS1)						Prepared: 06/14/17 Analyzed: 06/15/17					
Chloride	9.95	0.25	0.01	mg/L	10.020		99	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020		102	90-110			
Sulfate	10.0	1.0	0.09	mg/L	10.050		100	90-110			
Matrix Spike (7060443-MS1)			**Source: AAF0435-06**			Prepared: 06/14/17 Analyzed: 06/15/17					
Chloride	11.2	0.25	0.01	mg/L	10.020	1.38	98	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020	ND	102	90-110			
Sulfate	10.6	1.0	0.09	mg/L	10.050	0.68	98	90-110			
Matrix Spike (7060443-MS2)			**Source: AAF0486-04**			Prepared: 06/14/17 Analyzed: 06/16/17					
Chloride	11.9	0.25	0.01	mg/L	10.020	2.11	98	90-110			
Fluoride	10.5	0.30	0.004	mg/L	10.020	0.16	103	90-110			
Sulfate	14.8	1.0	0.09	mg/L	10.050	5.04	97	90-110			
Matrix Spike Dup (7060443-MSD1)			**Source: AAF0435-06**			Prepared: 06/14/17 Analyzed: 06/15/17					
Chloride	11.2	0.25	0.01	mg/L	10.020	1.38	98	90-110	0.1	15	
Fluoride	10.2	0.30	0.004	mg/L	10.020	ND	102	90-110	0.4	15	
Sulfate	10.5	1.0	0.09	mg/L	10.050	0.68	98	90-110	0.7	15	

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060391 - EPA 3005A											
Blank (7060391-BLK1)						Prepared: 06/13/17 Analyzed: 06/15/17					
Antimony	0.0009	0.0030	0.0006	mg/L							J
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							
Blank (7060391-BLK2)						Prepared: 06/14/17 Analyzed: 06/15/17					
Antimony	0.0006	0.0030	0.0006	mg/L							J
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							

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June 20, 2017

Report No.: AAF0486

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060391 - EPA 3005A											
LCS (7060391-BS1)						Prepared: 06/13/17 Analyzed: 06/15/17					
Antimony	0.109	0.0030	0.0006	mg/L	0.10000		109	80-120			
Arsenic	0.103	0.0050	0.0005	mg/L	0.10000		103	80-120			
Barium	0.101	0.0100	0.0004	mg/L	0.10000		101	80-120			
Beryllium	0.101	0.0030	0.00009	mg/L	0.10000		101	80-120			
Boron	1.03	0.0400	0.0060	mg/L	1.0000		103	80-120			
Cadmium	0.0971	0.0010	0.0001	mg/L	0.10000		97	80-120			
Calcium	0.964	0.500	0.0404	mg/L	1.0000		96	80-120			
Chromium	0.106	0.0100	0.0005	mg/L	0.10000		106	80-120			
Cobalt	0.101	0.0100	0.0003	mg/L	0.10000		101	80-120			
Copper	0.103	0.0250	0.0003	mg/L	0.10000		103	80-120			
Lead	0.102	0.0050	0.00007	mg/L	0.10000		102	80-120			
Molybdenum	0.100	0.0100	0.0010	mg/L	0.10000		100	80-120			
Nickel	0.100	0.0100	0.0005	mg/L	0.10000		100	80-120			
Selenium	0.103	0.0100	0.0018	mg/L	0.10000		103	80-120			
Silver	0.102	0.0100	0.0002	mg/L	0.10000		102	80-120			
Thallium	0.104	0.0010	0.00005	mg/L	0.10000		104	80-120			
Vanadium	0.109	0.0100	0.0012	mg/L	0.10000		109	80-120			
Zinc	0.101	0.0100	0.0012	mg/L	0.10000		101	80-120			
Lithium	0.106	0.0500	0.0015	mg/L	0.10000		106	80-120			
LCS (7060391-BS2)						Prepared: 06/14/17 Analyzed: 06/15/17					
Antimony	0.110	0.0030	0.0006	mg/L	0.10000		110	80-120			
Arsenic	0.0996	0.0050	0.0005	mg/L	0.10000		100	80-120			
Barium	0.101	0.0100	0.0004	mg/L	0.10000		101	80-120			
Beryllium	0.102	0.0030	0.00009	mg/L	0.10000		102	80-120			
Boron	1.02	0.0400	0.0060	mg/L	1.0000		102	80-120			
Cadmium	0.0975	0.0010	0.0001	mg/L	0.10000		98	80-120			
Calcium	0.998	0.500	0.0404	mg/L	1.0000		100	80-120			
Chromium	0.104	0.0100	0.0005	mg/L	0.10000		104	80-120			
Cobalt	0.105	0.0100	0.0003	mg/L	0.10000		105	80-120			
Copper	0.106	0.0250	0.0003	mg/L	0.10000		106	80-120			
Lead	0.102	0.0050	0.00007	mg/L	0.10000		102	80-120			
Molybdenum	0.102	0.0100	0.0010	mg/L	0.10000		102	80-120			
Nickel	0.107	0.0100	0.0005	mg/L	0.10000		107	80-120			
Selenium	0.101	0.0100	0.0018	mg/L	0.10000		101	80-120			
Silver	0.103	0.0100	0.0002	mg/L	0.10000		103	80-120			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000		103	80-120			
Vanadium	0.107	0.0100	0.0012	mg/L	0.10000		107	80-120			
Zinc	0.100	0.0100	0.0012	mg/L	0.10000		100	80-120			
Lithium	0.105	0.0500	0.0015	mg/L	0.10000		105	80-120			

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June 20, 2017

Report No.: AAF0486

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060391 - EPA 3005A											
Matrix Spike (7060391-MS1)		**Source: AAF0435-01**			Prepared: 06/13/17 Analyzed: 06/15/17						
Antimony	0.108	0.0030	0.0006	mg/L	0.10000	0.0010	107	75-125			
Arsenic	0.102	0.0050	0.0005	mg/L	0.10000	ND	102	75-125			
Barium	0.110	0.0100	0.0004	mg/L	0.10000	0.0094	100	75-125			
Beryllium	0.105	0.0030	0.00009	mg/L	0.10000	ND	105	75-125			
Boron	1.12	0.0400	0.0060	mg/L	1.0000	ND	112	75-125			
Cadmium	0.0991	0.0010	0.0001	mg/L	0.10000	ND	99	75-125			
Calcium	2.85	0.500	0.0404	mg/L	1.0000	1.87	97	75-125			
Chromium	0.105	0.0100	0.0005	mg/L	0.10000	ND	105	75-125			
Cobalt	0.101	0.0100	0.0003	mg/L	0.10000	ND	101	75-125			
Copper	0.104	0.0250	0.0003	mg/L	0.10000	0.0028	101	75-125			
Lead	0.101	0.0050	0.00007	mg/L	0.10000	ND	101	75-125			
Molybdenum	0.102	0.0100	0.0010	mg/L	0.10000	ND	102	75-125			
Nickel	0.102	0.0100	0.0005	mg/L	0.10000	0.0011	101	75-125			
Selenium	0.102	0.0100	0.0018	mg/L	0.10000	ND	102	75-125			
Silver	0.102	0.0100	0.0002	mg/L	0.10000	0.0005	101	75-125			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000	ND	103	75-125			
Vanadium	0.105	0.0100	0.0012	mg/L	0.10000	ND	105	75-125			
Zinc	0.120	0.0100	0.0012	mg/L	0.10000	0.0013	119	75-125			
Lithium	0.106	0.0500	0.0015	mg/L	0.10000	ND	106	75-125			
Matrix Spike Dup (7060391-MSD1)		**Source: AAF0435-01**			Prepared: 06/13/17 Analyzed: 06/15/17						
Antimony	0.108	0.0030	0.0006	mg/L	0.10000	0.0010	107	75-125	0.2	20	
Arsenic	0.103	0.0050	0.0005	mg/L	0.10000	ND	103	75-125	1	20	
Barium	0.110	0.0100	0.0004	mg/L	0.10000	0.0094	100	75-125	0.08	20	
Beryllium	0.109	0.0030	0.00009	mg/L	0.10000	ND	109	75-125	4	20	
Boron	1.11	0.0400	0.0060	mg/L	1.0000	ND	111	75-125	0.6	20	
Cadmium	0.103	0.0010	0.0001	mg/L	0.10000	ND	103	75-125	4	20	
Calcium	2.96	0.500	0.0404	mg/L	1.0000	1.87	109	75-125	4	20	
Chromium	0.104	0.0100	0.0005	mg/L	0.10000	ND	104	75-125	0.8	20	
Cobalt	0.103	0.0100	0.0003	mg/L	0.10000	ND	103	75-125	1	20	
Copper	0.104	0.0250	0.0003	mg/L	0.10000	0.0028	101	75-125	0.07	20	
Lead	0.102	0.0050	0.00007	mg/L	0.10000	ND	102	75-125	0.5	20	
Molybdenum	0.0994	0.0100	0.0010	mg/L	0.10000	ND	99	75-125	2	20	
Nickel	0.104	0.0100	0.0005	mg/L	0.10000	0.0011	103	75-125	2	20	
Selenium	0.101	0.0100	0.0018	mg/L	0.10000	ND	101	75-125	0.9	20	
Silver	0.101	0.0100	0.0002	mg/L	0.10000	0.0005	101	75-125	0.4	20	
Thallium	0.104	0.0010	0.00005	mg/L	0.10000	ND	104	75-125	0.7	20	
Vanadium	0.104	0.0100	0.0012	mg/L	0.10000	ND	104	75-125	0.5	20	
Zinc	0.103	0.0100	0.0012	mg/L	0.10000	0.0013	102	75-125	15	20	
Lithium	0.110	0.0500	0.0015	mg/L	0.10000	ND	110	75-125	3	20	

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 20, 2017

Report No.: AAF0486

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060391 - EPA 3005A											
Post Spike (7060391-PS1)			**Source: AAF0435-01**			Prepared: 06/13/17 Analyzed: 06/15/17					
Antimony	105			ug/L	100.00	0.969	104	80-120			
Arsenic	99.8			ug/L	100.00	0.384	99	80-120			
Barium	107			ug/L	100.00	9.43	98	80-120			
Beryllium	105			ug/L	100.00	0.0179	105	80-120			
Boron	1080			ug/L	1000.0	5.16	107	80-120			
Cadmium	101			ug/L	100.00	0.0003	101	80-120			
Calcium	2940			ug/L	1000.0	1870	107	80-120			
Chromium	103			ug/L	100.00	0.334	103	80-120			
Cobalt	99.2			ug/L	100.00	0.0265	99	80-120			
Copper	105			ug/L	100.00	2.84	102	80-120			
Lead	102			ug/L	100.00	0.0088	102	80-120			
Molybdenum	101			ug/L	100.00	0.0825	101	80-120			
Nickel	101			ug/L	100.00	1.08	100	80-120			
Selenium	103			ug/L	100.00	0.597	102	80-120			
Silver	102			ug/L	100.00	0.515	101	80-120			
Thallium	104			ug/L	100.00	0.0167	104	80-120			
Vanadium	104			ug/L	100.00	0.261	104	80-120			
Zinc	101			ug/L	100.00	1.28	100	80-120			
Lithium	107			ug/L	100.00	0.405	107	80-120			
Batch 7060550 - EPA 7470A											
Blank (7060550-BLK1)						Prepared & Analyzed: 06/19/17					
Mercury	0.00004	0.00050	0.000041	mg/L							B-01, J
LCS (7060550-BS1)						Prepared & Analyzed: 06/19/17					
Mercury	0.00246	0.00050	0.000041	mg/L	2.5000E-3		98	80-120			

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 20, 2017

Report No.: AAF0486

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060550 - EPA 7470A											
Matrix Spike (7060550-MS1)		**Source: AAF0435-01**				Prepared & Analyzed: 06/19/17					
Mercury	0.00246	0.00050	0.000041	mg/L	2.5000E-3	0.00005	97	75-125			
Matrix Spike Dup (7060550-MSD1)		**Source: AAF0435-01**				Prepared & Analyzed: 06/19/17					
Mercury	0.00244	0.00050	0.000041	mg/L	2.5000E-3	0.00005	96	75-125	1	20	
Post Spike (7060550-PS1)		**Source: AAF0435-01**				Prepared & Analyzed: 06/19/17					
Mercury	1.77			ug/L	1.6667	0.0301	104	80-120			

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 20, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to suspected matrix interference and/or non-homogeneous sample matrix.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com
Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power
CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308 P: 404-506-7239
REPORT TO: John Abraham
CC: Marica Padilla
REQUESTED COMPLETION DATE: —
PO #: labarcch@southernco.com
PROJECT NAME/STATE: Plant Branch
PROJECT #: State CLR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. 3 and 4 (EPA 6020/7470) P 3	TDS, Cl, F, SO4 (EPA 300.0 and SM 2540C) P 1	Radium-226 and 228 (SW-9315/9320) P 1	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
06-12-17	1430	GW		X	BRGWA-6S	4	1	1	2	1	
06-12-17	1435	GW		X	BRGWA-5S	4	1	1	2	2	
06-12-17	1344	GW		X	BRGWA-5I	4	1	1	2	3	
06-12-17	1601	GW		X	BRGWA-2I	4	1	1	2	4	

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER
PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

SAMPLED BY AND TITLE: William Ballew, Geologist
DATE/TIME: 06-12-17 / 1615
RELINQUISHED BY: [signature]
DATE/TIME: 6-13-17 / 1130
RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:
RECEIVED BY LAB: [signature]
DATE/TIME: 06/13/17 1455
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Packed: No NA
Ice: Yes No NA
Temperature: 3.2 Min: 3.2 Max: 3.2
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AAF0486
Entered Into LIMS: MR
Tracking #:

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 6/14/2017 8:17:49AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 06/13/17 14:55

Work Order: AAF0486
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 4 **#Containers:** 16

Minimum Temp(C): 3.2 **Maximum Temp(C):** 3.2 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 07, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAF0486 Plant Branch
Pace Project No.: 30221513

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on June 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAF0486 Plant Branch
Pace Project No.: 30221513

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAF0486 Plant Branch
Pace Project No.: 30221513

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30221513001	**BRGWA-6S**	Water	06/12/17 14:30	06/14/17 11:50
30221513002	**BRGWA-5S**	Water	06/12/17 14:35	06/14/17 11:50
30221513003	**BRGWA-5I**	Water	06/12/17 13:44	06/14/17 11:50
30221513004	**BRGWA-2I**	Water	06/12/17 16:01	06/14/17 11:50

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAF0486 Plant Branch
Pace Project No.: 30221513

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30221513001	**BRGWA-6S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221513002	**BRGWA-5S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221513003	**BRGWA-5I**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30221513004	**BRGWA-2I**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0486 Plant Branch
Pace Project No.: 30221513

Sample: BRGWA-6S **Lab ID: 30221513001** Collected: 06/12/17 14:30 Received: 06/14/17 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.112 ± 0.164 (0.351) C:90% T:NA**	pCi/L	07/07/17 08:26	13982-63-3	
Radium-228	EPA 9320	**-0.176 ± 0.199 (0.522) C:79% T:94%**	pCi/L	06/27/17 14:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.112 ± 0.363 (0.873)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: BRGWA-5S **Lab ID: 30221513002** Collected: 06/12/17 14:35 Received: 06/14/17 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.281 ± 0.216 (0.367) C:94% T:NA**	pCi/L	07/07/17 08:26	13982-63-3	
Radium-228	EPA 9320	**0.285 ± 0.275 (0.562) C:75% T:101%**	pCi/L	06/27/17 14:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.566 ± 0.491 (0.929)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: BRGWA-5I **Lab ID: 30221513003** Collected: 06/12/17 13:44 Received: 06/14/17 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.121 ± 0.167 (0.348) C:82% T:NA**	pCi/L	07/07/17 08:34	13982-63-3	
Radium-228	EPA 9320	**0.133 ± 0.289 (0.641) C:76% T:96%**	pCi/L	06/27/17 14:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.254 ± 0.456 (0.989)**	pCi/L	07/07/17 11:15	7440-14-4	

Sample: BRGWA-2I **Lab ID: 30221513004** Collected: 06/12/17 16:01 Received: 06/14/17 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.217 ± 0.277 (0.591) C:79% T:NA**	pCi/L	07/07/17 08:34	13982-63-3	
Radium-228	EPA 9320	**0.315 ± 0.299 (0.608) C:75% T:95%**	pCi/L	06/27/17 14:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.532 ± 0.576 (1.20)**	pCi/L	07/07/17 11:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0486 Plant Branch
Pace Project No.: 30221513

QC Batch: 262650 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30221513001, 30221513002, 30221513003, 30221513004

METHOD BLANK: 1293445 Matrix: Water
Associated Lab Samples: 30221513001, 30221513002, 30221513003, 30221513004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0676 ± 0.127 (0.289) C:88% T:NA	pCi/L	07/07/17 08:26	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0486 Plant Branch
Pace Project No.: 30221513

QC Batch: 262273 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30221513001, 30221513002, 30221513003, 30221513004

METHOD BLANK: 1291833 Matrix: Water
Associated Lab Samples: 30221513001, 30221513002, 30221513003, 30221513004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.584 ± 0.353 (0.653) C:79% T:89%	pCi/L	06/27/17 11:02	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAF0486 Plant Branch
Pace Project No.: 30221513

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.

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.

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.

WO#:30221513

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAF0486 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 7/7/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	BRGWA-6S	G	6/12/2017 14:30	AAF0486-01	GW	2	X	001
2	BRGWA-5S	G	6/12/2017 14:35	AAF0486-02	GW	2	X	002
3	BRGWA-5I	G	6/12/2017 13:44	AAF0486-03	GW	2	X	003
4	BRGWA-2I	G	6/12/2017 16:01	AAF0486-04	GW	2	X	004
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	6/13/17		6/14/17 1150	
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30221513 9503

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE B10185
Atlanta, GA 30308 P: 404-506-7239

REPORT TO: John Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE: —
PO #: labwrch@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CLR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	ANALYSIS REQUESTED: CONTAINER TYPE	PRESERVATION	# of CONTAINERS	ANALYSIS REQUESTED: CONTAINER TYPE	PRESERVATION	# of CONTAINERS	ANALYSIS REQUESTED: CONTAINER TYPE	PRESERVATION	LAB ID NUMBER
							P	3		P	3		P	3	
							Metals App. III and IV (EPA 6020/7470)			TDS, Cl, F, SO4 (EPA 300.0 and SM 2540C)			Radium-226 and 228 (SW-9315/9320)		
06-12-17	1430	GW		X	BRGWA-6S	4	1			1			2		1
06-12-17	1435	GW		X	BRGWA-5S	4	1			1			2		2
06-12-17	1344	GW		X	BRGWA-5I	4	1			1			2		3
06-12-17	1601	GW		X	BRGWA-2I	4	1			1			2		4

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES:
DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Ballew, Geologist
DATE/TIME: 06-12-17 / 1615
RELINQUISHED BY:
DATE/TIME: 6-13-17 / 1130

RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: MAdkman
DATE/TIME: 06/13/17 1455

FOR LAB USE ONLY
LAB #: ARF0486
Entered into LIMS: MR

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Tracking #:

pH checked: Yes No NA
Temp: Yes No NA
Temperature: 3.2 Min: 3.2 Max
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

COC Revised 2016-05-17.xlsx

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: PACE Atlanta Project # 30221513

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 6812 5104 9832

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue None

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/14/17 ZH.

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓	✓		4. ZH 6/14/17
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15. PH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZH Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZH Date: 6/14/17

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	JC2
Date:	7/6/2017
Worklist:	36322
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1293445
MB concentration:	0.068
M/B Counting Uncertainty:	0.127
MB MDC:	0.289
MB Numerical Performance Indicator:	1.05
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36322	LCSD36322
Count Date:	7/7/2017	
Spike I.D.:	17-030	
Spike Concentration (pCi/mL):	80.199	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.503	
Target Conc. (pCi/L, g, F):	15.944	
Uncertainty (Calculated):	1.469	
Result (pCi/L, g, F):	13.290	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.240	
Numerical Performance Indicator:	-2.71	
Percent Recovery:	83.35%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30221512003	
Duplicate Sample I.D.	30221512003DUP	
Sample Result (pCi/L, g, F):	0.252	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.225	
Sample Duplicate Result (pCi/L, g, F):	0.223	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.207	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.184	30221512003
Duplicate RPD:	12.09%	30221512003DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

7/7/17

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	6/21/2017
Worklist:	36248
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1291833
MB concentration:	0.584
M/B Counting Uncertainty:	0.337
MB MDC:	0.653
MB Numerical Performance Indicator:	3.40
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)? LCS36248	N LCSD36248
Count Date:	6/27/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.189	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.810	
Target Conc. (pCi/L, g, F):	5.975	
Uncertainty (Calculated):	0.430	
Result (pCi/L, g, F):	7.767	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.780	
Numerical Performance Indicator:	3.94	
Percent Recovery:	129.99%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30221632008	
Duplicate Sample I.D.	30221632008DUP	
Sample Result (pCi/L, g, F):	0.447	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.296	
Sample Duplicate Result (pCi/L, g, F):	0.381	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.295	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.308	30221632008
Duplicate RPD:	15.86%	30221632008DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

7/7/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAF0595
June 22, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWA-12I	AAF0595-01	Ground Water	06/14/17 09:59	06/15/17 15:00
PZ-40S	AAF0595-02	Ground Water	06/14/17 10:55	06/15/17 15:00
BRGWC-29I	AAF0595-03	Ground Water	06/14/17 11:39	06/15/17 15:00
PZ-41S	AAF0595-04	Ground Water	06/14/17 13:04	06/15/17 15:00
BRGWC-32S	AAF0595-05	Ground Water	06/14/17 13:05	06/15/17 15:00
BRGWC-33S	AAF0595-06	Ground Water	06/14/17 14:36	06/15/17 15:00
RB-2	AAF0595-07	Water	06/14/17 14:25	06/15/17 15:00
BRGWC-30I	AAF0595-08	Ground Water	06/14/17 14:54	06/15/17 15:00
BRGWC-34S	AAF0595-09	Ground Water	06/14/17 15:32	06/15/17 15:00
FB-2	AAF0595-10	Water	06/14/17 15:40	06/15/17 15:00
Dup-2	AAF0595-11	Ground Water	06/14/17 00:00	06/15/17 15:00

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: BRGWA-12I
Date/Time Sampled: 6/14/2017 9:59:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0595-01
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	140	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	3.1	0.25	0.01	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 14:48	7060500	RLC
Fluoride	0.09	0.30	0.004	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 14:48	7060500	RLC
Sulfate	2.6	1.0	0.09	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 14:48	7060500	RLC
Metals, Total											
Antimony	0.0014	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Arsenic	0.0009	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Barium	0.0726	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Boron	0.0078	0.0400	0.0060	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Calcium	18.1	5.00	2.02	mg/L	EPA 6020B		50	06/16/17 07:30	06/16/17 21:36	7060482	KLH
Chromium	0.0012	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Lithium	0.0054	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 21:30	7060482	KLH
Mercury	0.00006	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:25	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: PZ-40S
Date/Time Sampled: 6/14/2017 10:55:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0595-02
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	200	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	9.0	0.25	0.01	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 15:09	7060500	RLC
Fluoride	0.13	0.30	0.004	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 15:09	7060500	RLC
Sulfate	16	1.0	0.09	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 15:09	7060500	RLC
Metals, Total											
Antimony	0.0009	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Arsenic	0.0008	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Barium	0.0568	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Boron	0.0294	0.0400	0.0060	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Calcium	18.9	5.00	2.02	mg/L	EPA 6020B		50	06/16/17 07:30	06/16/17 21:59	7060482	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Cobalt	0.0041	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Lithium	0.0028	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 21:53	7060482	KLH
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:28	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: BRGWC-29I
Date/Time Sampled: 6/14/2017 11:39:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0595-03
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	661	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	7.2	0.25	0.01	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 16:11	7060500	RLC
Fluoride	0.38	0.30	0.004	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 16:11	7060500	RLC
Sulfate	440	20	1.8	mg/L	EPA 300.0		20	06/16/17 10:10	06/21/17 12:35	7060500	RLC
Metals, Total											
Antimony	0.0007	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Arsenic	0.0020	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Barium	0.0157	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Beryllium	0.0012	0.0030	0.00009	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Boron	1.60	0.0400	0.0060	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Calcium	91.3	25.0	2.02	mg/L	EPA 6020B		50	06/16/17 07:30	06/16/17 22:11	7060482	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Cobalt	0.0113	0.0100	0.0003	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Lead	0.0004	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Selenium	0.0074	0.0100	0.0018	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Thallium	0.0002	0.0010	0.00005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Lithium	0.0036	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:05	7060482	KLH
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 12:44	7060592	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: PZ-41S
Date/Time Sampled: 6/14/2017 1:04:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0595-04
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	272	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	5.7	0.25	0.01	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 16:31	7060500	RLC
Fluoride	0.09	0.30	0.004	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 16:31	7060500	RLC
Sulfate	99	5.0	0.46	mg/L	EPA 300.0		5	06/16/17 10:10	06/21/17 12:55	7060500	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Arsenic	0.0017	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Barium	0.0820	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Boron	0.496	0.0400	0.0060	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Calcium	23.1	5.00	2.02	mg/L	EPA 6020B		50	06/16/17 07:30	06/16/17 22:22	7060482	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Cobalt	0.0130	0.0100	0.0003	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Lithium	0.0033	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:16	7060482	KLH
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 12:46	7060592	DDN

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: BRGWC-32S
Date/Time Sampled: 6/14/2017 1:05:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0595-05
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	635	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	7.1	0.25	0.01	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 18:15	7060500	RLC
Fluoride	0.09	0.30	0.004	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 18:15	7060500	RLC
Sulfate	400	20	1.8	mg/L	EPA 300.0		20	06/16/17 10:10	06/21/17 13:16	7060500	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Barium	0.0421	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Boron	1.57	0.0400	0.0060	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Calcium	60.2	25.0	2.02	mg/L	EPA 6020B		50	06/16/17 07:30	06/16/17 22:33	7060482	KLH
Chromium	0.0009	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Lithium	0.0022	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:28	7060482	KLH
Mercury	0.00009	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 12:54	7060592	DDN

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Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: BRGWC-33S
Date/Time Sampled: 6/14/2017 2:36:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0595-06
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	316	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	4.5	0.25	0.01	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 18:35	7060500	RLC
Fluoride	0.18	0.30	0.004	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 18:35	7060500	RLC
Sulfate	200	10	0.92	mg/L	EPA 300.0		10	06/16/17 10:10	06/21/17 13:37	7060500	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Arsenic	0.0006	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Barium	0.0218	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Beryllium	0.0019	0.0030	0.00009	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Boron	1.16	0.0400	0.0060	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Cadmium	0.0004	0.0010	0.0001	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Calcium	47.1	25.0	2.02	mg/L	EPA 6020B		50	06/16/17 07:30	06/16/17 22:45	7060482	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Cobalt	0.0557	0.0100	0.0003	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Lead	0.00009	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Selenium	0.0040	0.0100	0.0018	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Thallium	0.0002	0.0010	0.00005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Lithium	0.0097	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 22:39	7060482	KLH
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 12:56	7060592	DDN

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: RB-2
Date/Time Sampled: 6/14/2017 2:25:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAF0595-07
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	0.07	0.25	0.01	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 18:56	7060500	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 18:56	7060500	RLC
Sulfate	0.23	1.0	0.09	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 18:56	7060500	RLC
Metals, Total											
Antimony	0.0007	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/16/17 07:30	06/16/17 23:02	7060482	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:02	7060482	KLH
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:02	7060482	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:50	7060482	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:50	7060482	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:02	7060482	KLH
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:50	7060482	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:50	7060482	KLH
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:50	7060482	KLH
Lead	0.0005	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 23:02	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:02	7060482	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:02	7060482	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:02	7060482	KLH
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:50	7060482	KLH
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 12:58	7060592	DDN

PACE ANALYTICAL SERVICES, LLC.

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110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: BRGWC-30I
Date/Time Sampled: 6/14/2017 2:54:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0595-08
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	536	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	5.7	0.25	0.01	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 19:17	7060500	RLC
Fluoride	0.15	0.30	0.004	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 19:17	7060500	RLC
Sulfate	290	20	1.8	mg/L	EPA 300.0		20	06/16/17 10:10	06/21/17 13:57	7060500	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:08	7060482	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:08	7060482	KLH
Barium	0.0197	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:08	7060482	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 14:13	7060482	KLH
Boron	1.71	0.400	0.0595	mg/L	EPA 6020B		10	06/16/17 07:30	06/21/17 14:08	7060482	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:08	7060482	KLH
Calcium	63.5	25.0	2.02	mg/L	EPA 6020B		50	06/16/17 07:30	06/21/17 14:02	7060482	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 14:02	7060482	KLH
Cobalt	0.0015	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 23:08	7060482	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:08	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:08	7060482	KLH
Selenium	0.0045	0.0100	0.0018	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 23:08	7060482	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:08	7060482	KLH
Lithium	0.0101	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/21/17 14:13	7060482	KLH
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:01	7060592	DDN

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: BRGWC-34S
Date/Time Sampled: 6/14/2017 3:32:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0595-09
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	643	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	7.3	0.25	0.01	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 19:37	7060500	RLC
Fluoride	0.10	0.30	0.004	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 19:37	7060500	RLC
Sulfate	410	20	1.8	mg/L	EPA 300.0		20	06/16/17 10:10	06/21/17 14:18	7060500	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:19	7060482	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:19	7060482	KLH
Barium	0.0341	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:19	7060482	KLH
Beryllium	ND	0.0030	0.0005	mg/L	EPA 6020B		5	06/16/17 07:30	06/21/17 14:36	7060482	KLH
Boron	2.45	2.00	0.298	mg/L	EPA 6020B		50	06/16/17 07:30	06/21/17 14:30	7060482	KLH
Cadmium	0.0004	0.0010	0.0001	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 23:19	7060482	KLH
Calcium	98.0	25.0	2.02	mg/L	EPA 6020B		50	06/16/17 07:30	06/21/17 14:30	7060482	KLH
Chromium	ND	0.0500	0.0023	mg/L	EPA 6020B	R-01	5	06/16/17 07:30	06/21/17 14:36	7060482	KLH
Cobalt	0.0036	0.0500	0.0013	mg/L	EPA 6020B	R-01, J	5	06/16/17 07:30	06/21/17 14:36	7060482	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:19	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:19	7060482	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:19	7060482	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:19	7060482	KLH
Lithium	ND	0.250	0.0075	mg/L	EPA 6020B	R-01	5	06/16/17 07:30	06/21/17 14:36	7060482	KLH
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:03	7060592	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: FB-2
Date/Time Sampled: 6/14/2017 3:40:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAF0595-10
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	0.06	0.25	0.01	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 20:19	7060500	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 20:19	7060500	RLC
Sulfate	0.20	1.0	0.09	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 20:19	7060500	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:31	7060482	KLH
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:31	7060482	KLH
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:31	7060482	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:56	7060482	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:56	7060482	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:31	7060482	KLH
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:56	7060482	KLH
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:56	7060482	KLH
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:56	7060482	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:31	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:31	7060482	KLH
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:31	7060482	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:31	7060482	KLH
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/16/17 07:30	06/21/17 13:56	7060482	KLH
Mercury	0.00006	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:30	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Report No.: AAF0595
Client ID: Dup-2
Date/Time Sampled: 6/14/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0595-11
Date/Time Received: 6/15/2017 3:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	638	25	10	mg/L	SM 2540 C		1	06/20/17 18:05	06/20/17 18:05	7060584	JPT
Inorganic Anions											
Chloride	7.2	0.25	0.01	mg/L	EPA 300.0		1	06/16/17 10:10	06/16/17 20:39	7060500	RLC
Fluoride	0.22	0.30	0.004	mg/L	EPA 300.0	J	1	06/16/17 10:10	06/16/17 20:39	7060500	RLC
Sulfate	440	20	1.8	mg/L	EPA 300.0		20	06/16/17 10:10	06/22/17 05:52	7060500	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:36	7060482	KLH
Arsenic	ND	0.0100	0.0026	mg/L	EPA 6020B	R-01	5	06/16/17 07:30	06/21/17 14:55	7060482	KLH
Barium	0.0153	0.0100	0.0004	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:36	7060482	KLH
Beryllium	0.0011	0.0030	0.0005	mg/L	EPA 6020B	J	5	06/16/17 07:30	06/21/17 14:55	7060482	KLH
Boron	1.69	0.400	0.0595	mg/L	EPA 6020B		10	06/16/17 07:30	06/21/17 14:49	7060482	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:36	7060482	KLH
Calcium	96.9	25.0	2.02	mg/L	EPA 6020B		50	06/16/17 07:30	06/21/17 14:44	7060482	KLH
Chromium	ND	0.0500	0.0023	mg/L	EPA 6020B	R-01	5	06/16/17 07:30	06/21/17 14:55	7060482	KLH
Cobalt	0.0104	0.0500	0.0013	mg/L	EPA 6020B	R-01, J	5	06/16/17 07:30	06/21/17 14:55	7060482	KLH
Lead	0.0005	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 23:36	7060482	KLH
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/16/17 07:30	06/16/17 23:36	7060482	KLH
Selenium	ND	0.0500	0.0088	mg/L	EPA 6020B	R-01	5	06/16/17 07:30	06/21/17 14:55	7060482	KLH
Thallium	0.0002	0.0010	0.00005	mg/L	EPA 6020B	J	1	06/16/17 07:30	06/16/17 23:36	7060482	KLH
Lithium	ND	0.250	0.0075	mg/L	EPA 6020B	R-01	5	06/16/17 07:30	06/21/17 14:55	7060482	KLH
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:32	7060593	DDN

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Report No.: AAF0595

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060584 - SM 2540 C											
Blank (7060584-BLK1)						Prepared & Analyzed: 06/20/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7060584-BS1)						Prepared & Analyzed: 06/20/17					
Total Dissolved Solids	394	25	10	mg/L	400.00		98	84-108			
Duplicate (7060584-DUP1)		**Source: AAF0595-07**				Prepared & Analyzed: 06/20/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7060584-DUP2)		**Source: AAF0652-12**				Prepared & Analyzed: 06/20/17					
Total Dissolved Solids	105	25	10	mg/L		97			8	10	

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Report No.: AAF0595

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060500 - EPA 300.0											
Blank (7060500-BLK1)						Prepared & Analyzed: 06/16/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7060500-BS1)						Prepared & Analyzed: 06/16/17					
Chloride	9.85	0.25	0.01	mg/L	10.020		98	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020		101	90-110			
Sulfate	10.1	1.0	0.09	mg/L	10.050		100	90-110			
Matrix Spike (7060500-MS1)			**Source: AAF0595-02**			Prepared & Analyzed: 06/16/17					
Chloride	18.8	0.25	0.01	mg/L	10.020	9.02	97	90-110			
Fluoride	10.8	0.30	0.004	mg/L	10.020	0.13	107	90-110			
Sulfate	25.0	1.0	0.09	mg/L	10.050	16.2	88	90-110			QM-02
Matrix Spike (7060500-MS2)			**Source: AAF0595-09**			Prepared & Analyzed: 06/16/17					
Chloride	17.9	0.25	0.01	mg/L	10.020	7.28	106	90-110			
Fluoride	11.1	0.30	0.004	mg/L	10.020	0.10	110	90-110			
Sulfate	249	1.0	0.09	mg/L	10.050	262	NR	90-110			QM-02
Matrix Spike Dup (7060500-MSD1)			**Source: AAF0595-02**			Prepared & Analyzed: 06/16/17					
Chloride	18.8	0.25	0.01	mg/L	10.020	9.02	98	90-110	0.5	15	
Fluoride	11.0	0.30	0.004	mg/L	10.020	0.13	108	90-110	1	15	
Sulfate	25.0	1.0	0.09	mg/L	10.050	16.2	88	90-110	0.2	15	QM-02

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060482 - EPA 3005A											
Blank (7060482-BLK1)						Prepared & Analyzed: 06/16/17					
Antimony	0.0008	0.0030	0.0006	mg/L							J
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							
LCS (7060482-BS1)						Prepared & Analyzed: 06/16/17					
Antimony	0.104	0.0030	0.0006	mg/L	0.10000		104	80-120			
Arsenic	0.0962	0.0050	0.0005	mg/L	0.10000		96	80-120			
Barium	0.0959	0.0100	0.0004	mg/L	0.10000		96	80-120			
Beryllium	0.101	0.0030	0.00009	mg/L	0.10000		101	80-120			
Boron	1.03	0.0400	0.0060	mg/L	1.0000		103	80-120			
Cadmium	0.103	0.0010	0.0001	mg/L	0.10000		103	80-120			
Calcium	0.941	0.500	0.0404	mg/L	1.0000		94	80-120			
Chromium	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Cobalt	0.102	0.0100	0.0003	mg/L	0.10000		102	80-120			
Copper	0.0986	0.0250	0.0003	mg/L	0.10000		99	80-120			
Lead	0.0993	0.0050	0.00007	mg/L	0.10000		99	80-120			
Molybdenum	0.0996	0.0100	0.0010	mg/L	0.10000		100	80-120			
Nickel	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Selenium	0.0986	0.0100	0.0018	mg/L	0.10000		99	80-120			
Silver	0.0972	0.0100	0.0002	mg/L	0.10000		97	80-120			
Thallium	0.0999	0.0010	0.00005	mg/L	0.10000		100	80-120			
Vanadium	0.0992	0.0100	0.0012	mg/L	0.10000		99	80-120			
Zinc	0.104	0.0100	0.0012	mg/L	0.10000		104	80-120			
Lithium	0.102	0.0500	0.0015	mg/L	0.10000		102	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060482 - EPA 3005A											
Matrix Spike (7060482-MS1)		**Source: AAF0595-01**			Prepared & Analyzed: 06/16/17						
Antimony	0.106	0.0030	0.0006	mg/L	0.10000	0.0014	105	75-125			
Arsenic	0.101	0.0050	0.0005	mg/L	0.10000	0.0009	100	75-125			
Barium	0.162	0.0100	0.0004	mg/L	0.10000	0.0726	89	75-125			
Beryllium	0.0999	0.0030	0.00009	mg/L	0.10000	ND	100	75-125			
Boron	0.988	0.0400	0.0060	mg/L	1.0000	0.0078	98	75-125			
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125			
Calcium	18.0	25.0	2.02	mg/L	1.0000	18.1	NR	75-125			QM-02, J
Chromium	0.105	0.0100	0.0005	mg/L	0.10000	0.0012	104	75-125			
Cobalt	0.102	0.0100	0.0003	mg/L	0.10000	ND	102	75-125			
Copper	0.104	0.0250	0.0003	mg/L	0.10000	0.0007	103	75-125			
Lead	0.0995	0.0050	0.00007	mg/L	0.10000	ND	99	75-125			
Molybdenum	0.102	0.0100	0.0010	mg/L	0.10000	ND	102	75-125			
Nickel	0.106	0.0100	0.0005	mg/L	0.10000	0.0015	105	75-125			
Selenium	0.102	0.0100	0.0018	mg/L	0.10000	ND	102	75-125			
Silver	0.0989	0.0100	0.0002	mg/L	0.10000	ND	99	75-125			
Thallium	0.0994	0.0010	0.00005	mg/L	0.10000	ND	99	75-125			
Vanadium	0.112	0.0100	0.0012	mg/L	0.10000	0.0056	107	75-125			
Zinc	0.115	0.0100	0.0012	mg/L	0.10000	0.0126	103	75-125			
Lithium	0.106	0.0500	0.0015	mg/L	0.10000	0.0054	101	75-125			
Matrix Spike Dup (7060482-MSD1)		**Source: AAF0595-01**			Prepared & Analyzed: 06/16/17						
Antimony	0.104	0.0030	0.0006	mg/L	0.10000	0.0014	102	75-125	2	20	
Arsenic	0.101	0.0050	0.0005	mg/L	0.10000	0.0009	100	75-125	0.03	20	
Barium	0.158	0.0100	0.0004	mg/L	0.10000	0.0726	86	75-125	2	20	
Beryllium	0.102	0.0030	0.00009	mg/L	0.10000	ND	102	75-125	2	20	
Boron	1.05	0.0400	0.0060	mg/L	1.0000	0.0078	104	75-125	6	20	
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125	0.2	20	
Calcium	17.5	25.0	2.02	mg/L	1.0000	18.1	NR	75-125	3	20	QM-02, J
Chromium	0.107	0.0100	0.0005	mg/L	0.10000	0.0012	106	75-125	2	20	
Cobalt	0.106	0.0100	0.0003	mg/L	0.10000	ND	106	75-125	3	20	
Copper	0.103	0.0250	0.0003	mg/L	0.10000	0.0007	102	75-125	0.9	20	
Lead	0.0995	0.0050	0.00007	mg/L	0.10000	ND	99	75-125	0.008	20	
Molybdenum	0.0998	0.0100	0.0010	mg/L	0.10000	ND	100	75-125	2	20	
Nickel	0.105	0.0100	0.0005	mg/L	0.10000	0.0015	103	75-125	1	20	
Selenium	0.103	0.0100	0.0018	mg/L	0.10000	ND	103	75-125	1	20	
Silver	0.0968	0.0100	0.0002	mg/L	0.10000	ND	97	75-125	2	20	
Thallium	0.100	0.0010	0.00005	mg/L	0.10000	ND	100	75-125	0.9	20	
Vanadium	0.112	0.0100	0.0012	mg/L	0.10000	0.0056	107	75-125	0.09	20	
Zinc	0.120	0.0100	0.0012	mg/L	0.10000	0.0126	107	75-125	4	20	
Lithium	0.105	0.0500	0.0015	mg/L	0.10000	0.0054	100	75-125	0.5	20	

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060482 - EPA 3005A											
Post Spike (7060482-PS1)			**Source: AAF0595-01**			Prepared & Analyzed: 06/16/17					
Antimony	96.1			ug/L	100.00	1.36	95	80-120			
Arsenic	101			ug/L	100.00	0.932	101	80-120			
Barium	165			ug/L	100.00	72.6	92	80-120			
Beryllium	105			ug/L	100.00	0.0032	105	80-120			
Boron	1040			ug/L	1000.0	7.81	104	80-120			
Cadmium	104			ug/L	100.00	0.0203	104	80-120			
Calcium	19200			ug/L	1000.0	18100	108	80-120			
Chromium	108			ug/L	100.00	1.16	106	80-120			
Cobalt	103			ug/L	100.00	0.128	103	80-120			
Copper	106			ug/L	100.00	0.652	105	80-120			
Lead	98.1			ug/L	100.00	0.0249	98	80-120			
Molybdenum	104			ug/L	100.00	0.950	103	80-120			
Nickel	104			ug/L	100.00	1.53	102	80-120			
Selenium	102			ug/L	100.00	0.617	101	80-120			
Silver	98.8			ug/L	100.00	0.0035	99	80-120			
Thallium	98.7			ug/L	100.00	0.0309	99	80-120			
Vanadium	112			ug/L	100.00	5.61	107	80-120			
Zinc	120			ug/L	100.00	12.6	107	80-120			
Lithium	107			ug/L	100.00	5.37	102	80-120			
Batch 7060592 - EPA 7470A											
Blank (7060592-BLK1)						Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00007	0.00050	0.000041	mg/L							J
LCS (7060592-BS1)						Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00256	0.00050	0.000041	mg/L	2.5000E-3		102	80-120			

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Report No.: AAF0595

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060592 - EPA 7470A											
Matrix Spike (7060592-MS1)			**Source: AAF0595-09**			Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00239	0.00050	0.000041	mg/L	2.5000E-3	0.00007	93	75-125			
Matrix Spike Dup (7060592-MSD1)			**Source: AAF0595-09**			Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00245	0.00050	0.000041	mg/L	2.5000E-3	0.00007	95	75-125	2	20	
Post Spike (7060592-PS1)			**Source: AAF0595-09**			Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	1.73			ug/L	1.6667	0.0444	101	80-120			
Batch 7060593 - EPA 7470A											
Blank (7060593-BLK1)						Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00007	0.00050	0.000041	mg/L							J
LCS (7060593-BS1)						Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00257	0.00050	0.000041	mg/L	2.5000E-3		103	80-120			
Matrix Spike (7060593-MS1)			**Source: AAF0595-01**			Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00254	0.00050	0.000041	mg/L	2.5000E-3	0.00006	99	75-125			
Matrix Spike Dup (7060593-MSD1)			**Source: AAF0595-01**			Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00262	0.00050	0.000041	mg/L	2.5000E-3	0.00006	102	75-125	3	20	
Post Spike (7060593-PS1)			**Source: AAF0595-01**			Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	1.88			ug/L	1.6667	0.0424	110	80-120			

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 22, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

R-01 Elevated reporting limit due to matrix interference.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd. SE 30185 Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Jojy Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: tabarch@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	CONTAINER TYPE:	PRESERVATION:	metals APP 3&4 (EPA 6020/7470)	TDS, Li, F, SO4 (EPA 300.0 SM 2540C)	Radium-226 + 228 (SW-846 9315/9320)	LAB ID NUMBER
							P	3	1	1	2	
6-14-17	0959	GW		X	BRGWA-12I	4			1	1	2	1
6-14-17	1055	GW		X	PZ-40S	4			1	1	2	2
6-14-17	1139	GW		X	BRGWL-29I	4			1	1	2	3
6-14-17	1304	GW		X	PZ-41S	4			1	1	2	4
6-14-17	1305	GW		X	BRGWL-32S	4			1	1	2	5
6-14-17	1436	GW		X	BRGWL-33S	4			1	1	2	6
6-14-17	1425	W		X	RB-2	4			1	1	2	7
6-14-17	1454	GW		X	BRGWL-30I	4			1	1	2	8
6-14-17	1532	GW		X	BRGWL-34S	4			1	1	2	9
6-14-17	1540	W		X	FB-2	4			1	1	2	10
6-14-17	—	GW		X	DUP-2	4			1	1	2	11

CONTAINER TYPE: P - PLASTIC, A - AMBER GLASS, G - CLEAR GLASS, V - VOA VIAL, S - STERILE, O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER, WW - WASTEWATER, GW - GROUNDWATER, SW - SURFACE WATER, ST - STORM WATER, W - WATER, S - SOIL, SL - SLUDGE, SD - SOLID, A - AIR, L - LIQUID, P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Travis Martinez, Scientist | DATE/TIME: 6-14-17 / 1700

RELINQUISHED BY: [signature] | DATE/TIME: 6-15-17 / 1019

RECEIVED BY: | DATE/TIME:

RELINQUISHED BY: | DATE/TIME:

RECEIVED BY LAB: [signature] | DATE/TIME: 06/15/17 1500

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Custody Seal: Intact Broken Not Present N/A | # of Coolers: | Cooler ID:

Temperature: 3.2 Min: 3.2 Max

Checked: No NA | Ice: Yes No NA

FOR LAB USE ONLY
LAB #: AAF0595
Entered Into LIMS: MR
Tracking #:

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 6/16/2017 10:34:04AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 06/15/17 15:00

Work Order: AAF0595
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 11 **#Containers:** 44

Minimum Temp(C): 3.2 **Maximum Temp(C):** 3.2 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 07, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAF0595 Plant Branch
Pace Project No.: 30221830

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAF0595 Plant Branch
Pace Project No.: 30221830

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAF0595 Plant Branch
Pace Project No.: 30221830

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30221830001	**BRGWA-12I**	Water	06/14/17 09:59	06/16/17 10:15
30221830002	**PZ-40S**	Water	06/14/17 10:55	06/16/17 10:15
30221830003	**BRGWC-29I**	Water	06/14/17 11:39	06/16/17 10:15
30221830004	**PZ-41S**	Water	06/14/17 13:04	06/16/17 10:15
30221830005	**BRGWC-32S**	Water	06/14/17 13:05	06/16/17 10:15
30221830006	**BRGWC-33S**	Water	06/14/17 14:36	06/16/17 10:15
30221830007	**RB-2**	Water	06/14/17 14:25	06/16/17 10:15
30221830008	**BRGWC-30I**	Water	06/14/17 14:54	06/16/17 10:15
30221830009	**BRGWC-34S**	Water	06/14/17 15:32	06/16/17 10:15
30221830010	**FB-2**	Water	06/14/17 15:40	06/16/17 10:15
30221830011	**Dup-2**	Water	06/14/17 00:00	06/16/17 10:15

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAF0595 Plant Branch
Pace Project No.: 30221830

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30221830001	**BRGWA-12I**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830002	**PZ-40S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830003	**BRGWC-29I**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830004	**PZ-41S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830005	**BRGWC-32S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830006	**BRGWC-33S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830007	**RB-2**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830008	**BRGWC-30I**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830009	**BRGWC-34S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830010	**FB-2**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30221830011	**Dup-2**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0595 Plant Branch
Pace Project No.: 30221830

Sample: BRGWA-12I **Lab ID: 30221830001** Collected: 06/14/17 09:59 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.260 ± 0.181 (0.298) C:96% T:NA**	pCi/L	06/29/17 08:18	13982-63-3	
Radium-228	EPA 9320	**2.40 ± 0.720 (0.936) C:72% T:80%**	pCi/L	06/30/17 16:03	15262-20-1	
Total Radium	Total Radium Calculation	**2.66 ± 0.901 (1.23)**	pCi/L	07/03/17 15:15	7440-14-4	

Sample: PZ-40S **Lab ID: 30221830002** Collected: 06/14/17 10:55 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.173 ± 0.207 (0.435) C:93% T:NA**	pCi/L	06/29/17 08:18	13982-63-3	
Radium-228	EPA 9320	**0.0214 ± 0.285 (0.662) C:76% T:87%**	pCi/L	06/30/17 16:03	15262-20-1	
Total Radium	Total Radium Calculation	**0.194 ± 0.492 (1.10)**	pCi/L	07/03/17 15:15	7440-14-4	

Sample: BRGWC-29I **Lab ID: 30221830003** Collected: 06/14/17 11:39 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.421 ± 0.260 (0.436) C:89% T:NA**	pCi/L	06/29/17 08:18	13982-63-3	
Radium-228	EPA 9320	**0.897 ± 0.447 (0.776) C:77% T:73%**	pCi/L	06/30/17 16:03	15262-20-1	
Total Radium	Total Radium Calculation	**1.32 ± 0.707 (1.21)**	pCi/L	07/03/17 15:15	7440-14-4	

Sample: PZ-41S **Lab ID: 30221830004** Collected: 06/14/17 13:04 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.260 ± 0.189 (0.278) C:74% T:NA**	pCi/L	06/29/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.600 ± 0.392 (0.742) C:78% T:75%**	pCi/L	06/30/17 16:03	15262-20-1	
Total Radium	Total Radium Calculation	**0.860 ± 0.581 (1.02)**	pCi/L	07/03/17 15:15	7440-14-4	

Sample: BRGWC-32S **Lab ID: 30221830005** Collected: 06/14/17 13:05 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.160 ± 0.144 (0.253) C:92% T:NA**	pCi/L	06/29/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.299 ± 0.406 (0.868) C:72% T:74%**	pCi/L	06/30/17 16:03	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0595 Plant Branch
Pace Project No.: 30221830

Sample: BRGWC-32S **Lab ID: 30221830005** Collected: 06/14/17 13:05 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.459 ± 0.550 (1.12)**	pCi/L	07/06/17 15:01	7440-14-4	

Sample: BRGWC-33S **Lab ID: 30221830006** Collected: 06/14/17 14:36 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.278 ± 0.183 (0.263) C:86% T:NA**	pCi/L	06/29/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.445 ± 0.419 (0.856) C:76% T:69%**	pCi/L	06/30/17 16:03	15262-20-1	
Total Radium	Total Radium Calculation	**0.723 ± 0.602 (1.12)**	pCi/L	07/06/17 15:01	7440-14-4	

Sample: RB-2 **Lab ID: 30221830007** Collected: 06/14/17 14:25 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0855 ± 0.137 (0.302) C:87% T:NA**	pCi/L	06/29/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.549 ± 0.427 (0.838) C:73% T:65%**	pCi/L	06/30/17 16:04	15262-20-1	
Total Radium	Total Radium Calculation	**0.635 ± 0.564 (1.14)**	pCi/L	07/06/17 15:01	7440-14-4	

Sample: BRGWC-30I **Lab ID: 30221830008** Collected: 06/14/17 14:54 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0191 ± 0.101 (0.269) C:91% T:NA**	pCi/L	06/29/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.707 ± 0.422 (0.778) C:78% T:71%**	pCi/L	06/30/17 16:08	15262-20-1	
Total Radium	Total Radium Calculation	**0.726 ± 0.523 (1.05)**	pCi/L	07/06/17 15:01	7440-14-4	

Sample: BRGWC-34S **Lab ID: 30221830009** Collected: 06/14/17 15:32 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.257 ± 0.192 (0.321) C:83% T:NA**	pCi/L	06/29/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.544 ± 0.348 (0.650) C:77% T:83%**	pCi/L	06/30/17 16:04	15262-20-1	
Total Radium	Total Radium Calculation	**0.801 ± 0.540 (0.971)**	pCi/L	07/06/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0595 Plant Branch
Pace Project No.: 30221830

Sample: FB-2 **Lab ID: 30221830010** Collected: 06/14/17 15:40 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**1.12 ± 0.377 (0.378) C:88% T:NA**	pCi/L	06/29/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.727 ± 0.469 (0.893) C:73% T:73%**	pCi/L	06/30/17 16:04	15262-20-1	
Total Radium	Total Radium Calculation	**1.85 ± 0.846 (1.27)**	pCi/L	07/06/17 15:01	7440-14-4	

Sample: Dup-2 **Lab ID: 30221830011** Collected: 06/14/17 00:00 Received: 06/16/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.380 ± 0.234 (0.361) C:81% T:NA**	pCi/L	06/29/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.965 ± 0.495 (0.874) C:77% T:68%**	pCi/L	06/30/17 16:04	15262-20-1	
Total Radium	Total Radium Calculation	**1.35 ± 0.729 (1.24)**	pCi/L	07/06/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0595 Plant Branch
Pace Project No.: 30221830

QC Batch: 262720 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30221830001, 30221830002, 30221830003, 30221830004, 30221830005, 30221830006, 30221830007, 30221830008, 30221830009, 30221830010, 30221830011

METHOD BLANK: 1293766 Matrix: Water
Associated Lab Samples: 30221830001, 30221830002, 30221830003, 30221830004, 30221830005, 30221830006, 30221830007, 30221830008, 30221830009, 30221830010, 30221830011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0275 ± 0.105 (0.325) C:84% T:NA	pCi/L	06/29/17 08:18	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0595 Plant Branch
Pace Project No.: 30221830

QC Batch: 262718 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30221830001, 30221830002, 30221830003, 30221830004, 30221830005, 30221830006, 30221830007, 30221830008, 30221830009, 30221830010, 30221830011

METHOD BLANK: 1293764 Matrix: Water
Associated Lab Samples: 30221830001, 30221830002, 30221830003, 30221830004, 30221830005, 30221830006, 30221830007, 30221830008, 30221830009, 30221830010, 30221830011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.132 ± 0.385 (0.862) C:75% T:74%	pCi/L	06/30/17 16:03	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAF0595 Plant Branch
Pace Project No.: 30221830

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.

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.

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.

30221830

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAF0595 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 7/11/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO#:30221830

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	BRGWA-12I	G	6/14/2017 9:59	AAF0595-01	GW	2	X	001
2	PZ-40S	G	6/14/2017 10:55	AAF0595-02	GW	2	X	002
3	BRGWC-29I	G	6/14/2047 11:39	AAF0595-03	GW	2	X	003
4	PZ-41S	G	6/14/2017 13:04	AAF0595-04	GW	2	X	004
5	BRGWC-32S	G	6/14/2017 13:05	AAF0595-05	GW	2	X	005
6	BRGWC-33S	G	6/14/2017 14:36	AAF0595-06	GW	2	X	006
7	RB-2	G	6/14/2017 14:25	AAF0595-07	W	2	X	007
8	BRGWC-30I	G	6/14/2017 14:54	AAF0595-08	GW	2	X	008
9	BRGWC-34S	G	6/14/2017 15:32	AAF0595-09	GW	2	X	009
10	FB-2	G	6/14/2017 15:40	AAF0595-10	W	2	X	010

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	6/15/17	[illegible]	6/16/17 1015	
2					
3					

Cooler Temperature on Receipt NA °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30221830

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAF0595 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 7/11/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
11	Dup-2	G	6/14/2017 0:00	AAF0595-11	GW	2	X	011
12								
13								
14								
15								
16								
17								
18								
19								
20								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	6/15/17	[illegible]	[illegible] 1106	
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30221830

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE 310185
Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Joju Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE: —
PO #: iabarch@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals APP 3&4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 & SM 2540C)	Radium-226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
						CONTAINER TYPE:	P	P	P	
						PRESERVATION:	3	7	3	
6-14-17	0959	GW		X	BRGWA-12I	4	1	1	2	1
6-14-17	1055	GW		X	PZ-40S	4	1	1	2	2
6-14-17	1139	GW		X	BRGWL-29I	4	1	1	2	3
6-14-17	1304	GW		X	PZ-41S	4	1	1	2	4
6-14-17	1305	GW		X	BRGWL-32S	4	1	1	2	5
6-14-17	1436	GW		X	BRGWL-33S	4	1	1	2	6
6-14-17	1425	W		X	RB-2	4	1	1	2	7
6-14-17	1454	GW		X	BRGWL-30I	4	1	1	2	8
6-14-17	1532	GW		X	BRGWL-34S	4	1	1	2	9
6-14-17	1540	W		X	FB-2	4	1	1	2	10
6-14-17	—	GW		X	DUP-2	4	1	1	2	11

ANALYSIS REQUESTED

CONTAINER TYPE / PRESERVATION
P - PLASTIC — 1 - HCl, ≤6°C
A - AMBER GLASS — 2 - H_2SO_4, ≤6°C
G - CLEAR GLASS — 3 - HNO_3
V - VOA VIAL — 4 - NaOH, ≤6°C
S - STERILE — 5 - NaOH/ZnAc, ≤6°C
O - OTHER — 6 - $Na_2S_2O_3$, ≤6°C
7 - ≤6°C not frozen

*MATRIX CODES:
DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Travis Martinez, Scientist
DATE/TIME: 6-14-17 / 1700

RELINQUISHED BY:
DATE/TIME: 6-15-17 / 1019

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: Mzatman
DATE/TIME: 06/15/17 1500

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: Yes No NA
Ice: Yes No NA
Temperature: 3.2 °C Minc 3.2 °C Misc

Custody Seal: Intact Broken Not Present N/A
No Coolers
Cooler ID:

FOR LAB USE ONLY
LAB #: AAF0595
Entered Into LIMS:
Tracking #:

ML

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace GA Project # 30221830

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8812 6105 0640

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ~~JRM~~ 01/06/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: JRM Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: JRM Date: 01/06/17

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	JC2
Date:	6/27/2017
Worklist:	36334
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1293766
MB concentration:	-0.028
M/B Counting Uncertainty:	0.105
MB MDC:	0.325
MB Numerical Performance Indicator:	-0.51
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36334	LCSD36334
Count Date:	6/29/2017	
Spike I.D.:	17-030	
Spike Concentration (pCi/mL):	80.200	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.508	
Target Conc. (pCi/L, g, F):	15.789	
Uncertainty (Calculated):	1.454	
Result (pCi/L, g, F):	12.340	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.015	
Numerical Performance Indicator:	-3.81	
Percent Recovery:	78.16%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30222149005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30222149005DUP	
Sample Result (pCi/L, g, F):	0.243	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.156	
Sample Duplicate Result (pCi/L, g, F):	0.296	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.178	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.439	30222149005
Duplicate RPD:	19.60%	30222149005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

6/27/17

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	6/26/2017
Worklist:	36332
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1293764
MB concentration:	0.132
M/B Counting Uncertainty:	0.384
MB MDC:	0.862
MB Numerical Performance Indicator:	0.67
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36332	LCSD36332
Count Date:	6/30/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.164	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.800	
Target Conc. (pCi/L, g, F):	6.043	
Uncertainty (Calculated):	0.435	
Result (pCi/L, g, F):	5.700	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.668	
Numerical Performance Indicator:	-0.84	
Percent Recovery:	94.32%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30222149005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30222149005DUP	
Sample Result (pCi/L, g, F):	0.527	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.363	
Sample Duplicate Result (pCi/L, g, F):	0.843	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.406	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.137	30222149005
Duplicate RPD:	46.14%	30222149005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision.

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAF0631
June 23, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FB-3	AAF0631-01	Water	06/15/17 10:03	06/16/17 12:50
BRGWC-17S	AAF0631-02	Ground Water	06/15/17 10:10	06/16/17 12:50
RB-3	AAF0631-03	Water	06/15/17 10:20	06/16/17 12:50
BRGWC-37S	AAF0631-04	Ground Water	06/15/17 10:05	06/16/17 12:50
BRGWC-36S	AAF0631-05	Ground Water	06/15/17 12:37	06/16/17 12:50
BRGWC-35S	AAF0631-06	Ground Water	06/15/17 11:34	06/16/17 12:50
BRGWC-38S	AAF0631-07	Ground Water	06/15/17 13:49	06/16/17 12:50
Dup-3	AAF0631-08	Ground Water	06/15/17 00:00	06/16/17 12:50

PACE ANALYTICAL SERVICES, LLC.

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110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631
Client ID: FB-3
Date/Time Sampled: 6/15/2017 10:03:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAF0631-01
Date/Time Received: 6/16/2017 12:50:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	06/21/17 17:40	06/21/17 17:40	7060626	JPT
Inorganic Anions											
Chloride	0.06	0.25	0.01	mg/L	EPA 300.0	J	1	06/19/17 17:53	06/20/17 12:08	7060568	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 12:08	7060568	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 12:08	7060568	RLC
Metals, Total											
Antimony	0.0011	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 16:49	7060562	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:35	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631
Client ID: BRGWC-17S
Date/Time Sampled: 6/15/2017 10:10:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0631-02
Date/Time Received: 6/16/2017 12:50:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	333	25	10	mg/L	SM 2540 C		1	06/21/17 17:40	06/21/17 17:40	7060626	JPT
Inorganic Anions											
Chloride	3.7	0.25	0.01	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 12:29	7060568	RLC
Fluoride	0.05	0.30	0.004	mg/L	EPA 300.0	J	1	06/19/17 17:53	06/20/17 12:29	7060568	RLC
Sulfate	130	10	0.92	mg/L	EPA 300.0		10	06/19/17 17:53	06/23/17 06:16	7060568	RLC
Metals, Total											
Antimony	0.0009	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Arsenic	0.0006	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Barium	0.0364	0.0100	0.0004	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Calcium	29.0	25.0	2.02	mg/L	EPA 6020B		50	06/20/17 07:30	06/20/17 17:14	7060562	CSW
Chromium	0.0117	0.0100	0.0005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Selenium	0.0024	0.0100	0.0018	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:08	7060562	CSW
Mercury	0.00006	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:42	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631
Client ID: RB-3
Date/Time Sampled: 6/15/2017 10:20:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAF0631-03
Date/Time Received: 6/16/2017 12:50:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	06/21/17 17:40	06/21/17 17:40	7060626	JPT
Inorganic Anions											
Chloride	0.06	0.25	0.01	mg/L	EPA 300.0	J	1	06/19/17 17:53	06/20/17 12:49	7060568	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 12:49	7060568	RLC
Sulfate	0.13	1.0	0.09	mg/L	EPA 300.0	J	1	06/19/17 17:53	06/20/17 12:49	7060568	RLC
Metals, Total											
Antimony	0.0006	0.0030	0.0006	mg/L	EPA 6020B	J, B-01	1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:19	7060562	CSW
Mercury	0.00006	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:44	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631
Client ID: BRGWC-37S
Date/Time Sampled: 6/15/2017 10:05:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0631-04
Date/Time Received: 6/16/2017 12:50:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	63	25	10	mg/L	SM 2540 C		1	06/21/17 17:40	06/21/17 17:40	7060626	JPT
Inorganic Anions											
Chloride	1.9	0.25	0.01	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 13:10	7060568	RLC
Fluoride	0.03	0.30	0.004	mg/L	EPA 300.0	J	1	06/19/17 17:53	06/20/17 13:10	7060568	RLC
Sulfate	0.46	1.0	0.09	mg/L	EPA 300.0	J	1	06/19/17 17:53	06/20/17 13:10	7060568	RLC
Metals, Total											
Antimony	0.0006	0.0030	0.0006	mg/L	EPA 6020B	J, B-01	1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Barium	0.0218	0.0100	0.0004	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Calcium	3.15	0.500	0.0404	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Chromium	0.0013	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:25	7060562	CSW
Mercury	0.00006	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:47	7060593	DDN

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Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631
Client ID: BRGWC-36S
Date/Time Sampled: 6/15/2017 12:37:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0631-05
Date/Time Received: 6/16/2017 12:50:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	566	25	10	mg/L	SM 2540 C		1	06/21/17 17:40	06/21/17 17:40	7060626	JPT
Inorganic Anions											
Chloride	4.0	0.25	0.01	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 13:31	7060568	RLC
Fluoride	0.01	0.30	0.004	mg/L	EPA 300.0	J	1	06/19/17 17:53	06/20/17 13:31	7060568	RLC
Sulfate	310	20	1.8	mg/L	EPA 300.0		20	06/19/17 17:53	06/23/17 06:38	7060568	RLC
Metals, Total											
Antimony	0.0006	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Barium	0.0415	0.0100	0.0004	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Beryllium	0.00009	0.0030	0.00009	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Boron	0.961	0.0400	0.0060	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Calcium	53.8	25.0	2.02	mg/L	EPA 6020B		50	06/20/17 07:30	06/20/17 17:42	7060562	CSW
Chromium	0.0082	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Selenium	0.0046	0.0100	0.0018	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Lithium	0.0026	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:37	7060562	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:49	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631
Client ID: BRGWC-35S
Date/Time Sampled: 6/15/2017 11:34:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0631-06
Date/Time Received: 6/16/2017 12:50:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	548	25	10	mg/L	SM 2540 C		1	06/21/17 17:40	06/21/17 17:40	7060626	JPT
Inorganic Anions											
Chloride	5.8	0.25	0.01	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 13:51	7060568	RLC
Fluoride	0.03	0.30	0.004	mg/L	EPA 300.0	J	1	06/19/17 17:53	06/20/17 13:51	7060568	RLC
Sulfate	280	20	1.8	mg/L	EPA 300.0		20	06/19/17 17:53	06/23/17 06:59	7060568	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Arsenic	0.0006	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Barium	0.0518	0.0100	0.0004	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Beryllium	0.0001	0.0030	0.00009	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Boron	1.49	0.0400	0.0060	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Calcium	61.3	25.0	2.02	mg/L	EPA 6020B		50	06/20/17 07:30	06/20/17 17:54	7060562	CSW
Chromium	0.0033	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Cobalt	0.0004	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Lithium	0.0023	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/20/17 17:48	7060562	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:51	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631
Client ID: BRGWC-38S
Date/Time Sampled: 6/15/2017 1:49:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0631-07
Date/Time Received: 6/16/2017 12:50:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	812	25	10	mg/L	SM 2540 C		1	06/21/17 17:40	06/21/17 17:40	7060626	JPT
Inorganic Anions											
Chloride	4.8	0.25	0.01	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 14:12	7060568	RLC
Fluoride	0.77	0.30	0.004	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 14:12	7060568	RLC
Sulfate	490	20	1.8	mg/L	EPA 300.0		20	06/19/17 17:53	06/23/17 07:20	7060568	RLC
Metals, Total											
Antimony	0.0007	0.0030	0.0006	mg/L	EPA 6020B	B-01, J	1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Arsenic	0.0050	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Barium	0.0239	0.0100	0.0004	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Beryllium	0.0104	0.0030	0.00009	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Boron	1.78	0.0400	0.0060	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Cadmium	0.0006	0.0010	0.0001	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Calcium	45.3	25.0	2.02	mg/L	EPA 6020B		50	06/20/17 07:30	06/21/17 08:38	7060562	CSW
Chromium	0.0038	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Cobalt	0.262	0.0100	0.0003	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Lead	0.0004	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Selenium	0.0511	0.0100	0.0018	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Thallium	0.0003	0.0010	0.00005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Lithium	0.0227	0.0500	0.0015	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/21/17 08:32	7060562	CSW
Mercury	0.00016	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:54	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631
Client ID: Dup-3
Date/Time Sampled: 6/15/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0631-08
Date/Time Received: 6/16/2017 12:50:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	332	25	10	mg/L	SM 2540 C		1	06/21/17 17:40	06/21/17 17:40	7060626	JPT
Inorganic Anions											
Chloride	3.7	0.25	0.01	mg/L	EPA 300.0		1	06/19/17 17:53	06/20/17 15:14	7060568	RLC
Fluoride	0.12	0.30	0.004	mg/L	EPA 300.0	J	1	06/19/17 17:53	06/20/17 15:14	7060568	RLC
Sulfate	120	10	0.92	mg/L	EPA 300.0		10	06/19/17 17:53	06/23/17 10:11	7060568	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Arsenic	0.0005	0.0050	0.0005	mg/L	EPA 6020B	J	1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Barium	0.0381	0.0100	0.0004	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Calcium	29.8	25.0	2.02	mg/L	EPA 6020B		50	06/20/17 07:30	06/21/17 08:49	7060562	CSW
Chromium	0.0109	0.0100	0.0005	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	06/20/17 07:30	06/21/17 08:44	7060562	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	06/20/17 14:50	06/21/17 13:56	7060593	DDN

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060626 - SM 2540 C											
Blank (7060626-BLK1)						Prepared & Analyzed: 06/21/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7060626-BS1)						Prepared & Analyzed: 06/21/17					
Total Dissolved Solids	383	25	10	mg/L	400.00		96	84-108			
Duplicate (7060626-DUP1)		**Source: AAF0631-03**				Prepared & Analyzed: 06/21/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7060626-DUP2)		**Source: AAF0649-02**				Prepared & Analyzed: 06/21/17					
Total Dissolved Solids	238	25	10	mg/L		251			5	10	

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Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060568 - EPA 300.0											
Blank (7060568-BLK1)						Prepared: 06/19/17 Analyzed: 06/20/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7060568-BS1)						Prepared: 06/19/17 Analyzed: 06/20/17					
Chloride	10.1	0.25	0.01	mg/L	10.020		101	90-110			
Fluoride	10.3	0.30	0.004	mg/L	10.020		102	90-110			
Sulfate	10.2	1.0	0.09	mg/L	10.050		101	90-110			
Matrix Spike (7060568-MS1)		**Source: AAF0631-07**				Prepared: 06/19/17 Analyzed: 06/20/17					
Chloride	14.8	0.25	0.01	mg/L	10.020	4.78	100	90-110			
Fluoride	13.0	0.30	0.004	mg/L	10.020	0.77	122	90-110			QM-05
Sulfate	277	1.0	0.09	mg/L	10.050	296	NR	90-110			QM-02
Matrix Spike (7060568-MS2)		**Source: AAF0649-04**				Prepared: 06/19/17 Analyzed: 06/20/17					
Chloride	35.2	0.25	0.01	mg/L	10.020	28.5	67	90-110			QM-02
Fluoride	10.8	0.30	0.004	mg/L	10.020	0.02	107	90-110			
Sulfate	348	1.0	0.09	mg/L	10.050	367	NR	90-110			QM-02
Matrix Spike Dup (7060568-MSD1)		**Source: AAF0631-07**				Prepared: 06/19/17 Analyzed: 06/20/17					
Chloride	14.8	0.25	0.01	mg/L	10.020	4.78	100	90-110	0.1	15	
Fluoride	13.6	0.30	0.004	mg/L	10.020	0.77	128	90-110	5	15	QM-05
Sulfate	278	1.0	0.09	mg/L	10.050	296	NR	90-110	0.2	15	QM-02

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June 23, 2017

Report No.: AAF0631

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060562 - EPA 3005A											
Blank (7060562-BLK1)						Prepared & Analyzed: 06/20/17					
Antimony	0.0008	0.0030	0.0006	mg/L							J
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							
LCS (7060562-BS1)						Prepared & Analyzed: 06/20/17					
Antimony	0.102	0.0030	0.0006	mg/L	0.10000		102	80-120			
Arsenic	0.0975	0.0050	0.0005	mg/L	0.10000		97	80-120			
Barium	0.0988	0.0100	0.0004	mg/L	0.10000		99	80-120			
Beryllium	0.0990	0.0030	0.00009	mg/L	0.10000		99	80-120			
Boron	0.990	0.0400	0.0060	mg/L	1.0000		99	80-120			
Cadmium	0.0984	0.0010	0.0001	mg/L	0.10000		98	80-120			
Calcium	0.950	0.500	0.0404	mg/L	1.0000		95	80-120			
Chromium	0.104	0.0100	0.0005	mg/L	0.10000		104	80-120			
Cobalt	0.0971	0.0100	0.0003	mg/L	0.10000		97	80-120			
Copper	0.0979	0.0250	0.0003	mg/L	0.10000		98	80-120			
Lead	0.0937	0.0050	0.00007	mg/L	0.10000		94	80-120			
Molybdenum	0.100	0.0100	0.0010	mg/L	0.10000		100	80-120			
Nickel	0.0989	0.0100	0.0005	mg/L	0.10000		99	80-120			
Selenium	0.0934	0.0100	0.0018	mg/L	0.10000		93	80-120			
Silver	0.0984	0.0100	0.0002	mg/L	0.10000		98	80-120			
Thallium	0.0938	0.0010	0.00005	mg/L	0.10000		94	80-120			
Vanadium	0.0988	0.0100	0.0012	mg/L	0.10000		99	80-120			
Zinc	0.101	0.0100	0.0012	mg/L	0.10000		101	80-120			
Lithium	0.103	0.0500	0.0015	mg/L	0.10000		103	80-120			

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June 23, 2017

Report No.: AAF0631

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060562 - EPA 3005A											
Matrix Spike (7060562-MS1)		**Source: AAF0631-02**				Prepared & Analyzed: 06/20/17					
Antimony	0.105	0.0030	0.0006	mg/L	0.10000	0.0009	104	75-125			
Arsenic	0.100	0.0050	0.0005	mg/L	0.10000	0.0006	100	75-125			
Barium	0.137	0.0100	0.0004	mg/L	0.10000	0.0364	101	75-125			
Beryllium	0.101	0.0030	0.00009	mg/L	0.10000	ND	101	75-125			
Boron	0.975	0.0400	0.0060	mg/L	1.0000	ND	97	75-125			
Cadmium	0.0967	0.0010	0.0001	mg/L	0.10000	ND	97	75-125			
Calcium	29.1	25.0	2.02	mg/L	1.0000	29.0	2	75-125			QM-02
Chromium	0.111	0.0100	0.0005	mg/L	0.10000	0.0117	100	75-125			
Cobalt	0.100	0.0100	0.0003	mg/L	0.10000	ND	100	75-125			
Copper	0.0950	0.0250	0.0003	mg/L	0.10000	ND	95	75-125			
Lead	0.0923	0.0050	0.00007	mg/L	0.10000	ND	92	75-125			
Molybdenum	0.103	0.0100	0.0010	mg/L	0.10000	ND	103	75-125			
Nickel	0.0983	0.0100	0.0005	mg/L	0.10000	0.0012	97	75-125			
Selenium	0.0948	0.0100	0.0018	mg/L	0.10000	0.0024	92	75-125			
Silver	0.0980	0.0100	0.0002	mg/L	0.10000	ND	98	75-125			
Thallium	0.0939	0.0010	0.00005	mg/L	0.10000	ND	94	75-125			
Vanadium	0.117	0.0100	0.0012	mg/L	0.10000	0.0171	100	75-125			
Zinc	0.101	0.0100	0.0012	mg/L	0.10000	0.0013	100	75-125			
Lithium	0.0998	0.0500	0.0015	mg/L	0.10000	ND	100	75-125			
Matrix Spike Dup (7060562-MSD1)		**Source: AAF0631-02**				Prepared & Analyzed: 06/20/17					
Antimony	0.105	0.0030	0.0006	mg/L	0.10000	0.0009	104	75-125	0.2	20	
Arsenic	0.105	0.0050	0.0005	mg/L	0.10000	0.0006	105	75-125	5	20	
Barium	0.136	0.0100	0.0004	mg/L	0.10000	0.0364	100	75-125	0.6	20	
Beryllium	0.0996	0.0030	0.00009	mg/L	0.10000	ND	100	75-125	0.9	20	
Boron	0.959	0.0400	0.0060	mg/L	1.0000	ND	96	75-125	2	20	
Cadmium	0.0989	0.0010	0.0001	mg/L	0.10000	ND	99	75-125	2	20	
Calcium	30.1	25.0	2.02	mg/L	1.0000	29.0	103	75-125	3	20	
Chromium	0.113	0.0100	0.0005	mg/L	0.10000	0.0117	102	75-125	2	20	
Cobalt	0.0977	0.0100	0.0003	mg/L	0.10000	ND	98	75-125	3	20	
Copper	0.0972	0.0250	0.0003	mg/L	0.10000	ND	97	75-125	2	20	
Lead	0.0928	0.0050	0.00007	mg/L	0.10000	ND	93	75-125	0.6	20	
Molybdenum	0.102	0.0100	0.0010	mg/L	0.10000	ND	102	75-125	0.6	20	
Nickel	0.0980	0.0100	0.0005	mg/L	0.10000	0.0012	97	75-125	0.3	20	
Selenium	0.101	0.0100	0.0018	mg/L	0.10000	0.0024	98	75-125	6	20	
Silver	0.0976	0.0100	0.0002	mg/L	0.10000	ND	98	75-125	0.4	20	
Thallium	0.0942	0.0010	0.00005	mg/L	0.10000	ND	94	75-125	0.4	20	
Vanadium	0.118	0.0100	0.0012	mg/L	0.10000	0.0171	101	75-125	1	20	
Zinc	0.101	0.0100	0.0012	mg/L	0.10000	0.0013	100	75-125	0.0007	20	
Lithium	0.101	0.0500	0.0015	mg/L	0.10000	ND	101	75-125	1	20	

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 23, 2017

Report No.: AAF0631

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060562 - EPA 3005A											
Post Spike (7060562-PS1)			**Source: AAF0631-02**			Prepared & Analyzed: 06/20/17					
Antimony	99.2			ug/L	100.00	0.874	98	80-120			
Arsenic	101			ug/L	100.00	0.566	101	80-120			
Barium	137			ug/L	100.00	36.4	100	80-120			
Beryllium	101			ug/L	100.00	0.0039	101	80-120			
Boron	1010			ug/L	1000.0	1.30	101	80-120			
Cadmium	98.3			ug/L	100.00	-0.0357	98	80-120			
Calcium	30100			ug/L	1000.0	29000	110	80-120			
Chromium	120			ug/L	100.00	11.7	108	80-120			
Cobalt	103			ug/L	100.00	0.0265	103	80-120			
Copper	99.8			ug/L	100.00	0.0522	100	80-120			
Lead	94.6			ug/L	100.00	0.0002	95	80-120			
Molybdenum	103			ug/L	100.00	0.110	103	80-120			
Nickel	103			ug/L	100.00	1.22	102	80-120			
Selenium	101			ug/L	100.00	2.39	99	80-120			
Silver	99.1			ug/L	100.00	-0.0002	99	80-120			
Thallium	97.3			ug/L	100.00	0.0174	97	80-120			
Vanadium	128			ug/L	100.00	17.1	110	80-120			
Zinc	108			ug/L	100.00	1.26	106	80-120			
Lithium	104			ug/L	100.00	0.917	103	80-120			
Batch 7060593 - EPA 7470A											
Blank (7060593-BLK1)						Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00007	0.00050	0.000041	mg/L							J
LCS (7060593-BS1)						Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00257	0.00050	0.000041	mg/L	2.5000E-3		103	80-120			

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June 23, 2017

Report No.: AAF0631

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060593 - EPA 7470A											
Matrix Spike (7060593-MS1)		**Source: AAF0595-01**				Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00254	0.00050	0.000041	mg/L	2.5000E-3	0.00006	99	75-125			
Matrix Spike Dup (7060593-MSD1)		**Source: AAF0595-01**				Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	0.00262	0.00050	0.000041	mg/L	2.5000E-3	0.00006	102	75-125	3	20	
Post Spike (7060593-PS1)		**Source: AAF0595-01**				Prepared: 06/20/17 Analyzed: 06/21/17					
Mercury	1.88			ug/L	1.6667	0.0424	110	80-120			

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June 23, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McG. Ill Blvd. SE 30185
Atlanta, GA 30308

REPORT TO: Joju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: taburchi@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	CONTAINER TYPE	PRESERVATION	Metals APP 3+4 (EPA 6020/7470)	TDS (1) FISO4 (EPA 300.0 + SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
							P	3	P	P	P		
6-15-17	1003	W		X	FB-3	4			1	1	2	1	
6-15-17	1010	GW		X	BRGWL-17S	4			1	1	2	2	
6-15-17	1020	W		X	RB-3	4			1	1	2	3	
6-15-17	1005	GW		X	BRGWL-37S	4			1	1	2	4	
6-15-17	1237	GW		X	BRGWL-36S (6-15-17)	4→6			1	1	4	5	+2 radium
6-15-17	1134	GW		X	BRGWL-35S	6			1	1	4	6	+2 radium
6-15-17	1349	GW		X	BRGWL-38S	4			1	1	2	7	
6-15-17	—	GW		X	DUP-3	4			1	1	2	8	

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

SAMPLED BY AND TITLE: Travis Martinez / Scientist | DATE/TIME: 6-15-17 / 1500

RELINQUISHED BY: | DATE/TIME:

RELINQUISHED BY: | DATE/TIME:

RECEIVED BY: | DATE/TIME:

RECEIVED BY LAB: [signature] | DATE/TIME: 06/16/17 1250

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Custody Seal: Intact Broken Not Present N/A | # of Coolers | Cooler ID:

Shipped: Yes No NA | Ice: Yes No NA | Temperature: 2.4 Min: 2.4 Max:

FOR LAB USE ONLY
LAB #: AAF0631
Entered into LIMS: MR
Tracking #:

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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LOG-IN CHECKLIST **Printed: 6/19/2017 11:51:19AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 06/16/17 12:50

Work Order: AAF0631
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 8 **#Containers:** 36

Minimum Temp(C): 2.4 **Maximum Temp(C):** 2.4 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 13, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAF0631 Plant Branch
Pace Project No.: 30222149

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30222149001	**FB-3**	Water	06/15/17 10:03	06/20/17 10:10
30222149002	**BRGWC-17S**	Water	06/15/17 10:10	06/20/17 10:10
30222149003	**RB-3**	Water	06/15/17 10:20	06/20/17 10:10
30222149004	**BRGWC-37S**	Water	06/15/17 10:05	06/20/17 10:10
30222149005	**BRGWC-36S**	Water	06/15/17 12:37	06/20/17 10:10
30222149006	**BRGWC-35S**	Water	06/15/17 11:34	06/20/17 10:10
30222149007	**BRGWC-38S**	Water	06/15/17 13:49	06/20/17 10:10
30222149008	**Dup-3**	Water	06/15/17 00:00	06/20/17 10:10

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30222149001	**FB-3**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30222149002	**BRGWC-17S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30222149003	**RB-3**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30222149004	**BRGWC-37S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30222149005	**BRGWC-36S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30222149006	**BRGWC-35S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30222149007	**BRGWC-38S**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30222149008	**Dup-3**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

Sample: FB-3 **Lab ID: 30222149001** Collected: 06/15/17 10:03 Received: 06/20/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.103 ± 0.141 (0.295) C:86% T:NA**	pCi/L	06/29/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.332 ± 0.432 (0.921) C:79% T:66%**	pCi/L	06/30/17 16:05	15262-20-1	
Total Radium	Total Radium Calculation	**0.435 ± 0.573 (1.22)**	pCi/L	07/07/17 09:37	7440-14-4	

Sample: BRGWC-17S **Lab ID: 30222149002** Collected: 06/15/17 10:10 Received: 06/20/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0611 ± 0.0641 (0.270) C:89% T:NA**	pCi/L	06/29/17 10:06	13982-63-3	
Radium-228	EPA 9320	**0.410 ± 0.449 (0.938) C:79% T:58%**	pCi/L	06/30/17 16:05	15262-20-1	
Total Radium	Total Radium Calculation	**0.410 ± 0.513 (1.21)**	pCi/L	07/07/17 09:37	7440-14-4	

Sample: RB-3 **Lab ID: 30222149003** Collected: 06/15/17 10:20 Received: 06/20/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0155 ± 0.126 (0.333) C:86% T:NA**	pCi/L	06/29/17 10:06	13982-63-3	
Radium-228	EPA 9320	**0.128 ± 0.329 (0.738) C:77% T:70%**	pCi/L	06/30/17 16:05	15262-20-1	
Total Radium	Total Radium Calculation	**0.144 ± 0.455 (1.07)**	pCi/L	07/07/17 09:37	7440-14-4	

Sample: BRGWC-37S **Lab ID: 30222149004** Collected: 06/15/17 10:05 Received: 06/20/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0483 ± 0.107 (0.254) C:80% T:NA**	pCi/L	06/29/17 10:16	13982-63-3	
Radium-228	EPA 9320	**0.140 ± 0.312 (0.692) C:75% T:82%**	pCi/L	06/30/17 16:05	15262-20-1	
Total Radium	Total Radium Calculation	**0.188 ± 0.419 (0.946)**	pCi/L	07/07/17 09:37	7440-14-4	

Sample: BRGWC-36S **Lab ID: 30222149005** Collected: 06/15/17 12:37 Received: 06/20/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.243 ± 0.160 (0.234) C:102% T:NA**	pCi/L	06/29/17 10:16	13982-63-3	
Radium-228	EPA 9320	**0.527 ± 0.375 (0.726) C:76% T:80%**	pCi/L	06/30/17 16:06	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

Sample: BRGWC-36S **Lab ID: 30222149005** Collected: 06/15/17 12:37 Received: 06/20/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.770 ± 0.535 (0.960)**	pCi/L	07/07/17 09:37	7440-14-4	

Sample: BRGWC-35S **Lab ID: 30222149006** Collected: 06/15/17 11:34 Received: 06/20/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.301 ± 0.182 (0.245) C:89% T:NA**	pCi/L	06/29/17 10:16	13982-63-3	
Radium-228	EPA 9320	**0.790 ± 0.386 (0.654) C:79% T:78%**	pCi/L	06/30/17 16:06	15262-20-1	
Total Radium	Total Radium Calculation	**1.09 ± 0.568 (0.899)**	pCi/L	07/07/17 09:37	7440-14-4	

Sample: BRGWC-38S **Lab ID: 30222149007** Collected: 06/15/17 13:49 Received: 06/20/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0395 ± 0.119 (0.295) C:86% T:NA**	pCi/L	06/29/17 10:16	13982-63-3	
Radium-228	EPA 9320	**3.56 ± 0.846 (0.604) C:78% T:75%**	pCi/L	06/30/17 16:06	15262-20-1	
Total Radium	Total Radium Calculation	**3.60 ± 0.965 (0.899)**	pCi/L	07/07/17 09:37	7440-14-4	

Sample: Dup-3 **Lab ID: 30222149008** Collected: 06/15/17 00:00 Received: 06/20/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0874 ± 0.206 (0.489) C:90% T:NA**	pCi/L	07/07/17 08:35	13982-63-3	
Radium-228	EPA 9320	**-0.125 ± 0.319 (0.771) C:77% T:79%**	pCi/L	07/07/17 16:22	15262-20-1	
Total Radium	Total Radium Calculation	**0.0874 ± 0.525 (1.26)**	pCi/L	07/13/17 10:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

QC Batch: 262720 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30222149001, 30222149002, 30222149003, 30222149004, 30222149005, 30222149006, 30222149007

METHOD BLANK: 1293766 Matrix: Water
Associated Lab Samples: 30222149001, 30222149002, 30222149003, 30222149004, 30222149005, 30222149006, 30222149007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0275 ± 0.105 (0.325) C:84% T:NA	pCi/L	06/29/17 08:18	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

QC Batch: 262718 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30222149001, 30222149002, 30222149003, 30222149004, 30222149005, 30222149006, 30222149007

METHOD BLANK: 1293764 Matrix: Water
Associated Lab Samples: 30222149001, 30222149002, 30222149003, 30222149004, 30222149005, 30222149006, 30222149007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.132 ± 0.385 (0.862) C:75% T:74%	pCi/L	06/30/17 16:03	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

QC Batch: 262721 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30222149008

METHOD BLANK: 1293767 Matrix: Water
Associated Lab Samples: 30222149008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.137 ± 0.161 (0.320) C:91% T:NA	pCi/L	07/07/17 08:35	

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.

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

QC Batch: 262719 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30222149008

METHOD BLANK: 1293765 Matrix: Water
Associated Lab Samples: 30222149008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.185 ± 0.344 (0.756) C:75% T:81%	pCi/L	07/07/17 16:22	

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.

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAF0631 Plant Branch
Pace Project No.: 30222149

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.

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.

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.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAF0631 Workorder Name: Plant Branch Owner Received Date: Results Requested By: 7/12/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO#:30222149

30222149

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	FB-3	G	6/15/2017 10:03	AAF0631-01	W	2	X	001
2	BRGWC-17S	G	6/15/2017 10:10	AAF0631-02	GW	2	X	002
3	RB-3	G	6/15/2017 10:20	AAF0631-03	W	2	X	003
4	BRGWC-37S	G	6/15/2017 10:05	AAF0631-04	GW	2	X	004
5	BRGWC-36S	G	6/15/2017 12:37	AAF0631-05	GW	4	X	005
6	BRGWC-35S	G	6/15/2017 11:34	AAF0631-06	GW	4	X	006
7	BRGWC-38S	G	6/15/2017 13:49	AAF0631-07	GW	2	X	007
8	Dup-3	G	6/15/2017 0:00	AAF0631-08	GW	2	X	008
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	6/19/17		6/20/17 10:10	
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE 30185
Atlanta, GA 30308

REPORT TO: Joju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: laburchesouthernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals APP 3+4 (EPA 6020/7470)	TDS (EPA 300.0 + SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
6-15-17	1003	W		X	FB-3	4	1	1	2	1	
6-15-17	1010	GW		X	BRGWL-17S	4	1	1	2	2	
6-15-17	1020	W		X	RB-3	4	1	1	2	3	30222149
6-15-17	1005	GW		X	BRGWL-37S	4	1	1	2	4	
6-15-17	1237	GW		X	BRGWL-36S (6-15-17)	~~4~~ 6	1	1	4	5	+2 radium
6-15-17	1134	GW		X	BRGWL-35S	6	1	1	4	6	+2 radium
6-15-17	1349	GW		X	BRGWL-38S	4	1	1	2	7	
6-15-17	—	GW		X	DUP-3	4	1	1	2	8	

ANALYSIS REQUESTED

CONTAINER TYPE: P P P
PRESERVATION: 3 7 3

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

SAMPLED BY AND TITLE: Travis Mark Metz / Scientist
DATE/TIME: 6-15-17 / 1500

RELINQUISHED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY:
DATE/TIME:

RECEIVED BY / LAB:
DATE/TIME: 06/16/17 1250

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH Checked: Yes No NA
Ice: Yes No NA
Temperature: 2.4 Min: 2.4 Max:
Custody Seal: Intact Broken Not Present N/A
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AAF0631
Entered into LIMS: MP
Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt Pittsburgh 30222149

Pace Analytical

Client Name: PACE-Atlanta Project #

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 6081750505 1214

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☑ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue None

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: EH 6/20/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓	✓		10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, Phenolics	✓ ✓			15. PH<2 Initial when completed: EH Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: EH Date: 6/20/17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

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Test:	Ra-226
Analyst:	JC2
Date:	6/27/2017
Worklist:	36334
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1293766
MB concentration:	-0.028
M/B Counting Uncertainty:	0.105
MB MDC:	0.325
MB Numerical Performance Indicator:	-0.51
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS36334	LCSD36334
Count Date:	6/29/2017	
Spike I.D.:	17-030	
Spike Concentration (pCi/mL):	80.200	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.508	
Target Conc. (pCi/L, g, F):	15.789	
Uncertainty (Calculated):	1.454	
Result (pCi/L, g, F):	12.340	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.015	
Numerical Performance Indicator:	-3.81	
Percent Recovery:	78.16%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30222149005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30222149005DUP	
Sample Result (pCi/L, g, F):	0.243	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.156	
Sample Duplicate Result (pCi/L, g, F):	0.296	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.178	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.439	30222149005
Duplicate RPD:	19.60%	30222149005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

7/13/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	7/6/2017
Worklist:	36335
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1293767
MB concentration:	0.137
M/B Counting Uncertainty:	0.160
MB MDC:	0.320
MB Numerical Performance Indicator:	1.68
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36335	LCSD36335
Count Date:	7/7/2017	
Spike I.D.:	17-030	
Spike Concentration (pCi/mL):	80.199	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.513	
Target Conc. (pCi/L, g, F):	15.637	
Uncertainty (Calculated):	1.441	
Result (pCi/L, g, F):	13.863	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.245	
Numerical Performance Indicator:	-1.83	
Percent Recovery:	88.66%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30222152004	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30222152004DUP	
Sample Result (pCi/L, g, F):	0.345	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.231	
Sample Duplicate Result (pCi/L, g, F):	0.227	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.258	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.668	30222152004
Duplicate RPD:	41.21%	30222152004DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

sample result < 5x MDC, use numerical indicator < 3 for WT

***Batch must be re-prepped due to unacceptable precision. 7/13/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test: Ra-228
Analyst: JLW
Date: 6/26/2017
Worklist: 36332
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1293764
MB concentration:	0.132
M/B Counting Uncertainty:	0.384
MB MDC:	0.862
MB Numerical Performance Indicator:	0.67
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)? LCS36332	N LCSD36332
Count Date:	6/30/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.164	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.800	
Target Conc. (pCi/L, g, F):	6.043	
Uncertainty (Calculated):	0.435	
Result (pCi/L, g, F):	5.700	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.668	
Numerical Performance Indicator:	-0.84	
Percent Recovery:	94.32%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30222149005	
Duplicate Sample I.D.	30222149005DUP	
Sample Result (pCi/L, g, F):	0.527	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.363	
Sample Duplicate Result (pCi/L, g, F):	0.843	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.406	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.137	30222149005
Duplicate RPD:	46.14%	30222149005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

Sample results < 5x MDC, use numerical indicator < 3 for WT

***Batch must be re-prepped due to unacceptable precision. 7/13/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	6/27/2017
Worklist:	36333
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1293765
MB concentration:	0.185
M/B Counting Uncertainty:	0.343
MB MDC:	0.756
MB Numerical Performance Indicator:	1.06
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36333	LCSD36333
Count Date:	7/7/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.108	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.809	
Target Conc. (pCi/L, g, F):	5.962	
Uncertainty (Calculated):	0.429	
Result (pCi/L, g, F):	6.074	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.683	
Numerical Performance Indicator:	0.27	
Percent Recovery:	101.88%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30222152005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30222152005DUP	
Sample Result (pCi/L, g, F):	0.022	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.340	
Sample Duplicate Result (pCi/L, g, F):	0.922	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.392	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-3.395	30222152005
Duplicate RPD:	190.48%	30222152005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

***Batch must be re-prepped due to unacceptable precision. Narrated on report, no sample available for reprep.
JLW 7/13/17

September 2017

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAI0865
October 05, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Signature

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWA-2S	AAI0865-01	Ground Water	09/26/17 09:59	09/27/17 13:41
BRGWA-2I	AAI0865-02	Ground Water	09/26/17 11:24	09/27/17 13:41
BRGWA-5S	AAI0865-03	Ground Water	09/26/17 11:50	09/27/17 13:41
BRGWA-5I	AAI0865-04	Ground Water	09/26/17 11:24	09/27/17 13:41
BRGWA-6S	AAI0865-05	Ground Water	09/26/17 08:43	09/27/17 13:41
BRGWA-12S	AAI0865-06	Ground Water	09/26/17 15:25	09/27/17 13:41
BRGWA-12I	AAI0865-07	Ground Water	09/26/17 15:35	09/27/17 13:41
BRGWA-23S	AAI0865-08	Ground Water	09/26/17 13:28	09/27/17 13:41
PZ-42S	AAI0865-09	Ground Water	09/26/17 16:28	09/27/17 13:41
Dup-1	AAI0865-10	Ground Water	09/26/17 00:00	09/27/17 13:41
FB-1	AAI0865-11	Water	09/26/17 16:30	09/27/17 13:41
RB-1	AAI0865-12	Water	09/26/17 16:35	09/27/17 13:41

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: BRGWA-2S
Date/Time Sampled: 09/26/2017 9:59:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-01
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	45	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	1.8	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 15:36	7090751	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 15:36	7090751	RLC
Sulfate	0.62	1.0	0.02	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 15:36	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Barium	0.0096	0.0100	0.0004	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Calcium	3.31	0.500	0.0404	mg/L	EPA 6020B	B-01	1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Chromium	0.0045	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Cobalt	0.0020	0.0100	0.0003	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Lead	0.00007	0.0050	0.00007	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 17:50	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 16:46	7090822	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: BRGWA-2I
Date/Time Sampled: 09/26/2017 11:24:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-02
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	167	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	2.0	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 16:38	7090751	RLC
Fluoride	0.14	0.30	0.03	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 16:38	7090751	RLC
Sulfate	5.4	1.0	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 16:38	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Arsenic	0.0010	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Barium	0.0156	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Boron	0.0093	0.0400	0.0060	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Calcium	14.3	5.00	2.02	mg/L	EPA 6020B	B-01	50	09/29/17 11:15	09/29/17 18:07	7090781	CSW
Chromium	0.0005	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Lead	0.00007	0.0050	0.00007	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Molybdenum	0.0011	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Lithium	0.0549	0.0500	0.0015	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:01	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 16:48	7090822	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: BRGWA-5S
Date/Time Sampled: 09/26/2017 11:50:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-03
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	138	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	4.1	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 16:59	7090751	RLC
Fluoride	0.04	0.30	0.03	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 16:59	7090751	RLC
Sulfate	0.92	1.0	0.02	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 16:59	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Barium	0.0586	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Calcium	24.0	5.00	2.02	mg/L	EPA 6020B	B-01	50	09/29/17 11:15	09/29/17 18:19	7090781	CSW
Chromium	0.0037	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Cobalt	0.0005	0.0100	0.0003	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:13	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 16:55	7090822	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: BRGWA-5I
Date/Time Sampled: 09/26/2017 11:24:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-04
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	108	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	4.4	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 17:19	7090751	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 17:19	7090751	RLC
Sulfate	4.1	1.0	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 17:19	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Arsenic	0.0009	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Barium	0.0364	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Calcium	14.4	5.00	2.02	mg/L	EPA 6020B	B-01	50	09/29/17 11:15	09/29/17 18:41	7090781	CSW
Chromium	0.0039	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Cobalt	0.0016	0.0100	0.0003	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Molybdenum	0.0053	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Lithium	0.0022	0.0500	0.0015	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:36	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 16:57	7090822	MTC

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: BRGWA-6S
Date/Time Sampled: 09/26/2017 8:43:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-05
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	29	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	2.3	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 17:40	7090751	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 17:40	7090751	RLC
Sulfate	0.53	1.0	0.02	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 17:40	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Barium	0.0133	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Calcium	3.15	0.500	0.0404	mg/L	EPA 6020B	B-01	1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Chromium	0.0144	0.0100	0.0005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Cobalt	0.0003	0.0100	0.0003	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Lithium	0.0023	0.0500	0.0015	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:47	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 17:00	7090822	MTC

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October 05, 2017

Report No.: AAI0865
Client ID: BRGWA-12S
Date/Time Sampled: 09/26/2017 3:25:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-06
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	68	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	3.3	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 18:01	7090751	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 18:01	7090751	RLC
Sulfate	1.3	1.0	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 18:01	7090751	RLC
Metals, Total											
Antimony	0.0032	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Arsenic	0.0006	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Barium	0.0547	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Calcium	4.49	0.500	0.0404	mg/L	EPA 6020B	B-01	1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Chromium	0.0018	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 18:58	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 17:02	7090822	MTC

PACE ANALYTICAL SERVICES, LLC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: BRGWA-12I
Date/Time Sampled: 09/26/2017 3:35:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-07
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	149	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	3.3	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 18:22	7090751	RLC
Fluoride	0.10	0.30	0.03	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 18:22	7090751	RLC
Sulfate	2.5	1.0	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 18:22	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Arsenic	0.0012	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Barium	0.0765	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Calcium	19.3	5.00	2.02	mg/L	EPA 6020B	B-01	50	09/29/17 11:15	09/29/17 19:16	7090781	CSW
Chromium	0.0014	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Lithium	0.0037	0.0500	0.0015	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:10	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 17:05	7090822	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: BRGWA-23S
Date/Time Sampled: 09/26/2017 1:28:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-08
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	160	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	3.5	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 18:43	7090751	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 18:43	7090751	RLC
Sulfate	89	5.0	0.08	mg/L	EPA 300.0		5	09/28/17 09:52	10/03/17 15:59	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Arsenic	0.0012	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Barium	0.104	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Calcium	15.0	5.00	2.02	mg/L	EPA 6020B	B-01	50	09/29/17 11:15	09/29/17 19:27	7090781	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Cobalt	0.0037	0.0100	0.0003	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Lithium	0.0087	0.0500	0.0015	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:21	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 17:07	7090822	MTC

PACE ANALYTICAL SERVICES, LLC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: PZ-42S
Date/Time Sampled: 09/26/2017 4:28:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-09
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	119	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	5.4	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 20:29	7090751	RLC
Fluoride	0.21	0.30	0.03	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 20:29	7090751	RLC
Sulfate	13	1.0	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 20:29	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Arsenic	0.0012	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Barium	0.0114	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Boron	0.0193	0.0400	0.0060	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Calcium	15.8	5.00	2.02	mg/L	EPA 6020B	B-01	50	09/29/17 11:15	09/29/17 19:50	7090781	CSW
Chromium	0.0011	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Lead	0.00008	0.0050	0.00007	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Molybdenum	0.0036	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:44	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 17:09	7090822	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: Dup-1
Date/Time Sampled: 09/26/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0865-10
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	61	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	3.3	0.25	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 21:10	7090751	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 21:10	7090751	RLC
Sulfate	1.2	1.0	0.02	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 21:10	7090751	RLC
Metals, Total											
Antimony	0.0033	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Barium	0.0570	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Calcium	4.46	0.500	0.0404	mg/L	EPA 6020B	B-01	1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Chromium	0.0017	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 19:56	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 17:12	7090822	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: FB-1
Date/Time Sampled: 09/26/2017 4:30:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAI0865-11
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	0.06	0.25	0.02	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 21:30	7090751	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 21:30	7090751	RLC
Sulfate	0.03	1.0	0.02	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 21:30	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:07	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 17:14	7090822	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865
Client ID: RB-1
Date/Time Sampled: 09/26/2017 4:35:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAI0865-12
Date/Time Received: 09/27/2017 1:41:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	09/29/17 12:45	09/29/17 12:45	7090799	JPT
Inorganic Anions											
Chloride	0.06	0.25	0.02	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 21:51	7090751	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/28/17 09:52	09/28/17 21:51	7090751	RLC
Sulfate	0.03	1.0	0.02	mg/L	EPA 300.0	J	1	09/28/17 09:52	09/28/17 21:51	7090751	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Calcium	0.0413	0.500	0.0404	mg/L	EPA 6020B	B-01, J	1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	09/29/17 11:15	09/29/17 20:13	7090781	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/02/17 11:30	10/02/17 17:16	7090822	MTC

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October 05, 2017

Report No.: AAI0865

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090799 - SM 2540 C											
Blank (7090799-BLK1)						Prepared & Analyzed: 09/29/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7090799-BS1)						Prepared & Analyzed: 09/29/17					
Total Dissolved Solids	383	25	10	mg/L	400.00		96	84-108			
Duplicate (7090799-DUP1)		**Source: AAI0865-02**				Prepared & Analyzed: 09/29/17					
Total Dissolved Solids	150	25	10	mg/L		167			11	10	QR-03
Duplicate (7090799-DUP2)		**Source: AAI0865-12**				Prepared & Analyzed: 09/29/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

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Report No.: AAI0865

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090751 - EPA 300.0											
Blank (7090751-BLK1)						Prepared & Analyzed: 09/28/17					
Chloride	ND	0.25	0.02	mg/L							
Fluoride	ND	0.30	0.03	mg/L							
Sulfate	ND	1.0	0.02	mg/L							
LCS (7090751-BS1)						Prepared & Analyzed: 09/28/17					
Chloride	10.5	0.25	0.02	mg/L	10.020		105	90-110			
Fluoride	9.84	0.30	0.03	mg/L	10.020		98	90-110			
Sulfate	10.5	1.0	0.02	mg/L	10.050		104	90-110			
Matrix Spike (7090751-MS1)			**Source: AAI0865-01**			Prepared & Analyzed: 09/28/17					
Chloride	12.3	0.25	0.02	mg/L	10.020	1.76	105	90-110			
Fluoride	10.0	0.30	0.03	mg/L	10.020	ND	100	90-110			
Sulfate	11.2	1.0	0.02	mg/L	10.050	0.62	106	90-110			
Matrix Spike (7090751-MS2)			**Source: AAI0865-09**			Prepared & Analyzed: 09/28/17					
Chloride	16.0	0.25	0.02	mg/L	10.020	5.42	106	90-110			
Fluoride	10.5	0.30	0.03	mg/L	10.020	0.21	103	90-110			
Sulfate	22.9	1.0	0.02	mg/L	10.050	13.3	95	90-110			
Matrix Spike Dup (7090751-MSD1)			**Source: AAI0865-01**			Prepared & Analyzed: 09/28/17					
Chloride	12.3	0.25	0.02	mg/L	10.020	1.76	105	90-110	0.1	15	
Fluoride	10.1	0.30	0.03	mg/L	10.020	ND	101	90-110	0.5	15	
Sulfate	11.3	1.0	0.02	mg/L	10.050	0.62	106	90-110	0.2	15	

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Report No.: AAI0865

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090781 - EPA 3005A											
Blank (7090781-BLK1)						Prepared & Analyzed: 09/29/17					
Antimony	ND	0.0030	0.0006	mg/L							
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	0.0504	0.500	0.0404	mg/L							J
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	0.0010	0.0100	0.0005	mg/L							J
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	0.0013	0.0100	0.0012	mg/L							J
Lithium	ND	0.0500	0.0015	mg/L							
LCS (7090781-BS1)						Prepared & Analyzed: 09/29/17					
Antimony	0.0971	0.0030	0.0006	mg/L	0.10000		97	80-120			
Arsenic	0.0964	0.0050	0.0005	mg/L	0.10000		96	80-120			
Barium	0.0962	0.0100	0.0004	mg/L	0.10000		96	80-120			
Beryllium	0.102	0.0030	0.00009	mg/L	0.10000		102	80-120			
Cadmium	0.0954	0.0010	0.0001	mg/L	0.10000		95	80-120			
Chromium	0.0975	0.0100	0.0005	mg/L	0.10000		97	80-120			
Cobalt	0.0984	0.0100	0.0003	mg/L	0.10000		98	80-120			
Copper	0.0972	0.0250	0.0003	mg/L	0.10000		97	80-120			
Lead	0.0995	0.0050	0.00007	mg/L	0.10000		99	80-120			
Nickel	0.0996	0.0100	0.0005	mg/L	0.10000		100	80-120			
Selenium	0.0973	0.0100	0.0018	mg/L	0.10000		97	80-120			
Silver	0.0947	0.0100	0.0002	mg/L	0.10000		95	80-120			
Thallium	0.104	0.0010	0.00005	mg/L	0.10000		104	80-120			
Vanadium	0.101	0.0100	0.0012	mg/L	0.10000		101	80-120			
Zinc	0.0982	0.0100	0.0012	mg/L	0.10000		98	80-120			
Lithium	0.0978	0.0500	0.0015	mg/L	0.10000		98	80-120			

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Report No.: AAI0865

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090781 - EPA 3005A											
Matrix Spike (7090781-MS1)		**Source: AAI0808-01**				Prepared & Analyzed: 09/29/17					
Antimony	0.102	0.0030	0.0006	mg/L	0.10000	ND	102	75-125			
Arsenic	0.0968	0.0050	0.0005	mg/L	0.10000	ND	97	75-125			
Barium	0.124	0.0100	0.0004	mg/L	0.10000	0.0228	101	75-125			
Beryllium	0.103	0.0030	0.00009	mg/L	0.10000	ND	103	75-125			
Cadmium	0.0991	0.0010	0.0001	mg/L	0.10000	ND	99	75-125			
Chromium	0.0988	0.0100	0.0005	mg/L	0.10000	0.0018	97	75-125			
Cobalt	0.0932	0.0100	0.0003	mg/L	0.10000	ND	93	75-125			
Copper	0.0943	0.0250	0.0003	mg/L	0.10000	ND	94	75-125			
Lead	0.0995	0.0050	0.00007	mg/L	0.10000	0.00008	99	75-125			
Nickel	0.100	0.0100	0.0005	mg/L	0.10000	0.0015	99	75-125			
Selenium	0.0946	0.0100	0.0018	mg/L	0.10000	ND	95	75-125			
Silver	0.0984	0.0100	0.0002	mg/L	0.10000	ND	98	75-125			
Thallium	0.104	0.0010	0.00005	mg/L	0.10000	0.0001	104	75-125			
Vanadium	0.101	0.0100	0.0012	mg/L	0.10000	ND	101	75-125			
Zinc	0.0985	0.0100	0.0012	mg/L	0.10000	0.0020	96	75-125			
Lithium	0.106	0.0500	0.0015	mg/L	0.10000	ND	106	75-125			
Matrix Spike Dup (7090781-MSD1)		**Source: AAI0808-01**				Prepared & Analyzed: 09/29/17					
Antimony	0.104	0.0030	0.0006	mg/L	0.10000	ND	104	75-125	2	20	
Arsenic	0.0999	0.0050	0.0005	mg/L	0.10000	ND	100	75-125	3	20	
Barium	0.125	0.0100	0.0004	mg/L	0.10000	0.0228	102	75-125	0.8	20	
Beryllium	0.101	0.0030	0.00009	mg/L	0.10000	ND	101	75-125	2	20	
Cadmium	0.100	0.0010	0.0001	mg/L	0.10000	ND	100	75-125	1	20	
Chromium	0.104	0.0100	0.0005	mg/L	0.10000	0.0018	103	75-125	6	20	
Cobalt	0.100	0.0100	0.0003	mg/L	0.10000	ND	100	75-125	7	20	
Copper	0.0991	0.0250	0.0003	mg/L	0.10000	ND	99	75-125	5	20	
Lead	0.0990	0.0050	0.00007	mg/L	0.10000	0.00008	99	75-125	0.5	20	
Nickel	0.102	0.0100	0.0005	mg/L	0.10000	0.0015	100	75-125	2	20	
Selenium	0.102	0.0100	0.0018	mg/L	0.10000	ND	102	75-125	7	20	
Silver	0.101	0.0100	0.0002	mg/L	0.10000	ND	101	75-125	2	20	
Thallium	0.102	0.0010	0.00005	mg/L	0.10000	0.0001	102	75-125	2	20	
Vanadium	0.108	0.0100	0.0012	mg/L	0.10000	ND	108	75-125	7	20	
Zinc	0.100	0.0100	0.0012	mg/L	0.10000	0.0020	98	75-125	2	20	
Lithium	0.0984	0.0500	0.0015	mg/L	0.10000	ND	98	75-125	8	20	

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October 05, 2017

Report No.: AAI0865

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090781 - EPA 3005A											
Post Spike (7090781-PS1)			**Source: AAI0808-01**			Prepared & Analyzed: 09/29/17					
Antimony	96.1			ug/L	100.00	0.167	96	80-120			
Arsenic	98.8			ug/L	100.00	0.411	98	80-120			
Barium	121			ug/L	100.00	22.8	98	80-120			
Beryllium	99.8			ug/L	100.00	0.0277	100	80-120			
Cadmium	99.1			ug/L	100.00	0.0266	99	80-120			
Chromium	103			ug/L	100.00	1.84	101	80-120			
Cobalt	96.7			ug/L	100.00	0.227	97	80-120			
Copper	98.0			ug/L	100.00	0.113	98	80-120			
Lead	96.7			ug/L	100.00	0.0829	97	80-120			
Nickel	100			ug/L	100.00	1.48	99	80-120			
Selenium	98.2			ug/L	100.00	-0.0984	98	80-120			
Silver	96.6			ug/L	100.00	0.0060	97	80-120			
Thallium	98.5			ug/L	100.00	0.124	98	80-120			
Vanadium	105			ug/L	100.00	0.338	104	80-120			
Zinc	98.3			ug/L	100.00	2.02	96	80-120			
Lithium	97.7			ug/L	100.00	0.463	97	80-120			
Batch 7090822 - EPA 7470A											
Blank (7090822-BLK1)						Prepared & Analyzed: 10/02/17					
Mercury	ND	0.00050	0.000036	mg/L							
LCS (7090822-BS1)						Prepared & Analyzed: 10/02/17					
Mercury	0.00243	0.00050	0.000036	mg/L	2.5000E-3		97	80-120			
Matrix Spike (7090822-MS1)			**Source: AAI0810-01**			Prepared & Analyzed: 10/02/17					
Mercury	0.00232	0.00050	0.000036	mg/L	2.5000E-3	ND	93	75-125			

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0865

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090822 - EPA 7470A											
Matrix Spike Dup (7090822-MSD1)			**Source: AAI0810-01**			Prepared & Analyzed: 10/02/17					
Mercury	0.00203	0.00050	0.000036	mg/L	2.5000E-3	ND	81	75-125	13	20	
Post Spike (7090822-PS1)			**Source: AAI0810-01**			Prepared & Analyzed: 10/02/17					
Mercury	1.74			ug/L	1.6667	-0.0230	105	80-120			

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Attention: Mr. Joju Abraham

October 05, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to suspected matrix interference and/or non-homogeneous sample matrix.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power
CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd. SE 310185 Atlanta, GA 30308 P:404-506-7239
REPORT TO: Soju Abraham
CC: Maria Padilla
REQUESTED COMPLETION DATE: -
PO #: laburch@southernco.com
PROJECT NAME/STATE: Plant Branch
PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Appendix 3 and 4 (EPA 6020/7470) (P, 3)	TDS, Cl, F, SO4 (EPA 300.0 and SM2540C) (P, 7)	Radium 226 and 228 (SW-846 9315/9320) (P, 3)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
09-26-17	0959	GW		X	BRGWA-2S	4	1	1	2	1	
09-26-17	1124	GW		X	BRGWA-2I	4	1	1	2	2	
09-26-17	1150	GW		X	BRGWA-5S	4	1	1	2	3	
09-26-17	1124	GW		X	BRGWA-5I	4	1	1	2	4	
09-26-17	0843	GW		X	BRGWA-6S	4	1	1	2	5	
09-26-17	1525	GW		X	BRGWA-12S	4	1	1	2	6	
09-26-17	1535	GW		X	BRGWA-12I	6	1	1	4	7	2nd Rad Sampled
09-26-17	1328	GW		X	BRGWA-23S	4	1	1	2	8	
09-26-17	1628	GW		X	PZ-42S	4	1	1	2	9	
09-26-17	-	GW		X	DUP-1	4	1	1	2	10	
09-26-17	1630	W		X	FB-1	4	1	1	2	11	
09-26-17	1635	W		X	RB-1	4	1	1	2	12	

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

SAMPLED BY AND TITLE: William Ballew, Geologist — DATE/TIME: 09-26-17/1730
RELINQUISHED BY: William Ballew — DATE/TIME: 9-27-17/1200
RECEIVED BY: TEloc — DATE/TIME: 9-27-17 1200
RELINQUISHED BY: TEloc — DATE/TIME: 9-27-17 1341
RECEIVED BY LAB: Q Lahman — DATE/TIME: 09/27/17 1341
SAMPLE SHIPPED VIA: UPS FED-EX USPS (COURIER) CLIENT OTHER FS
Checked: Yes No NA — Ice: (Yes) No NA — Temperature: Min: 0.2 Max: — Custody Seal: (Intact) Broken Not Present — # of Coolers: — Cooler ID:

FOR LAB USE ONLY
LAB #: AAI0865
Entered into LIMS: MR
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAI0865

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other _____

Optional: Proj Due Date: Proj Name:

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.2 Biological Tissue is Frozen: Yes No

Date and initials of person examining contents: 9/27/17 MA

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): _____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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)

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST

Printed: 9/28/2017 9:19:55AM

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 09/27/17 13:41

Work Order: AAI0865
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 12 **#Containers:** 50

Minimum Temp(C): 0.2 **Maximum Temp(C):** 0.2 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 13, 2017

Mr. Joju Abraham
Georgia Power
2480 Maner Road
Atlanta, GA 30339

RE: Project: AAI0865 Plant Branch
Pace Project No.: 30231328

Dear Mr. Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on September 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAI0865 Plant Branch
Pace Project No.: 30231328

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAI0865 Plant Branch
Pace Project No.: 30231328

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30231328001	**BRGWA-2S**	Water	09/26/17 09:59	09/28/17 10:15
30231328002	**BRGWA-2I**	Water	09/26/17 11:24	09/28/17 10:15
30231328003	**BRGWA-5S**	Water	09/26/17 11:50	09/28/17 10:15
30231328004	**BRGWA-5I**	Water	09/26/17 11:24	09/28/17 10:15
30231328005	**BRGWA-6S**	Water	09/26/17 08:43	09/28/17 10:15
30231328006	**BRGWA-12S**	Water	09/26/17 15:25	09/28/17 10:15
30231328007	**BRGWA-12I**	Water	09/26/17 15:35	09/28/17 10:15
30231328008	**BRGWA-23S**	Water	09/26/17 13:28	09/28/17 10:15
30231328009	**PZ-42S**	Water	09/26/17 16:28	09/28/17 10:15
30231328010	**DUP-1**	Water	09/26/17 00:00	09/28/17 10:15
30231328011	**FB-1**	Water	09/26/17 16:30	09/28/17 10:15
30231328012	**RB-1**	Water	09/26/17 16:35	09/28/17 10:15

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAI0865 Plant Branch
Pace Project No.: 30231328

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30231328001	**BRGWA-2S**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328002	**BRGWA-2I**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328003	**BRGWA-5S**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328004	**BRGWA-5I**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328005	**BRGWA-6S**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328006	**BRGWA-12S**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328007	**BRGWA-12I**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328008	**BRGWA-23S**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328009	**PZ-42S**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328010	**DUP-1**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328011	**FB-1**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30231328012	**RB-1**	EPA 9315	LAL	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAI0865 Plant Branch
Pace Project No.: 30231328

Sample: BRGWA-2S **Lab ID: 30231328001** Collected: 09/26/17 09:59 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.156 ± 0.187 (0.384) C:93% T:NA**	pCi/L	10/04/17 08:25	13982-63-3	
Radium-228	EPA 9320	**0.143 ± 0.430 (0.964) C:78% T:83%**	pCi/L	10/11/17 17:54	15262-20-1	
Total Radium	Total Radium Calculation	**0.299 ± 0.617 (1.35)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: BRGWA-2I **Lab ID: 30231328002** Collected: 09/26/17 11:24 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.314 ± 0.232 (0.394) C:94% T:NA**	pCi/L	10/04/17 08:25	13982-63-3	
Radium-228	EPA 9320	**0.531 ± 0.436 (0.865) C:78% T:80%**	pCi/L	10/11/17 17:54	15262-20-1	
Total Radium	Total Radium Calculation	**0.845 ± 0.668 (1.26)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: BRGWA-5S **Lab ID: 30231328003** Collected: 09/26/17 11:50 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.292 ± 0.220 (0.370) C:95% T:NA**	pCi/L	10/04/17 08:25	13982-63-3	
Radium-228	EPA 9320	**0.470 ± 0.420 (0.849) C:78% T:87%**	pCi/L	10/11/17 17:54	15262-20-1	
Total Radium	Total Radium Calculation	**0.762 ± 0.640 (1.22)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: BRGWA-5I **Lab ID: 30231328004** Collected: 09/26/17 11:24 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.195 ± 0.221 (0.450) C:89% T:NA**	pCi/L	10/04/17 08:25	13982-63-3	
Radium-228	EPA 9320	**0.425 ± 0.406 (0.828) C:77% T:89%**	pCi/L	10/11/17 17:54	15262-20-1	
Total Radium	Total Radium Calculation	**0.620 ± 0.627 (1.28)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: BRGWA-6S **Lab ID: 30231328005** Collected: 09/26/17 08:43 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.167 ± 0.190 (0.376) C:91% T:NA**	pCi/L	10/04/17 08:25	13982-63-3	
Radium-228	EPA 9320	**-0.434 ± 0.327 (0.866) C:78% T:85%**	pCi/L	10/11/17 17:54	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAI0865 Plant Branch
Pace Project No.: 30231328

Sample: BRGWA-6S **Lab ID: 30231328005** Collected: 09/26/17 08:43 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.167 ± 0.517 (1.24)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: BRGWA-12S **Lab ID: 30231328006** Collected: 09/26/17 15:25 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.403 ± 0.250 (0.376) C:89% T:NA**	pCi/L	10/04/17 08:26	13982-63-3	
Radium-228	EPA 9320	**0.157 ± 0.309 (0.682) C:79% T:89%**	pCi/L	10/11/17 17:55	15262-20-1	
Total Radium	Total Radium Calculation	**0.560 ± 0.559 (1.06)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: BRGWA-12I **Lab ID: 30231328007** Collected: 09/26/17 15:35 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.513 ± 0.272 (0.388) C:94% T:NA**	pCi/L	10/04/17 08:26	13982-63-3	
Radium-228	EPA 9320	**0.328 ± 0.378 (0.791) C:79% T:85%**	pCi/L	10/11/17 17:55	15262-20-1	
Total Radium	Total Radium Calculation	**0.841 ± 0.650 (1.18)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: BRGWA-23S **Lab ID: 30231328008** Collected: 09/26/17 13:28 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.756 ± 0.381 (0.572) C:80% T:NA**	pCi/L	10/04/17 08:26	13982-63-3	
Radium-228	EPA 9320	**0.501 ± 0.432 (0.865) C:80% T:80%**	pCi/L	10/11/17 17:56	15262-20-1	
Total Radium	Total Radium Calculation	**1.26 ± 0.813 (1.44)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: PZ-42S **Lab ID: 30231328009** Collected: 09/26/17 16:28 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.305 ± 0.263 (0.489) C:79% T:NA**	pCi/L	10/04/17 08:26	13982-63-3	
Radium-228	EPA 9320	**0.173 ± 0.397 (0.882) C:78% T:91%**	pCi/L	10/11/17 17:50	15262-20-1	
Total Radium	Total Radium Calculation	**0.478 ± 0.660 (1.37)**	pCi/L	10/13/17 08:51	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAI0865 Plant Branch
Pace Project No.: 30231328

Sample: DUP-1 **Lab ID: 30231328010** Collected: 09/26/17 00:00 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.818 ± 0.364 (0.447) C:79% T:NA**	pCi/L	10/04/17 08:26	13982-63-3	
Radium-228	EPA 9320	**0.427 ± 0.463 (0.966) C:79% T:83%**	pCi/L	10/11/17 17:49	15262-20-1	
Total Radium	Total Radium Calculation	**1.25 ± 0.827 (1.41)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: FB-1 **Lab ID: 30231328011** Collected: 09/26/17 16:30 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.258 ± 0.236 (0.453) C:88% T:NA**	pCi/L	10/04/17 08:27	13982-63-3	
Radium-228	EPA 9320	**0.278 ± 0.437 (0.947) C:80% T:78%**	pCi/L	10/11/17 17:50	15262-20-1	
Total Radium	Total Radium Calculation	**0.536 ± 0.673 (1.40)**	pCi/L	10/13/17 08:51	7440-14-4	

Sample: RB-1 **Lab ID: 30231328012** Collected: 09/26/17 16:35 Received: 09/28/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.366 ± 0.245 (0.389) C:84% T:NA**	pCi/L	10/04/17 08:26	13982-63-3	
Radium-228	EPA 9320	**0.0254 ± 0.424 (0.983) C:77% T:76%**	pCi/L	10/11/17 17:50	15262-20-1	
Total Radium	Total Radium Calculation	**0.391 ± 0.669 (1.37)**	pCi/L	10/13/17 08:51	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAI0865 Plant Branch
Pace Project No.: 30231328

QC Batch: 273680 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30231328001, 30231328002, 30231328003, 30231328004, 30231328005, 30231328006, 30231328007, 30231328008, 30231328009, 30231328010, 30231328011, 30231328012

METHOD BLANK: 1346118 Matrix: Water
Associated Lab Samples: 30231328001, 30231328002, 30231328003, 30231328004, 30231328005, 30231328006, 30231328007, 30231328008, 30231328009, 30231328010, 30231328011, 30231328012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.235 ± 0.194 (0.342) C:100% T:NA	pCi/L	10/04/17 08:25	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAI0865 Plant Branch
Pace Project No.: 30231328

QC Batch: 273681 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30231328001, 30231328002, 30231328003, 30231328004, 30231328005, 30231328006, 30231328007, 30231328008, 30231328009, 30231328010, 30231328011, 30231328012

METHOD BLANK: 1346129 Matrix: Water
Associated Lab Samples: 30231328001, 30231328002, 30231328003, 30231328004, 30231328005, 30231328006, 30231328007, 30231328008, 30231328009, 30231328010, 30231328011, 30231328012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.514 ± 0.344 (0.659) C:81% T:90%	pCi/L	10/11/17 15:48	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAI0865 Plant Branch
Pace Project No.: 30231328

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.

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.

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.

30231328

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAI0865 Workorder Name: Plant Branch Owner Received Date: 9/27/2017 Results Requested By: 10/18/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO# : 30231328

30231328

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3					Requested Analysis: Radium 226, 228, Total											LAB USE ONLY
1	BRGWA-2S	Grab	9/26/17 0959	AAI0865-01	GW	2					X											001
2	BRGWA-2I	Grab	9/26/17 1124	AAI0865-02	GW	2					X											002
3	BRGWA-5S	Grab	9/26/17 1150	AAI0865-03	GW	2					X											003
4	BRGWA-5I	Grab	9/26/17 1124	AAI0865-04	GW	2					X											004
5	BRGWA-6S	Grab	9/26/17 0843	AAI0865-05	GW	2					X											005
6	BRGWA-12S	Grab	9/26/17 1525	AAI0865-06	GW	2					X											006
7	BRGWA-12I	Grab	9/26/17 1535	AAI0865-07	GW	4					X											007
8	BRGWA-23S	Grab	9/26/17 1328	AAI0865-08	GW	2					X											008
9	PZ-42S	Grab	9/26/17 1628	AAI0865-09	GW	2					X											009
10	DUP-1	Grab	9/26/17 0000	AAI0865-10	GW	2					X											010

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	9/27/17		9/28/17 1015	Suitability testing
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30231328 –

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAI0865 Workorder Name: Plant Branch Owner Received Date: 9/27/2017 Results Requested By: 10/18/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
11	FB-1	Grab	9/26/2017 1630	AAI0865-11	W	2	X	011
12	RB-1	Grab	9/26/2017 1635	AAI0865-12	W	2	X	012
13								
14								
15								
16								
17								
18								
19								
20								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	9/27/17		9/28/17 1015	Suitability testing
2					
3					

Cooler Temperature on Receipt NA °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30231328 - 9502

CHAIN OF CUSTODY RECORD

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE 310185
Atlanta, GA 30308 P:404-506-7239

REPORT TO: Soju Abraham
CC: Maria Padilla

REQUESTED COMPLETION DATE: -
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Appendix 3 and 4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 and SM2540C)	Radium 226 and 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
09-26-17	0959	GW		X	BRGWA-2S	4	1	1	2	1	
09-26-17	1124	GW		X	BRGWA-2I	4	1	1	2	2	
09-26-17	1150	GW		X	BRGWA-5S	4	1	1	2	3	
09-26-17	1124	GW		X	BRGWA-5I	4	1	1	2	4	
09-26-17	0843	GW		X	BRGWA-6S	4	1	1	2	5	
09-26-17	1525	GW		X	BRGWA-12S	4	1	1	2	6	
09-26-17	1535	GW		X	BRGWA-12I	6	1	1	4	7	2nd Rad Sampled
09-26-17	1328	GW		X	BRGWA-23S	4	1	1	2	8	
09-26-17	1628	GW		X	PZ-42S	4	1	1	2	9	
09-26-17	-	GW		X	DUP-1	4	1	1	2	10	
09-26-17	1630	W		X	FB-1	4	1	1	2	11	
09-26-17	1635	W		X	RB-1	4	1	1	2	12	

CONTAINER TYPE / PRESERVATION

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

SAMPLED BY AND TITLE: William Ballew, Geologist
DATE/TIME: 09-26-17/1730

RELINQUISHED BY: William Ballew
DATE/TIME: 9-27-17/1200

RECEIVED BY: TEIDC
DATE/TIME: 9-27-17 1200

RELINQUISHED BY: TEIDC
DATE/TIME: 9-27-17 1341

RECEIVED BY LAB: Laurman
DATE/TIME: 09/27/17 1341

FOR LAB USE ONLY
LAB #: AAI0865
Entered into LIMS: MR

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Tracking #:

pH Checked: Yes No NA
Ice: Yes No NA
Temperature: Min: 0°2 Max:
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

COC Revised 2016-05-17.xlsx

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace GA Project # 30231328

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Label ZH

LIMS Login ZH

Tracking #: 774136658530

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ZH 9/28/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4. 9/18/17
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, Phenolics	✓ ✓			16. pH ≤ 2 Initial when completed ZH Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present: Trip Blank Custody Seals Present			✓ ✓	18.
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZH Date: 9/28/17

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: ~~Received 1 container for sample 012.~~ ZH 9/28/17

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	10/4/2017
Worklist:	38021
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1346129
MB concentration:	0.514
M/B Counting Uncertainty:	0.332
MB MDC:	0.659
MB Numerical Performance Indicator:	3.03
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS38021	LCSD38021
Count Date:	10/11/2017	10/11/2017
Spike I.D.:	17-033	17-033
Spike Concentration (pCi/mL):	23.296	23.296
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.813	0.814
Target Conc. (pCi/L, g, F):	5.729	5.726
Uncertainty (Calculated):	0.413	0.412
Result (pCi/L, g, F):	5.697	6.233
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.646	0.643
Numerical Performance Indicator:	-0.08	1.30
Percent Recovery:	99.43%	108.85%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	LCS38021	
Duplicate Sample I.D.	LCSD38021	
Sample Result (pCi/L, g, F):	5.697	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.646	
Sample Duplicate Result (pCi/L, g, F):	6.233	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.643	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	-1.153	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	9.05%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

10/13/17

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	10/3/2017
Worklist:	38020
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1346118
MB concentration:	0.235
M/B Counting Uncertainty:	0.191
MB MDC:	0.342
MB Numerical Performance Indicator:	2.41
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS38020	LCSD38020
Count Date:	10/4/2017	10/4/2017
Spike I.D.:	17-030	17-030
Spike Concentration (pCi/mL):	80.191	80.191
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.512	0.512
Target Conc. (pCi/L, g, F):	15.673	15.674
Uncertainty (Calculated):	1.444	1.444
Result (pCi/L, g, F):	13.050	12.207
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.317	1.051
Numerical Performance Indicator:	-2.63	-3.80
Percent Recovery:	83.27%	77.89%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Duplicate Sample Assessment		
Sample I.D.:	LCS38020	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD38020	
Sample Result (pCi/L, g, F):	13.050	
Sample Result Counting Uncertainty (pCi/L, g, F):	1.317	
Sample Duplicate Result (pCi/L, g, F):	12.207	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.051	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	0.981	
Duplicate RPD:	6.68%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

10/13/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAI0919
October 05, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Signature

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWC-24S	AAI0919-01	Ground Water	09/27/17 11:16	09/28/17 14:15
BRGWC-25I	AAI0919-02	Ground Water	09/27/17 09:48	09/28/17 14:15
BRGWC-27I	AAI0919-03	Ground Water	09/27/17 10:25	09/28/17 14:15
BRGWC-29I	AAI0919-04	Ground Water	09/27/17 12:18	09/28/17 14:15
BRGWC-30I	AAI0919-05	Ground Water	09/27/17 11:55	09/28/17 14:15
BRGWC-32S	AAI0919-06	Ground Water	09/27/17 14:18	09/28/17 14:15
BRGWC-33S	AAI0919-07	Ground Water	09/27/17 15:23	09/28/17 14:15
BRGWC-34S	AAI0919-08	Ground Water	09/27/17 15:48	09/28/17 14:15
PZ-40S	AAI0919-09	Ground Water	09/27/17 10:18	09/28/17 14:15
PZ-41S	AAI0919-10	Ground Water	09/27/17 09:16	09/28/17 14:15
Dup-2	AAI0919-11	Ground Water	09/27/17 00:00	09/28/17 14:15
FB-2	AAI0919-12	Water	09/27/17 16:10	09/28/17 14:15
RB-2	AAI0919-13	Water	09/27/17 16:15	09/28/17 14:15

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: BRGWC-24S
Date/Time Sampled: 09/27/2017 11:16:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-01
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	170	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	14	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 13:34	7090802	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 13:34	7090802	RLC
Sulfate	12	1.0	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 13:34	7090802	RLC
Metals, Total											
Antimony	0.0008	0.0030	0.0006	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Barium	0.0475	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Boron	0.0103	0.0400	0.0060	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Calcium	19.1	5.00	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 18:13	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Cobalt	0.0014	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Lithium	0.0037	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:07	7090818	CSW
Mercury	0.00004	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 15:38	7100044	MTC

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Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: BRGWC-25I
Date/Time Sampled: 09/27/2017 9:48:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-02
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	457	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	7.9	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 13:55	7090802	RLC
Fluoride	0.50	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 13:55	7090802	RLC
Sulfate	310	10	0.17	mg/L	EPA 300.0		10	09/29/17 09:47	10/05/17 02:32	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Barium	0.0383	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Boron	1.75	0.200	0.0298	mg/L	EPA 6020B		5	10/02/17 11:20	10/03/17 15:45	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Calcium	65.8	25.0	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 18:36	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Cobalt	0.0087	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:30	7090818	CSW
Mercury	0.00004	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 15:41	7100044	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: BRGWC-27I
Date/Time Sampled: 09/27/2017 10:25:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-03
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	376	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	4.9	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 14:16	7090802	RLC
Fluoride	0.40	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 14:16	7090802	RLC
Sulfate	260	10	0.17	mg/L	EPA 300.0		10	09/29/17 09:47	10/05/17 02:53	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Barium	0.0170	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Beryllium	0.0001	0.0030	0.00009	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Boron	1.16	0.0400	0.0060	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Calcium	72.6	25.0	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 18:47	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Cobalt	0.0095	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Selenium	0.0040	0.0100	0.0018	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Lithium	0.0016	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:42	7090818	CSW
Mercury	0.000047	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 15:43	7100044	MTC

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: BRGWC-29I
Date/Time Sampled: 09/27/2017 12:18:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-04
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	518	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	8.7	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 14:36	7090802	RLC
Fluoride	0.40	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 14:36	7090802	RLC
Sulfate	380	10	0.17	mg/L	EPA 300.0		10	09/29/17 09:47	10/05/17 03:14	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Arsenic	0.0016	0.0050	0.0005	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Barium	0.0165	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Beryllium	0.0010	0.0030	0.00009	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Boron	1.83	0.200	0.0298	mg/L	EPA 6020B		5	10/02/17 11:20	10/03/17 15:50	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Calcium	84.0	25.0	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 18:59	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Cobalt	0.0094	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Lead	0.0006	0.0050	0.00007	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Selenium	0.0068	0.0100	0.0018	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Thallium	0.0002	0.0010	0.00005	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Lithium	0.0038	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 18:53	7090818	CSW
Mercury	0.00004	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 15:46	7100044	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: BRGWC-30I
Date/Time Sampled: 09/27/2017 11:55:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-05
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	432	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	6.0	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 15:38	7090802	RLC
Fluoride	0.41	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 15:38	7090802	RLC
Sulfate	260	10	0.17	mg/L	EPA 300.0		10	09/29/17 09:47	10/05/17 03:34	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Barium	0.0213	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Boron	1.61	0.200	0.0298	mg/L	EPA 6020B		5	10/02/17 11:20	10/03/17 15:56	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Calcium	63.5	25.0	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 19:10	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Cobalt	0.0007	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Selenium	0.0034	0.0100	0.0018	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Lithium	0.0116	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:05	7090818	CSW
Mercury	0.00004	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 15:48	7100044	MTC

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Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: BRGWC-32S
Date/Time Sampled: 09/27/2017 2:18:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-06
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	601	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	7.2	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 15:59	7090802	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 15:59	7090802	RLC
Sulfate	400	10	0.17	mg/L	EPA 300.0		10	09/29/17 09:47	10/05/17 03:55	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Barium	0.0411	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Boron	1.51	0.200	0.0298	mg/L	EPA 6020B		5	10/02/17 11:20	10/03/17 16:02	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Calcium	68.4	25.0	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 19:22	7090818	CSW
Chromium	0.0011	0.0100	0.0005	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Selenium	0.0019	0.0100	0.0018	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Lithium	0.0021	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:16	7090818	CSW
Mercury	0.00010	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 15:55	7100044	MTC

PACE ANALYTICAL SERVICES, LLC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: BRGWC-33S
Date/Time Sampled: 09/27/2017 3:23:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-07
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	303	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	5.4	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 16:20	7090802	RLC
Fluoride	0.42	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 16:20	7090802	RLC
Sulfate	200	10	0.17	mg/L	EPA 300.0		10	09/29/17 09:47	10/05/17 04:16	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Barium	0.0219	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Beryllium	0.0017	0.0030	0.00009	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Boron	1.04	0.0400	0.0060	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Cadmium	0.0004	0.0010	0.0001	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Calcium	49.5	25.0	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 19:45	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Cobalt	0.0490	0.0100	0.0003	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Lead	0.00007	0.0050	0.00007	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Selenium	0.0036	0.0100	0.0018	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Thallium	0.0002	0.0010	0.00005	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Lithium	0.0099	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:39	7090818	CSW
Mercury	0.00004	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 15:57	7100044	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: BRGWC-34S
Date/Time Sampled: 09/27/2017 3:48:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-08
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	579	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	7.6	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 16:40	7090802	RLC
Fluoride	0.40	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 16:40	7090802	RLC
Sulfate	360	10	0.17	mg/L	EPA 300.0		10	09/29/17 09:47	10/05/17 04:37	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Barium	0.0347	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Beryllium	0.0001	0.0030	0.00009	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Boron	2.40	2.00	0.298	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 19:56	7090818	CSW
Cadmium	0.0007	0.0010	0.0001	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Calcium	95.8	25.0	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 19:56	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Cobalt	0.0028	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Lead	0.00009	0.0050	0.00007	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 19:50	7090818	CSW
Mercury	0.00004	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 16:00	7100044	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: PZ-40S
Date/Time Sampled: 09/27/2017 10:18:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-09
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	187	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	9.1	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 18:24	7090802	RLC
Fluoride	0.16	0.30	0.03	mg/L	EPA 300.0	J	1	09/29/17 09:47	09/29/17 18:24	7090802	RLC
Sulfate	13	1.0	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 18:24	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Barium	0.0536	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Boron	0.0234	0.0400	0.0060	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Calcium	18.2	5.00	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 20:08	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Cobalt	0.0010	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Lead	0.00008	0.0050	0.00007	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Lithium	0.0030	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:02	7090818	CSW
Mercury	0.00004	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 16:02	7100044	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: PZ-41S
Date/Time Sampled: 09/27/2017 9:16:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-10
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	246	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	5.4	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 19:05	7090802	RLC
Fluoride	0.28	0.30	0.03	mg/L	EPA 300.0	J	1	09/29/17 09:47	09/29/17 19:05	7090802	RLC
Sulfate	100	10	0.17	mg/L	EPA 300.0		10	09/29/17 09:47	10/05/17 04:59	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Arsenic	0.0022	0.0050	0.0005	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Barium	0.0748	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Boron	0.428	0.0400	0.0060	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Calcium	22.4	5.00	2.02	mg/L	EPA 6020B		50	10/02/17 11:20	10/02/17 20:19	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Cobalt	0.0097	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Lithium	0.0033	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:13	7090818	CSW
Mercury	0.00004	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 16:05	7100044	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: Dup-2
Date/Time Sampled: 09/27/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0919-11
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	173	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	15	0.25	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 19:26	7090802	RLC
Fluoride	0.31	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 19:26	7090802	RLC
Sulfate	12	1.0	0.02	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 19:26	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Barium	0.0482	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Boron	0.0099	0.0400	0.0060	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Calcium	17.5	2.50	0.202	mg/L	EPA 6020B		5	10/02/17 11:20	10/02/17 20:59	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Cobalt	0.0017	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Lithium	0.0033	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:25	7090818	CSW
Mercury	0.00004	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 16:07	7100044	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: FB-2
Date/Time Sampled: 09/27/2017 4:10:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAI0919-12
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	0.07	0.25	0.02	mg/L	EPA 300.0	J	1	09/29/17 09:47	09/29/17 19:46	7090802	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 19:46	7090802	RLC
Sulfate	0.05	1.0	0.02	mg/L	EPA 300.0	J	1	09/29/17 09:47	09/29/17 19:46	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:48	7090818	CSW
Mercury	0.00005	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 16:09	7100044	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919
Client ID: RB-2
Date/Time Sampled: 09/27/2017 4:15:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAI0919-13
Date/Time Received: 09/28/2017 2:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	10/02/17 16:30	10/02/17 16:30	7100011	JPT
Inorganic Anions											
Chloride	0.06	0.25	0.02	mg/L	EPA 300.0	J	1	09/29/17 09:47	09/29/17 20:07	7090802	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	09/29/17 09:47	09/29/17 20:07	7090802	RLC
Sulfate	0.03	1.0	0.02	mg/L	EPA 300.0	J	1	09/29/17 09:47	09/29/17 20:07	7090802	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Cadmium	0.0008	0.0010	0.0001	mg/L	EPA 6020B	J	1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	10/02/17 11:20	10/02/17 20:53	7090818	CSW
Mercury	0.00005	0.00050	0.000036	mg/L	EPA 7470A	B-01, J	1	10/04/17 10:40	10/04/17 16:12	7100044	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100011 - SM 2540 C											
Blank (7100011-BLK1)						Prepared & Analyzed: 10/02/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7100011-BS1)						Prepared & Analyzed: 10/02/17					
Total Dissolved Solids	380	25	10	mg/L	400.00		95	84-108			
Duplicate (7100011-DUP1)		**Source: AAI0919-13**				Prepared & Analyzed: 10/02/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7100011-DUP2)		**Source: AAI0974-04**				Prepared & Analyzed: 10/02/17					
Total Dissolved Solids	28	25	10	mg/L		35			22	10	QR-03

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October 05, 2017

Report No.: AAI0919

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090802 - EPA 300.0											
Blank (7090802-BLK1)						Prepared & Analyzed: 09/29/17					
Chloride	ND	0.25	0.02	mg/L							
Fluoride	ND	0.30	0.03	mg/L							
Sulfate	ND	1.0	0.02	mg/L							
LCS (7090802-BS1)						Prepared & Analyzed: 09/29/17					
Chloride	10.5	0.25	0.02	mg/L	10.020		105	90-110			
Fluoride	9.86	0.30	0.03	mg/L	10.020		98	90-110			
Sulfate	10.5	1.0	0.02	mg/L	10.050		104	90-110			
Matrix Spike (7090802-MS1)			**Source: AAI0919-04**			Prepared & Analyzed: 09/29/17					
Chloride	18.4	0.25	0.02	mg/L	10.020	8.73	96	90-110			
Fluoride	12.7	0.30	0.03	mg/L	10.020	0.40	122	90-110			QM-05
Sulfate	241	1.0	0.02	mg/L	10.050	256	NR	90-110			QM-02
Matrix Spike (7090802-MS2)			**Source: AAI0919-09**			Prepared & Analyzed: 09/29/17					
Chloride	20.5	0.25	0.02	mg/L	10.020	9.06	114	90-110			QM-05
Fluoride	10.2	0.30	0.03	mg/L	10.020	0.16	100	90-110			
Sulfate	22.2	1.0	0.02	mg/L	10.050	12.8	93	90-110			
Matrix Spike Dup (7090802-MSD1)			**Source: AAI0919-04**			Prepared & Analyzed: 09/29/17					
Chloride	18.3	0.25	0.02	mg/L	10.020	8.73	95	90-110	0.5	15	
Fluoride	12.9	0.30	0.03	mg/L	10.020	0.40	125	90-110	2	15	QM-05
Sulfate	241	1.0	0.02	mg/L	10.050	256	NR	90-110	0.01	15	QM-02

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Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090818 - EPA 3005A											
Blank (7090818-BLK1)						Prepared & Analyzed: 10/02/17					
Antimony	ND	0.0030	0.0006	mg/L							
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							
LCS (7090818-BS1)						Prepared & Analyzed: 10/02/17					
Antimony	0.102	0.0030	0.0006	mg/L	0.10000		102	80-120			
Arsenic	0.0973	0.0050	0.0005	mg/L	0.10000		97	80-120			
Barium	0.0991	0.0100	0.0004	mg/L	0.10000		99	80-120			
Beryllium	0.0969	0.0030	0.00009	mg/L	0.10000		97	80-120			
Cadmium	0.0981	0.0010	0.0001	mg/L	0.10000		98	80-120			
Chromium	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Cobalt	0.0978	0.0100	0.0003	mg/L	0.10000		98	80-120			
Copper	0.0974	0.0250	0.0003	mg/L	0.10000		97	80-120			
Lead	0.0988	0.0050	0.00007	mg/L	0.10000		99	80-120			
Nickel	0.0980	0.0100	0.0005	mg/L	0.10000		98	80-120			
Selenium	0.0981	0.0100	0.0018	mg/L	0.10000		98	80-120			
Silver	0.101	0.0100	0.0002	mg/L	0.10000		101	80-120			
Thallium	0.0986	0.0010	0.00005	mg/L	0.10000		99	80-120			
Vanadium	0.0977	0.0100	0.0012	mg/L	0.10000		98	80-120			
Zinc	0.0999	0.0100	0.0012	mg/L	0.10000		100	80-120			
Lithium	0.107	0.0500	0.0015	mg/L	0.10000		107	80-120			

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October 05, 2017

Report No.: AAI0919

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090818 - EPA 3005A											
Matrix Spike (7090818-MS1)		**Source: AAI0919-01**				Prepared & Analyzed: 10/02/17					
Antimony	0.102	0.0030	0.0006	mg/L	0.10000	0.0008	101	75-125			
Arsenic	0.103	0.0050	0.0005	mg/L	0.10000	ND	103	75-125			
Barium	0.146	0.0100	0.0004	mg/L	0.10000	0.0475	98	75-125			
Beryllium	0.0964	0.0030	0.00009	mg/L	0.10000	ND	96	75-125			
Cadmium	0.101	0.0010	0.0001	mg/L	0.10000	ND	101	75-125			
Chromium	0.103	0.0100	0.0005	mg/L	0.10000	ND	103	75-125			
Cobalt	0.102	0.0100	0.0003	mg/L	0.10000	0.0014	100	75-125			
Copper	0.100	0.0250	0.0003	mg/L	0.10000	0.0010	99	75-125			
Lead	0.101	0.0050	0.00007	mg/L	0.10000	ND	101	75-125			
Nickel	0.107	0.0100	0.0005	mg/L	0.10000	0.0059	101	75-125			
Selenium	0.0980	0.0100	0.0018	mg/L	0.10000	ND	98	75-125			
Silver	0.101	0.0100	0.0002	mg/L	0.10000	ND	101	75-125			
Thallium	0.101	0.0010	0.00005	mg/L	0.10000	ND	101	75-125			
Vanadium	0.106	0.0100	0.0012	mg/L	0.10000	ND	106	75-125			
Zinc	0.125	0.0100	0.0012	mg/L	0.10000	0.0257	100	75-125			
Lithium	0.105	0.0500	0.0015	mg/L	0.10000	0.0037	101	75-125			
Matrix Spike Dup (7090818-MSD1)		**Source: AAI0919-01**				Prepared & Analyzed: 10/02/17					
Antimony	0.105	0.0030	0.0006	mg/L	0.10000	0.0008	104	75-125	3	20	
Arsenic	0.101	0.0050	0.0005	mg/L	0.10000	ND	101	75-125	2	20	
Barium	0.148	0.0100	0.0004	mg/L	0.10000	0.0475	101	75-125	2	20	
Beryllium	0.0982	0.0030	0.00009	mg/L	0.10000	ND	98	75-125	2	20	
Cadmium	0.103	0.0010	0.0001	mg/L	0.10000	ND	103	75-125	3	20	
Chromium	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125	1	20	
Cobalt	0.102	0.0100	0.0003	mg/L	0.10000	0.0014	101	75-125	0.8	20	
Copper	0.101	0.0250	0.0003	mg/L	0.10000	0.0010	100	75-125	1	20	
Lead	0.101	0.0050	0.00007	mg/L	0.10000	ND	101	75-125	0.2	20	
Nickel	0.106	0.0100	0.0005	mg/L	0.10000	0.0059	100	75-125	0.9	20	
Selenium	0.0992	0.0100	0.0018	mg/L	0.10000	ND	99	75-125	1	20	
Silver	0.102	0.0100	0.0002	mg/L	0.10000	ND	102	75-125	0.8	20	
Thallium	0.102	0.0010	0.00005	mg/L	0.10000	ND	102	75-125	1	20	
Vanadium	0.105	0.0100	0.0012	mg/L	0.10000	ND	105	75-125	0.8	20	
Zinc	0.122	0.0100	0.0012	mg/L	0.10000	0.0257	97	75-125	2	20	
Lithium	0.107	0.0500	0.0015	mg/L	0.10000	0.0037	104	75-125	3	20	

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 05, 2017

Report No.: AAI0919

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7090818 - EPA 3005A											
Post Spike (7090818-PS1)			**Source: AAI0919-01**			Prepared & Analyzed: 10/02/17					
Antimony	95.4			ug/L	100.00	0.771	95	80-120			
Arsenic	103			ug/L	100.00	0.379	102	80-120			
Barium	147			ug/L	100.00	47.5	99	80-120			
Beryllium	98.9			ug/L	100.00	0.0418	99	80-120			
Cadmium	99.7			ug/L	100.00	-0.0146	100	80-120			
Chromium	105			ug/L	100.00	0.149	105	80-120			
Cobalt	101			ug/L	100.00	1.43	100	80-120			
Copper	105			ug/L	100.00	1.01	104	80-120			
Lead	97.8			ug/L	100.00	0.0546	98	80-120			
Nickel	107			ug/L	100.00	5.85	101	80-120			
Selenium	99.2			ug/L	100.00	0.366	99	80-120			
Silver	102			ug/L	100.00	0.0058	102	80-120			
Thallium	100			ug/L	100.00	0.0279	100	80-120			
Vanadium	111			ug/L	100.00	1.04	110	80-120			
Zinc	130			ug/L	100.00	25.7	105	80-120			
Lithium	106			ug/L	100.00	3.73	102	80-120			
Batch 7100044 - EPA 7470A											
Blank (7100044-BLK1)						Prepared & Analyzed: 10/04/17					
Mercury	0.00004	0.00050	0.000036	mg/L							J
LCS (7100044-BS1)						Prepared & Analyzed: 10/04/17					
Mercury	0.00258	0.00050	0.000036	mg/L	2.5000E-3		103	80-120			
Matrix Spike (7100044-MS1)			**Source: AAI0919-02**			Prepared & Analyzed: 10/04/17					
Mercury	0.00249	0.00050	0.000036	mg/L	2.5000E-3	0.00004	98	75-125			

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October 05, 2017

Report No.: AAI0919

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100044 - EPA 7470A											
Matrix Spike Dup (7100044-MSD1)		**Source: AAI0919-02**			Prepared & Analyzed: 10/04/17						
Mercury	0.00240	0.00050	0.000036	mg/L	2.5000E-3	0.00004	95	75-125	4	20	
Post Spike (7100044-PS1)		**Source: AAI0919-02**			Prepared & Analyzed: 10/04/17						
Mercury	1.70			ug/L	1.6667	0.0259	100	80-120			

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Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to suspected matrix interference and/or non-homogeneous sample matrix.

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power
CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd. SE 310185 Atlanta, GA 30308 P: 404-506-7239
REPORT TO: Soju Abraham
CC: Maria Padilla
REQUESTED COMPLETION DATE: —
PO #: laburch@southernco.com
PROJECT NAME/STATE: Plant Branch
PROJECT #: State CCR

ANALYSIS REQUESTED:
- Metals Appendix 3 and 4 (EPA 6020/7470) — Container type: P; Preservation: 3
- TDS, Cl, F, SO4 (EPA 300.0 and SM2540C) — Container type: P; Preservation: 7
- Radium 226 and 228 (SW-846 9315/9320) — Container type: P; Preservation: 3

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. 3 and 4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 and SM2540C)	Radium 226 and 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
9-27-17	1116	GW		X	BRGWC-24S	4	1	1	2	1	
9-27-17	0948	GW		X	BRGWC-25I	4	1	1	2	2	
9-27-17	1025	GW		X	BRGWC-27I	4	1	1	2	3	
9-27-17	1218	GW		X	BRGWC-29I	4	1	1	2	4	
9-27-17	1155	GW		X	BRGWC-30I	6	1	1	4	5	2nd Rad. Sampled
9-27-17	1418	GW		X	BRGWC-32S	4	1	1	2	6	
9-27-17	1523	GW		X	BRGWC-33S	4	1	1	2	7	
9-27-17	1548	GW		X	BRGWC-34S	4	1	1	2	8	
9-27-17	1018	GW		X	PZ-40S	4	1	1	2	9	
9-27-17	0916	GW		X	PZ-41S	4	1	1	2	10	
9-27-17	—	GW		X	DUP-2	4	1	1	2	11	
9-27-17	1610	W		X	FB-2	4	1	1	2	12	

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

SAMPLED BY AND TITLE: William Ballow, Geologist — DATE/TIME: 9-27-17/1700
RELINQUISHED BY: William Ballow — DATE/TIME: 9/28/17 1150
RECEIVED BY: Craig Kaner — DATE/TIME: 9/28/17, 11:50
RELINQUISHED BY: — DATE/TIME:
RECEIVED BY LAB: M. Dalman — DATE/TIME: 09/28/17 1415

Checked: Yes No NA — Ice: (Yes) No NA — Temperature: Min: 6.3 Max:

SAMPLE SHIPPED VIA: UPS FED-EX USPS (COURIER) CLIENT OTHER FS
Custody Seal: (Intact) Broken Not Present N/A — # of Coolers: — Cooler ID:

FOR LAB USE ONLY
LAB #: AAI0919
Entered into LIMS: MR
Tracking #:

Rev. 12/15/2016

CHAIN OF CUSTODY RECORD

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CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd. SE 310185 Atlanta, GA 30308 P:404-506-7239

REPORT TO: Jeju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: – | PO #: laburen@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Appendix 3 and 4 (EPA 6020/7470) (Container type: P; Preservation: 3)	TDS, Cl, F, SO4 (EPA 300.0 and SM2540C) (Container type: P; Preservation: 7)	Radium 226 and 228 (SW-846 9315/9320) (Container type: P; Preservation: 3)	LAB I.D. NUMBER
9-27-17	1615	W		X	RB-~~1~~ 2 (KM 9/28/17)	4	1	1	2	13

CONTAINER TYPE
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Ballew, Geologist | DATE/TIME: 9-27-17/1700

RECEIVED BY: Charles Kane | DATE/TIME: 9/27/17 11:45

RECEIVED BY LAB: M. Lehman | DATE/TIME: 09/28/17 1415

RELINQUISHED BY: William Ballew | DATE/TIME: 9/28/17 1150

RELINQUISHED BY: | DATE/TIME:

SAMPLE SHIPPED VIA: UPS FED-EX USPS (COURIER) CLIENT OTHER FS

pH checked: (Yes) No NA | Ice: (Yes) No NA | Temperature: Min: 0.3 Max: | Custody Seal: (Intact) Broken Not Present N/A | # of Coolers | Cooler ID:

FOR LAB USE ONLY
LAB #: AAI 0919
Entered into LIMS: MR
Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAI0919

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Commercial ☐ Pace Other _____

Optional: Proj Due Date: Proj Name:

Tracking #: _____

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.3 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 9/28/17 MR

Comments:

Chain of Custody Present:	☒Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☒Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☒Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☒Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☒Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☒No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☒No	☐N/A	7.
Sufficient Volume:	☒Yes	☐No	☐N/A	8.
Correct Containers Used:	☒Yes	☐No	☐N/A	9.
-Pace Containers Used:	☒Yes	☐No	☐N/A	
Containers Intact:	☒Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: GW	☒Yes	☐No	☐N/A	12.
All containers needing preservation have been checked.	☒Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☒No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☒N/A	15.
Trip Blank Present:	☐Yes	☐No	☒N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☒N/A	
Pace Trip Blank Lot # (if purchased): _____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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)

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 10/02/2017 3:06:26PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 09/28/17 14:15

Work Order: AAI0919
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 13 **#Containers:** 54

Minimum Temp(C): 0.3 **Maximum Temp(C):** 0.3 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 27, 2017

Mr. Joju Abraham
Georgia Power
2480 Maner Road
Atlanta, GA 30339

RE: Project: AAI0919 Plant Branch
Pace Project No.: 30231661

Dear Mr. Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Revision 1: This report replaces the October 18, 2017 report. Report reissued October 27, 2017 to reflect correction of collection time for Sample 30231661003 due to error on COC.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30231661001	**BRGWC-24S**	Water	09/27/17 11:16	10/02/17 09:40
30231661002	**BRGWC-25I**	Water	09/27/17 09:48	10/02/17 09:40
30231661003	**BRGWC-27I**	Water	09/27/17 10:25	10/02/17 09:40
30231661004	**BRGWC-29I**	Water	09/27/17 12:18	10/02/17 09:40
30231661005	**BRGWC-30I**	Water	09/27/17 11:55	10/02/17 09:40
30231661006	**BRGWC-32S**	Water	09/27/17 14:18	10/02/17 09:40
30231661007	**BRGWC-33S**	Water	09/27/17 15:23	10/02/17 09:40
30231661008	**BRGWC-34S**	Water	09/27/17 15:48	10/02/17 09:40
30231661009	**PZ-40S**	Water	09/27/17 10:18	10/02/17 09:40
30231661010	**PZ-41S**	Water	09/27/17 09:16	10/02/17 09:40
30231661011	**DUP-2**	Water	09/27/17 00:00	10/02/17 09:40
30231661012	**FB-2**	Water	09/27/17 16:10	10/02/17 09:40
30231661013	**RB-2**	Water	09/27/17 16:15	10/02/17 09:40

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30231661001	**BRGWC-24S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661002	**BRGWC-25I**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661003	**BRGWC-27I**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661004	**BRGWC-29I**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661005	**BRGWC-30I**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661006	**BRGWC-32S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661007	**BRGWC-33S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661008	**BRGWC-34S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661009	**PZ-40S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661010	**PZ-41S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661011	**DUP-2**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661012	**FB-2**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231661013	**RB-2**	EPA 9315	JC2	1

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

Sample: BRGWC-24S **Lab ID: 30231661001** Collected: 09/27/17 11:16 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.470 ± 0.258 (0.326) C:86% T:NA**	pCi/L	10/06/17 09:02	13982-63-3	
Radium-228	EPA 9320	**0.322 ± 0.339 (0.704) C:84% T:86%**	pCi/L	10/12/17 15:35	15262-20-1	
Total Radium	Total Radium Calculation	**0.792 ± 0.597 (1.03)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: BRGWC-25I **Lab ID: 30231661002** Collected: 09/27/17 09:48 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.194 ± 0.186 (0.349) C:94% T:NA**	pCi/L	10/06/17 09:02	13982-63-3	
Radium-228	EPA 9320	**0.389 ± 0.327 (0.651) C:80% T:80%**	pCi/L	10/12/17 15:35	15262-20-1	
Total Radium	Total Radium Calculation	**0.583 ± 0.513 (1.000)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: BRGWC-27I **Lab ID: 30231661003** Collected: 09/27/17 10:25 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.473 ± 0.259 (0.360) C:96% T:NA**	pCi/L	10/06/17 09:02	13982-63-3	
Radium-228	EPA 9320	**0.122 ± 0.303 (0.675) C:84% T:83%**	pCi/L	10/12/17 15:35	15262-20-1	
Total Radium	Total Radium Calculation	**0.595 ± 0.562 (1.04)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: BRGWC-29I **Lab ID: 30231661004** Collected: 09/27/17 12:18 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**1.01 ± 0.367 (0.320) C:93% T:NA**	pCi/L	10/06/17 09:02	13982-63-3	
Radium-228	EPA 9320	**0.694 ± 0.365 (0.643) C:79% T:93%**	pCi/L	10/12/17 15:36	15262-20-1	
Total Radium	Total Radium Calculation	**1.70 ± 0.732 (0.963)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: BRGWC-30I **Lab ID: 30231661005** Collected: 09/27/17 11:55 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.466 ± 0.258 (0.358) C:91% T:NA**	pCi/L	10/06/17 09:02	13982-63-3	
Radium-228	EPA 9320	**0.418 ± 0.344 (0.681) C:82% T:77%**	pCi/L	10/12/17 15:36	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

Sample: BRGWC-30I **Lab ID: 30231661005** Collected: 09/27/17 11:55 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.884 ± 0.602 (1.04)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: BRGWC-32S **Lab ID: 30231661006** Collected: 09/27/17 14:18 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.559 ± 0.295 (0.431) C:91% T:NA**	pCi/L	10/06/17 09:02	13982-63-3	
Radium-228	EPA 9320	**0.248 ± 0.471 (1.03) C:76% T:90%**	pCi/L	10/12/17 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.807 ± 0.766 (1.46)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: BRGWC-33S **Lab ID: 30231661007** Collected: 09/27/17 15:23 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.480 ± 0.276 (0.409) C:89% T:NA**	pCi/L	10/06/17 09:02	13982-63-3	
Radium-228	EPA 9320	**1.02 ± 0.489 (0.859) C:82% T:81%**	pCi/L	10/12/17 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**1.50 ± 0.765 (1.27)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: BRGWC-34S **Lab ID: 30231661008** Collected: 09/27/17 15:48 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.603 ± 0.282 (0.334) C:97% T:NA**	pCi/L	10/06/17 09:02	13982-63-3	
Radium-228	EPA 9320	**0.839 ± 0.539 (1.04) C:77% T:81%**	pCi/L	10/12/17 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**1.44 ± 0.821 (1.37)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: PZ-40S **Lab ID: 30231661009** Collected: 09/27/17 10:18 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.332 ± 0.236 (0.375) C:85% T:NA**	pCi/L	10/06/17 09:02	13982-63-3	
Radium-228	EPA 9320	**0.00428 ± 0.404 (0.929) C:83% T:85%**	pCi/L	10/12/17 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.336 ± 0.640 (1.30)**	pCi/L	10/17/17 08:16	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

Sample: PZ-41S **Lab ID: 30231661010** Collected: 09/27/17 09:16 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.520 ± 0.284 (0.396) C:84% T:NA**	pCi/L	10/06/17 09:03	13982-63-3	
Radium-228	EPA 9320	**-0.153 ± 0.410 (0.969) C:77% T:87%**	pCi/L	10/12/17 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.520 ± 0.694 (1.37)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: DUP-2 **Lab ID: 30231661011** Collected: 09/27/17 00:00 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.451 ± 0.266 (0.376) C:91% T:NA**	pCi/L	10/06/17 09:04	13982-63-3	
Radium-228	EPA 9320	**0.531 ± 0.411 (0.820) C:79% T:86%**	pCi/L	10/12/17 15:34	15262-20-1	
Total Radium	Total Radium Calculation	**0.982 ± 0.677 (1.20)**	pCi/L	10/17/17 08:16	7440-14-4	

Sample: FB-2 **Lab ID: 30231661012** Collected: 09/27/17 16:10 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.295 ± 0.257 (0.490) C:93% T:NA**	pCi/L	10/06/17 09:07	13982-63-3	
Radium-228	EPA 9320	**0.329 ± 0.346 (0.720) C:87% T:85%**	pCi/L	10/12/17 15:34	15262-20-1	
Total Radium	Total Radium Calculation	**0.624 ± 0.603 (1.21)**	pCi/L	10/17/17 08:54	7440-14-4	

Sample: RB-2 **Lab ID: 30231661013** Collected: 09/27/17 16:15 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0828 ± 0.242 (0.582) C:83% T:NA**	pCi/L	10/06/17 09:08	13982-63-3	
Radium-228	EPA 9320	**0.404 ± 0.375 (0.769) C:81% T:84%**	pCi/L	10/12/17 15:34	15262-20-1	
Total Radium	Total Radium Calculation	**0.487 ± 0.617 (1.35)**	pCi/L	10/17/17 08:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

QC Batch: 273989 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30231661001, 30231661002, 30231661003, 30231661004, 30231661005, 30231661006, 30231661007, 30231661008, 30231661009, 30231661010, 30231661011, 30231661012, 30231661013

METHOD BLANK: 1347708 Matrix: Water
Associated Lab Samples: 30231661001, 30231661002, 30231661003, 30231661004, 30231661005, 30231661006, 30231661007, 30231661008, 30231661009, 30231661010, 30231661011, 30231661012, 30231661013

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0956 ± 0.267 (0.656) C:81% T:80%	pCi/L	10/12/17 15:35	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

QC Batch: 273988 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30231661001, 30231661002, 30231661003, 30231661004, 30231661005, 30231661006, 30231661007, 30231661008, 30231661009, 30231661010, 30231661011, 30231661012, 30231661013

METHOD BLANK: 1347707 Matrix: Water
Associated Lab Samples: 30231661001, 30231661002, 30231661003, 30231661004, 30231661005, 30231661006, 30231661007, 30231661008, 30231661009, 30231661010, 30231661011, 30231661012, 30231661013

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.295 ± 0.217 (0.342) C:86% T:NA	pCi/L	10/06/17 09:02	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAI0919 Plant Branch
Pace Project No.: 30231661

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.

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.

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.

Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: AAI0919 Workorder Name: Plant Branch Owner Received Date: 9/28/2017 Results Requested By: 10/26/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO# : 30231661

30231661

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	BRGWC-24S	G	9/27/2017 11:16	AAI0919-01	GW	2	X	001
2	BRGWC-25I	G	9/27/2017 9:48	AAI0919-02	GW	2	X	002
3	BRGWC-27I	G	9/27/2017 10:05	AAI0919-03	GW	2	X	003
4	BRGWC-29I	G	9/27/2017 12:18	AAI0919-04	GW	2	X	004
5	BRGWC-30I	G	9/27/2017 11:55	AAI0919-05	GW	4	X	005
6	BRGWC-32S	G	9/27/2017 14:18	AAI0919-06	GW	2	X	006
7	BRGWC-33S	G	9/27/2017 15:23	AAI0919-07	GW	2	X	007
8	BRGWC-34S	G	9/27/2017 15:48	AAI0919-08	GW	2	X	008
9	PZ-40S	G	9/27/2017 10:18	AAI0919-09	GW	2	X	009
10	PZ-41S	G	9/27/2017 9:16	AAI0919-10	GW	2	X	010

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	9/29/17	[signature]	10-2-17 940	
2					
3					

Cooler Temperature on Receipt NA °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30231661

Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: AAI0919 Workorder Name: Plant Branch Owner Received Date: 9/28/2017 Results Requested By: 10/26/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Requested Analysis Radium 226, 228, Total												LAB USE ONLY
11	DUP-2	G	9/27/2017 0:00	AAI0919-11	GW	2					X												011
12	FB-2	G	9/27/2017 16:10	AAI0919-12	W	2					X												012
13	RB-2	G	9/27/2017 16:15	AAI0919-13	W	2					X												013
14																							
15																							
16																							
17																							
18																							
19																							
20																							

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			[signature]	10-2-17 0940	
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30231661

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 2

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd. SE 310185 Atlanta, GA 30308 P: 404-506-7239

REPORT TO: Joju Abraham

CC: Maria Padilla

REQUESTED COMPLETION DATE: —

PO #: labwrch@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED:
- Metals Appendix 3 and 4 (EPA 6020/7470) — Container type: P; Preservation: 3
- TDS, Cl, F, SO4 (EPA 300.0 and SM2540C) — Container type: P; Preservation: 7
- Radium 226 and 228 (SW-846 9315/9320) — Container type: P; Preservation: 3

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. 3 and 4	TDS, Cl, F, SO4	Radium 226 and 228	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
9-27-17	1116	GW		X	BRGWC-24S	4	1	1	2	1	
9-27-17	0948	GW		X	BRGWC-25I	4	1	1	2	2	
9-27-17	1025	GW		X	BRGWC-27I	4	1	1	2	3	
9-27-17	1218	GW		X	BRGWC-29I	4	1	1	2	4	
9-27-17	1155	GW		X	BRGWC-30I	6	1	1	4	5	2nd Rad. Sampled
9-27-17	1418	GW		X	BRGWC-32S	4	1	1	2	6	
9-27-17	1523	GW		X	BRGWC-33S	4	1	1	2	7	
9-27-17	1548	GW		X	BRGWC-34S	4	1	1	2	8	
9-27-17	1018	GW		X	PZ-40S	4	1	1	2	9	
9-27-17	0916	GW		X	PZ-41S	4	1	1	2	10	
9-27-17	—	GW		X	DUP-2	4	1	1	2	11	
9-27-17	1610	W		X	FB-2	4	1	1	2	12	

CONTAINER TYPE:
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION:
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

SAMPLED BY AND TITLE: William Ballew, Geologist — DATE/TIME: 9-27-17/1700

RELINQUISHED BY: William Ballew — DATE/TIME: 9/28/17 1150

RECEIVED BY: Craig Kaner — DATE/TIME: 9/27/17 11:1

RELINQUISHED BY: — DATE/TIME:

RECEIVED BY LAB: M Lalman — DATE/TIME: 09/28/17 1415

SAMPLE SHIPPED VIA: UPS FED-EX USPS (COURIER circled) CLIENT OTHER FS

pH checked: (Yes circled) No NA — Ice: (Yes circled) No NA — Temperature: Min: 6.3 Max: — Custody Seal: (Intact circled) Broken Not Present N/A — # of Coolers: — Cooler ID:

FOR LAB USE ONLY
LAB #: AAI0919
Entered into LIMS: MR
Tracking #:

Rev. 12/15/2016

30231661

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE 310185
Atlanta, GA 30308 P:404-506-7239

REPORT TO: Jojo Abraham
CC: Marlen Padilla
REQUESTED COMPLETION DATE: —
PO #: labarron@southernco.com

PROJECT NAME/STATE: Plant Branch
PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	CONTAINER TYPE	PRESERVATION	Metals Appendix 3 and 4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 and SM2540C)	Radium 226 and 228 (SW-846 9315/9320)	LAB ID NUMBER
							P	3				
							P	7				
							P	3				
9-27-17	1615	W		X	RB-1 9/28/17 KM 2	4			1	1	2	13

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Balkcom, Geologist
DATE/TIME: 9-27-17 / 1700
RELINQUISHED BY: William Balkcom
DATE/TIME: 9/28/17 1150

RECEIVED BY: Charles Kanaan
DATE/TIME: 9/28/17 11:45
RELINQUISHED BY:
DATE/TIME:

FOR LAB USE ONLY
LAB #: AAI 0919
Entered into LIMS: MR

RECEIVED BY LAB: Mdahman
DATE/TIME: 09/28/17 1415
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Tracking #:

pH checked: Yes No NA
Ice: Yes No NA
Temperature: Min: 0.3 Max:
Custody Seal: Intact Broken Not Present N/A
# of coolers:
Cooler ID:

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace GA Project # 30231661

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Label ML
LIMS Login ANL

Tracking #: 7413 6658 9400

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: ___ °C Final Temp: ___ °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ML 10-2-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4. JW 10/2/17
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used: -Pace Containers Used:	X			10.
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.	X			16. PH < 2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ML Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: ML Date: 10-2-17

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	10/6/2017
Worklist:	38057
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1347708
MB concentration:	-0.096
M/B Counting Uncertainty:	0.267
MB MDC:	0.656
MB Numerical Performance Indicator:	-0.70
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS38057	LCSD38057
Count Date:	10/12/2017	
Spike I.D.:	17-033	
Spike Concentration (pCi/mL):	23.289	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.801	
Target Conc. (pCi/L, g, F):	5.812	
Uncertainty (Calculated):	0.418	
Result (pCi/L, g, F):	5.926	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.786	
Numerical Performance Indicator:	0.25	
Percent Recovery:	101.97%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30231661005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30231661005DUP	
Sample Result (pCi/L, g, F):	0.418	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.335	
Sample Duplicate Result (pCi/L, g, F):	0.435	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.325	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.070	30231661005
Duplicate RPD:	3.93%	30231661005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

10/10/2017

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	JC2
Date:	10/5/2017
Worklist:	38056
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1347707
MB concentration:	0.295
M/B Counting Uncertainty:	0.212
MB MDC:	0.342
MB Numerical Performance Indicator:	2.72
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS38056	LCSD38056
Count Date:	10/6/2017	10/6/2017
Spike I.D.:	17-030	17-030
Spike Concentration (pCi/mL):	80.191	80.191
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.501	0.507
Target Conc. (pCi/L, g, F):	15.998	15.820
Uncertainty (Calculated):	1.474	1.457
Result (pCi/L, g, F):	13.819	12.457
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.181	1.116
Numerical Performance Indicator:	-2.26	-3.59
Percent Recovery:	86.38%	78.74%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	LCS38056	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD38056	
Sample Result (pCi/L, g, F):	13.819	
Sample Result Counting Uncertainty (pCi/L, g, F):	1.181	
Sample Duplicate Result (pCi/L, g, F):	12.457	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.116	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	1.643	
Duplicate RPD:	10.37%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:

10/18/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

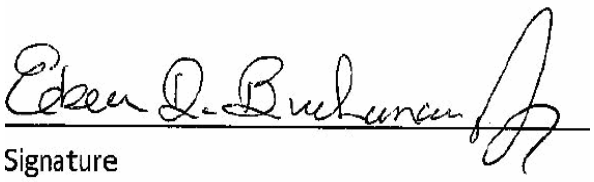
Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAI0935
October 06, 2017
Project: CCR Event
Project #:Plant Branch

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:



Signature

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 06, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRGWC-17S	AAI0935-01	Ground Water	09/28/17 10:20	09/28/17 17:25
BRGWC-35S	AAI0935-02	Ground Water	09/28/17 09:20	09/28/17 17:25
BRGWC-36S	AAI0935-03	Ground Water	09/28/17 11:47	09/28/17 17:25
BRGWC-37S	AAI0935-04	Ground Water	09/28/17 13:46	09/28/17 17:25
BRGWC-38S	AAI0935-05	Ground Water	09/28/17 12:45	09/28/17 17:25
Dup-3	AAI0935-06	Ground Water	09/28/17 00:00	09/28/17 17:25
FB-3	AAI0935-07	Water	09/28/17 12:00	09/28/17 17:25
RB-3	AAI0935-08	Water	09/28/17 12:05	09/28/17 17:25

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 06, 2017

Report No.: AAI0935
Client ID: BRGWC-17S
Date/Time Sampled: 09/28/2017 10:20:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0935-01
Date/Time Received: 09/28/2017 5:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	310	25	10	mg/L	SM 2540 C		1	10/03/17 12:00	10/03/17 12:00	7100055	JPT
Inorganic Anions											
Chloride	4.1	0.25	0.02	mg/L	EPA 300.0	B-01	1	10/02/17 10:33	10/02/17 15:56	7100015	RLC
Fluoride	0.05	0.30	0.03	mg/L	EPA 300.0	J	1	10/02/17 10:33	10/02/17 15:56	7100015	RLC
Sulfate	120	10	0.17	mg/L	EPA 300.0		10	10/02/17 10:33	10/04/17 23:06	7100015	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Barium	0.0408	0.0100	0.0004	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Calcium	34.1	25.0	2.02	mg/L	EPA 6020B		50	10/03/17 09:20	10/03/17 18:23	7100034	CSW
Chromium	0.0114	0.0100	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:18	7100034	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/05/17 07:50	10/05/17 13:33	7100046	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 06, 2017

Report No.: AAI0935
Client ID: BRGWC-35S
Date/Time Sampled: 09/28/2017 9:20:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0935-02
Date/Time Received: 09/28/2017 5:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	487	25	10	mg/L	SM 2540 C		1	10/03/17 12:00	10/03/17 12:00	7100055	JPT
Inorganic Anions											
Chloride	6.2	0.25	0.02	mg/L	EPA 300.0	B-01	1	10/02/17 10:33	10/02/17 16:16	7100015	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	10/02/17 10:33	10/02/17 16:16	7100015	RLC
Sulfate	240	10	0.17	mg/L	EPA 300.0		10	10/02/17 10:33	10/04/17 23:26	7100015	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Barium	0.0470	0.0100	0.0004	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Beryllium	0.0001	0.0030	0.00009	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Boron	1.27	0.0400	0.0060	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Calcium	60.8	25.0	2.02	mg/L	EPA 6020B		50	10/03/17 09:20	10/03/17 18:46	7100034	CSW
Chromium	0.0052	0.0100	0.0005	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Cobalt	0.0003	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Lithium	0.0021	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 18:41	7100034	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/05/17 07:50	10/05/17 13:36	7100046	MTC

PACE ANALYTICAL SERVICES, LLC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 06, 2017

Report No.: AAI0935
Client ID: BRGWC-36S
Date/Time Sampled: 09/28/2017 11:47:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0935-03
Date/Time Received: 09/28/2017 5:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	475	25	10	mg/L	SM 2540 C		1	10/03/17 12:00	10/03/17 12:00	7100055	JPT
Inorganic Anions											
Chloride	4.6	0.25	0.02	mg/L	EPA 300.0	B-01	1	10/02/17 10:33	10/02/17 16:37	7100015	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	10/02/17 10:33	10/02/17 16:37	7100015	RLC
Sulfate	290	20	0.34	mg/L	EPA 300.0		20	10/02/17 10:33	10/04/17 23:47	7100015	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Barium	0.0397	0.0100	0.0004	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Beryllium	0.0001	0.0030	0.00009	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Boron	0.948	0.0400	0.0060	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Calcium	51.8	25.0	2.02	mg/L	EPA 6020B		50	10/03/17 09:20	10/03/17 18:58	7100034	CSW
Chromium	0.0083	0.0100	0.0005	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Selenium	0.0042	0.0100	0.0018	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Lithium	0.0025	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 18:52	7100034	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/05/17 07:50	10/05/17 13:38	7100046	MTC

PACE ANALYTICAL SERVICES, LLC.

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Attention: Mr. Joju Abraham

October 06, 2017

Report No.: AAI0935
Client ID: BRGWC-37S
Date/Time Sampled: 09/28/2017 1:46:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0935-04
Date/Time Received: 09/28/2017 5:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	39	25	10	mg/L	SM 2540 C		1	10/03/17 12:00	10/03/17 12:00	7100055	JPT
Inorganic Anions											
Chloride	1.9	0.25	0.02	mg/L	EPA 300.0	B-01	1	10/02/17 10:33	10/02/17 16:58	7100015	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	10/02/17 10:33	10/02/17 16:58	7100015	RLC
Sulfate	0.49	1.0	0.02	mg/L	EPA 300.0	J	1	10/02/17 10:33	10/02/17 16:58	7100015	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Barium	0.0222	0.0100	0.0004	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Calcium	3.26	0.500	0.0404	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Chromium	0.0014	0.0100	0.0005	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:04	7100034	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/05/17 07:50	10/05/17 13:40	7100046	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

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October 06, 2017

Report No.: AAI0935
Client ID: BRGWC-38S
Date/Time Sampled: 09/28/2017 12:45:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0935-05
Date/Time Received: 09/28/2017 5:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	690	25	10	mg/L	SM 2540 C		1	10/03/17 12:00	10/03/17 12:00	7100055	JPT
Inorganic Anions											
Chloride	6.7	0.25	0.02	mg/L	EPA 300.0	B-01	1	10/02/17 10:33	10/02/17 17:18	7100015	RLC
Fluoride	0.80	0.30	0.03	mg/L	EPA 300.0		1	10/02/17 10:33	10/02/17 17:18	7100015	RLC
Sulfate	470	20	0.34	mg/L	EPA 300.0		20	10/02/17 10:33	10/05/17 00:08	7100015	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Arsenic	0.0046	0.0050	0.0005	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Barium	0.0247	0.0100	0.0004	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Beryllium	0.0098	0.0030	0.00009	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Boron	1.45	0.0400	0.0060	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Cadmium	0.0007	0.0010	0.0001	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Calcium	45.1	25.0	2.02	mg/L	EPA 6020B		50	10/03/17 09:20	10/03/17 19:21	7100034	CSW
Chromium	0.0037	0.0100	0.0005	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Cobalt	0.279	0.0100	0.0003	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Lead	0.0004	0.0050	0.00007	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Selenium	0.0484	0.0100	0.0018	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Thallium	0.0003	0.0010	0.00005	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Lithium	0.0230	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 19:15	7100034	CSW
Mercury	0.00011	0.00050	0.000036	mg/L	EPA 7470A	J	1	10/05/17 07:50	10/05/17 13:43	7100046	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 06, 2017

Report No.: AAI0935
Client ID: Dup-3
Date/Time Sampled: 09/28/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAI0935-06
Date/Time Received: 09/28/2017 5:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	304	25	10	mg/L	SM 2540 C		1	10/03/17 12:00	10/03/17 12:00	7100055	JPT
Inorganic Anions											
Chloride	4.0	0.25	0.02	mg/L	EPA 300.0	B-01	1	10/02/17 10:33	10/02/17 17:39	7100015	RLC
Fluoride	0.34	0.30	0.03	mg/L	EPA 300.0		1	10/02/17 10:33	10/02/17 17:39	7100015	RLC
Sulfate	110	10	0.17	mg/L	EPA 300.0		10	10/02/17 10:33	10/05/17 00:28	7100015	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Barium	0.0382	0.0100	0.0004	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Calcium	31.5	25.0	2.02	mg/L	EPA 6020B		50	10/03/17 09:20	10/03/17 19:32	7100034	CSW
Chromium	0.0111	0.0100	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Selenium	0.0018	0.0100	0.0018	mg/L	EPA 6020B	J	1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:26	7100034	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/05/17 07:50	10/05/17 13:50	7100046	MTC

PACE ANALYTICAL SERVICES, LLC.

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October 06, 2017

Report No.: AAI0935
Client ID: FB-3
Date/Time Sampled: 09/28/2017 12:00:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAI0935-07
Date/Time Received: 09/28/2017 5:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	10/03/17 12:00	10/03/17 12:00	7100055	JPT
Inorganic Anions											
Chloride	0.07	0.25	0.02	mg/L	EPA 300.0	B-01, J	1	10/02/17 10:33	10/02/17 18:00	7100015	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	10/02/17 10:33	10/02/17 18:00	7100015	RLC
Sulfate	0.16	1.0	0.02	mg/L	EPA 300.0	J	1	10/02/17 10:33	10/02/17 18:00	7100015	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:49	7100034	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/05/17 07:50	10/05/17 13:52	7100046	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 06, 2017

Report No.: AAI0935
Client ID: RB-3
Date/Time Sampled: 09/28/2017 12:05:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAI0935-08
Date/Time Received: 09/28/2017 5:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	10/03/17 12:00	10/03/17 12:00	7100055	JPT
Inorganic Anions											
Chloride	0.06	0.25	0.02	mg/L	EPA 300.0	B-01, J	1	10/02/17 10:33	10/02/17 18:20	7100015	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	10/02/17 10:33	10/02/17 18:20	7100015	RLC
Sulfate	0.06	1.0	0.02	mg/L	EPA 300.0	J	1	10/02/17 10:33	10/02/17 18:20	7100015	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	10/03/17 09:20	10/03/17 19:55	7100034	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/05/17 07:50	10/05/17 13:55	7100046	MTC

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Report No.: AAI0935

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100055 - SM 2540 C											
Blank (7100055-BLK1)						Prepared & Analyzed: 10/03/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7100055-BS1)						Prepared & Analyzed: 10/03/17					
Total Dissolved Solids	388	25	10	mg/L	400.00		97	84-108			
Duplicate (7100055-DUP1)		**Source: AAI0935-08**				Prepared & Analyzed: 10/03/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7100055-DUP2)		**Source: AAI0976-07**				Prepared & Analyzed: 10/03/17					
Total Dissolved Solids	180	25	10	mg/L		174			3	10	

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Report No.: AAI0935

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100015 - EPA 300.0											
Blank (7100015-BLK1)						Prepared & Analyzed: 10/02/17					
Chloride	0.03	0.25	0.02	mg/L							J
Fluoride	ND	0.30	0.03	mg/L							
Sulfate	ND	1.0	0.02	mg/L							
LCS (7100015-BS1)						Prepared & Analyzed: 10/02/17					
Chloride	10.2	0.25	0.02	mg/L	10.020		102	90-110			
Fluoride	9.46	0.30	0.03	mg/L	10.020		94	90-110			
Sulfate	10.4	1.0	0.02	mg/L	10.050		103	90-110			
Matrix Spike (7100015-MS1)			**Source: AAI0974-03**			Prepared & Analyzed: 10/02/17					
Chloride	11.8	0.25	0.02	mg/L	10.020	1.70	101	90-110			
Fluoride	9.92	0.30	0.03	mg/L	10.020	0.04	99	90-110			
Sulfate	13.6	1.0	0.02	mg/L	10.050	3.23	103	90-110			
Matrix Spike (7100015-MS2)			**Source: AAI0976-02**			Prepared & Analyzed: 10/02/17					
Chloride	11.3	0.25	0.02	mg/L	10.020	1.06	103	90-110			
Fluoride	10.4	0.30	0.03	mg/L	10.020	ND	104	90-110			
Sulfate	12.0	1.0	0.02	mg/L	10.050	1.18	108	90-110			
Matrix Spike Dup (7100015-MSD1)			**Source: AAI0974-03**			Prepared & Analyzed: 10/02/17					
Chloride	11.8	0.25	0.02	mg/L	10.020	1.70	101	90-110	0.008	15	
Fluoride	10.1	0.30	0.03	mg/L	10.020	0.04	100	90-110	1	15	
Sulfate	13.7	1.0	0.02	mg/L	10.050	3.23	104	90-110	0.8	15	

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Report No.: AAI0935

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100034 - EPA 3005A											
Blank (7100034-BLK1)						Prepared & Analyzed: 10/03/17					
Antimony	ND	0.0030	0.0006	mg/L							
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	0.0019	0.0100	0.0012	mg/L							J
LCS (7100034-BS1)						Prepared & Analyzed: 10/03/17					
Antimony	0.104	0.0030	0.0006	mg/L	0.10000		104	80-120			
Arsenic	0.101	0.0050	0.0005	mg/L	0.10000		101	80-120			
Barium	0.100	0.0100	0.0004	mg/L	0.10000		100	80-120			
Beryllium	0.105	0.0030	0.00009	mg/L	0.10000		105	80-120			
Cadmium	0.105	0.0010	0.0001	mg/L	0.10000		105	80-120			
Chromium	0.102	0.0100	0.0005	mg/L	0.10000		102	80-120			
Cobalt	0.103	0.0100	0.0003	mg/L	0.10000		103	80-120			
Copper	0.105	0.0250	0.0003	mg/L	0.10000		105	80-120			
Lead	0.101	0.0050	0.00007	mg/L	0.10000		101	80-120			
Nickel	0.104	0.0100	0.0005	mg/L	0.10000		104	80-120			
Selenium	0.0989	0.0100	0.0018	mg/L	0.10000		99	80-120			
Silver	0.102	0.0100	0.0002	mg/L	0.10000		102	80-120			
Thallium	0.104	0.0010	0.00005	mg/L	0.10000		104	80-120			
Vanadium	0.105	0.0100	0.0012	mg/L	0.10000		105	80-120			
Zinc	0.102	0.0100	0.0012	mg/L	0.10000		102	80-120			

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October 06, 2017

Report No.: AAI0935

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100034 - EPA 3005A											
Matrix Spike (7100034-MS1)		**Source: AAI0935-01**				Prepared & Analyzed: 10/03/17					
Antimony	0.103	0.0030	0.0006	mg/L	0.10000	ND	103	75-125			
Arsenic	0.102	0.0050	0.0005	mg/L	0.10000	ND	102	75-125			
Barium	0.140	0.0100	0.0004	mg/L	0.10000	0.0408	99	75-125			
Beryllium	0.100	0.0030	0.00009	mg/L	0.10000	ND	100	75-125			
Cadmium	0.105	0.0010	0.0001	mg/L	0.10000	ND	105	75-125			
Chromium	0.116	0.0100	0.0005	mg/L	0.10000	0.0114	104	75-125			
Cobalt	0.104	0.0100	0.0003	mg/L	0.10000	ND	104	75-125			
Copper	0.103	0.0250	0.0003	mg/L	0.10000	ND	103	75-125			
Lead	0.100	0.0050	0.00007	mg/L	0.10000	ND	100	75-125			
Nickel	0.106	0.0100	0.0005	mg/L	0.10000	0.0013	105	75-125			
Selenium	0.101	0.0100	0.0018	mg/L	0.10000	ND	101	75-125			
Silver	0.0993	0.0100	0.0002	mg/L	0.10000	ND	99	75-125			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000	ND	103	75-125			
Vanadium	0.127	0.0100	0.0012	mg/L	0.10000	0.0194	107	75-125			
Zinc	0.102	0.0100	0.0012	mg/L	0.10000	0.0021	100	75-125			
Matrix Spike Dup (7100034-MSD1)		**Source: AAI0935-01**				Prepared & Analyzed: 10/03/17					
Antimony	0.104	0.0030	0.0006	mg/L	0.10000	ND	104	75-125	0.7	20	
Arsenic	0.101	0.0050	0.0005	mg/L	0.10000	ND	101	75-125	0.7	20	
Barium	0.138	0.0100	0.0004	mg/L	0.10000	0.0408	97	75-125	2	20	
Beryllium	0.0960	0.0030	0.00009	mg/L	0.10000	ND	96	75-125	4	20	
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125	1	20	
Chromium	0.118	0.0100	0.0005	mg/L	0.10000	0.0114	106	75-125	2	20	
Cobalt	0.106	0.0100	0.0003	mg/L	0.10000	ND	106	75-125	3	20	
Copper	0.101	0.0250	0.0003	mg/L	0.10000	ND	101	75-125	2	20	
Lead	0.0980	0.0050	0.00007	mg/L	0.10000	ND	98	75-125	2	20	
Nickel	0.105	0.0100	0.0005	mg/L	0.10000	0.0013	103	75-125	1	20	
Selenium	0.105	0.0100	0.0018	mg/L	0.10000	ND	105	75-125	3	20	
Silver	0.0989	0.0100	0.0002	mg/L	0.10000	ND	99	75-125	0.4	20	
Thallium	0.100	0.0010	0.00005	mg/L	0.10000	ND	100	75-125	2	20	
Vanadium	0.126	0.0100	0.0012	mg/L	0.10000	0.0194	107	75-125	0.5	20	
Zinc	0.105	0.0100	0.0012	mg/L	0.10000	0.0021	103	75-125	3	20	

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October 06, 2017

Report No.: AAI0935

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100034 - EPA 3005A											
Post Spike (7100034-PS1)			**Source: AAI0935-01**			Prepared & Analyzed: 10/03/17					
Antimony	94.5			ug/L	100.00	0.355	94	80-120			
Arsenic	100			ug/L	100.00	0.476	100	80-120			
Barium	138			ug/L	100.00	40.8	97	80-120			
Beryllium	98.0			ug/L	100.00	0.0156	98	80-120			
Cadmium	104			ug/L	100.00	-0.0276	104	80-120			
Chromium	116			ug/L	100.00	11.4	104	80-120			
Cobalt	103			ug/L	100.00	0.0363	103	80-120			
Copper	99.3			ug/L	100.00	0.241	99	80-120			
Lead	98.2			ug/L	100.00	0.0213	98	80-120			
Nickel	101			ug/L	100.00	1.35	100	80-120			
Selenium	103			ug/L	100.00	1.57	101	80-120			
Silver	98.9			ug/L	100.00	0.0065	99	80-120			
Thallium	102			ug/L	100.00	0.0253	102	80-120			
Vanadium	125			ug/L	100.00	19.4	105	80-120			
Zinc	97.6			ug/L	100.00	2.09	95	80-120			
Batch 7100046 - EPA 7470A											
Blank (7100046-BLK1)						Prepared & Analyzed: 10/05/17					
Mercury	ND	0.00050	0.000036	mg/L							
LCS (7100046-BS1)						Prepared & Analyzed: 10/05/17					
Mercury	0.00253	0.00050	0.000036	mg/L	2.5000E-3		101	80-120			
Matrix Spike (7100046-MS1)			**Source: AAI0968-01**			Prepared & Analyzed: 10/05/17					
Mercury	0.00256	0.00050	0.000036	mg/L	2.5000E-3	ND	102	75-125			

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Report No.: AAI0935

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100046 - EPA 7470A											
Matrix Spike Dup (7100046-MSD1)		**Source: AAI0968-01**				Prepared & Analyzed: 10/05/17					
Mercury	0.00254	0.00050	0.000036	mg/L	2.5000E-3	ND	102	75-125	0.7	20	
Post Spike (7100046-PS1)		**Source: AAI0968-01**				Prepared & Analyzed: 10/05/17					
Mercury	1.77			ug/L	1.6667	-0.00118	106	80-120			

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October 06, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE 310185
Atlanta, GA 30308 P:404-506-7239

REPORT TO: Saju Abraham
CC: Maria Padilla
REQUESTED COMPLETION DATE: —
PO #: labwrch@southernco.com

PROJECT NAME/STATE: Plant Branch
PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Appendix 3 and 4 (EPA 6020/7470) P 3	TDS, Cl, F, SO4 (EPA 300.0 and SM2540C) P 1	Radium 226 and 228 (SW-846 9315/9320) P 1							LAB ID NUMBER
9-28-17	1020	GW		X	BRGWC-175	4		1	1	2							1
9-28-17	0920	GW		X	BRGWC-355	4		1	1	2							2
9-28-17	1147	GW		X	BRGWC-365	4		1	1	2							3
9-28-17	1346	GW		X	BRGWC-375	4		1	1	2							4
9-28-17	1245	GW		X	BRGWC-385	4		1	1	2							5
9-28-17	—	GW		X	DUP-3	4		1	1	2							6
9-28-17	1200	W		X	FB-3	6		1	1	4							7
9-28-17	1205	W		X	RB-3	4		1	1	2							8

WB 9-28-17

ANALYSIS REQUESTED

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Ballard, Geologist
DATE/TIME: 9-28-17 / 1400

RELINQUISHED BY: [signature]
DATE/TIME: 9/28/17 / 1705

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB: [signature]
DATE/TIME: 09/28/17 1725

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Custody Seal: Intact Broken Not Present N/A
# of Coolers:
Cooler ID:

Temperature: Min: 0.1 Max:

Received on Ice: Yes No NA
Custody Seals Intact: Yes No NA

FOR LAB USE ONLY
LAB #: 4AI0935
Entered into LIMS: MR
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAI0935

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other _____

Optional: Proj. Due Date: _____ Proj. Name: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used: IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.1 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 9/28/17 MR

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.	
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.	
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.	
Sufficient Volume:	☑Yes	☐No	☐N/A	8.	
Correct Containers Used:	☑Yes	☐No	☐N/A	9.	
-Pace Containers Used:	☑Yes	☐No	☐N/A		
Containers Intact:	☑Yes	☐No	☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.	
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.	
-Includes date/time/ID/Analysis Matrix: GW					
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.	
Trip Blank Present:	☐Yes	☐No	☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A		
Pace Trip Blank Lot # (if purchased): _____					

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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)

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 10/3/2017 12:09:22PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 09/28/17 17:25

Work Order: AAI0935
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 8 **#Containers:** 34

Minimum Temp(C): 0.1 **Maximum Temp(C):** 0.1 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 27, 2017

Mr. Joju Abraham
Georgia Power
2480 Maner Road
Atlanta, GA 30339

RE: Project: AAI0935 Plant Branch
Pace Project No.: 30231663

Dear Mr. Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Revision 1: This report replaces the October 18, 2017 report. Report reissued October 27, 2017 to reflect the correct collection time for Sample 30231663001.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30231663001	**BRGWC-17S**	Water	09/28/17 10:20	10/02/17 09:40
30231663002	**BRGWC-35S**	Water	09/28/17 09:20	10/02/17 09:40
30231663003	**BRGWC-36S**	Water	09/28/17 11:47	10/02/17 09:40
30231663004	**BRGWC-37S**	Water	09/28/17 13:46	10/02/17 09:40
30231663005	**BRGWC-38S**	Water	09/28/17 12:45	10/02/17 09:40
30231663006	**DUP-3**	Water	09/28/17 00:00	10/02/17 09:40
30231663007	**FB-3**	Water	09/28/17 12:00	10/02/17 09:40
30231663008	**RB-3**	Water	09/28/17 12:05	10/02/17 09:40

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30231663001	**BRGWC-17S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231663002	**BRGWC-35S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231663003	**BRGWC-36S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231663004	**BRGWC-37S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231663005	**BRGWC-38S**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231663006	**DUP-3**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231663007	**FB-3**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30231663008	**RB-3**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

Sample: BRGWC-17S **Lab ID: 30231663001** Collected: 09/28/17 10:20 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.363 ± 0.244 (0.405) C:93% T:NA**	pCi/L	10/06/17 09:06	13982-63-3	
Radium-228	EPA 9320	**0.133 ± 0.371 (0.828) C:83% T:82%**	pCi/L	10/12/17 15:34	15262-20-1	
Total Radium	Total Radium Calculation	**0.496 ± 0.615 (1.23)**	pCi/L	10/17/17 08:54	7440-14-4	

Sample: BRGWC-35S **Lab ID: 30231663002** Collected: 09/28/17 09:20 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.477 ± 0.261 (0.363) C:93% T:NA**	pCi/L	10/06/17 10:36	13982-63-3	
Radium-228	EPA 9320	**0.547 ± 0.451 (0.908) C:78% T:78%**	pCi/L	10/12/17 15:34	15262-20-1	
Total Radium	Total Radium Calculation	**1.02 ± 0.712 (1.27)**	pCi/L	10/17/17 08:54	7440-14-4	

Sample: BRGWC-36S **Lab ID: 30231663003** Collected: 09/28/17 11:47 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.509 ± 0.287 (0.439) C:93% T:NA**	pCi/L	10/06/17 09:06	13982-63-3	
Radium-228	EPA 9320	**0.564 ± 0.411 (0.808) C:81% T:81%**	pCi/L	10/12/17 15:34	15262-20-1	
Total Radium	Total Radium Calculation	**1.07 ± 0.698 (1.25)**	pCi/L	10/17/17 08:54	7440-14-4	

Sample: BRGWC-37S **Lab ID: 30231663004** Collected: 09/28/17 13:46 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.311 ± 0.213 (0.339) C:96% T:NA**	pCi/L	10/06/17 09:06	13982-63-3	
Radium-228	EPA 9320	**0.316 ± 0.358 (0.754) C:84% T:86%**	pCi/L	10/12/17 15:34	15262-20-1	
Total Radium	Total Radium Calculation	**0.627 ± 0.571 (1.09)**	pCi/L	10/17/17 08:54	7440-14-4	

Sample: BRGWC-38S **Lab ID: 30231663005** Collected: 09/28/17 12:45 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**1.99 ± 0.559 (0.440) C:88% T:NA**	pCi/L	10/06/17 09:07	13982-63-3	
Radium-228	EPA 9320	**1.31 ± 0.503 (0.787) C:81% T:87%**	pCi/L	10/12/17 15:34	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

Sample: BRGWC-38S **Lab ID: 30231663005** Collected: 09/28/17 12:45 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**3.30 ± 1.06 (1.23)**	pCi/L	10/17/17 08:54	7440-14-4	

Sample: DUP-3 **Lab ID: 30231663006** Collected: 09/28/17 00:00 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.152 ± 0.191 (0.398) C:86% T:NA**	pCi/L	10/06/17 09:07	13982-63-3	
Radium-228	EPA 9320	**0.264 ± 0.338 (0.719) C:81% T:83%**	pCi/L	10/12/17 15:35	15262-20-1	
Total Radium	Total Radium Calculation	**0.416 ± 0.529 (1.12)**	pCi/L	10/17/17 08:54	7440-14-4	

Sample: FB-3 **Lab ID: 30231663007** Collected: 09/28/17 12:00 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.376 ± 0.217 (0.317) C:88% T:NA**	pCi/L	10/11/17 08:25	13982-63-3	
Radium-228	EPA 9320	**0.270 ± 0.255 (0.514) C:75% T:91%**	pCi/L	10/13/17 10:46	15262-20-1	
Total Radium	Total Radium Calculation	**0.646 ± 0.472 (0.831)**	pCi/L	10/17/17 08:54	7440-14-4	

Sample: RB-3 **Lab ID: 30231663008** Collected: 09/28/17 12:05 Received: 10/02/17 09:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.234 ± 0.204 (0.370) C:74% T:NA**	pCi/L	10/11/17 08:25	13982-63-3	
Radium-228	EPA 9320	**0.194 ± 0.289 (0.624) C:77% T:90%**	pCi/L	10/13/17 13:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.428 ± 0.493 (0.994)**	pCi/L	10/17/17 08:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

QC Batch: 274636 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30231663007, 30231663008

METHOD BLANK: 1350987 Matrix: Water
Associated Lab Samples: 30231663007, 30231663008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.185 ± 0.314 (0.686) C:77% T:78%	pCi/L	10/13/17 10:45	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

QC Batch: 273989 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30231663001, 30231663002, 30231663003, 30231663004, 30231663005, 30231663006

METHOD BLANK: 1347708 Matrix: Water
Associated Lab Samples: 30231663001, 30231663002, 30231663003, 30231663004, 30231663005, 30231663006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0956 ± 0.267 (0.656) C:81% T:80%	pCi/L	10/12/17 15:35	

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

QC Batch: 273988 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30231663001, 30231663002, 30231663003, 30231663004, 30231663005, 30231663006

METHOD BLANK: 1347707 Matrix: Water
Associated Lab Samples: 30231663001, 30231663002, 30231663003, 30231663004, 30231663005, 30231663006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.295 ± 0.217 (0.342) C:86% T:NA	pCi/L	10/06/17 09:02	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

QC Batch: 274635 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30231663007, 30231663008

METHOD BLANK: 1350986 Matrix: Water
Associated Lab Samples: 30231663007, 30231663008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.348 ± 0.222 (0.333) C:76% T:NA	pCi/L	10/11/17 08:25	

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAI0935 Plant Branch
Pace Project No.: 30231663

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.

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.

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.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAI0935 Workorder Name: Plant Branch Owner Received Date: 9/28/2017 Results Requested By: 10/26/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO# : 30231663

30231663

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	BRGWC-17S	G	9/28/2017 12:20	AAI0935-01	GW	2	X	001
2	BRGWC-35S	G	9/28/2017 9:20	AAI0935-02	GW	2	X	002
3	BRGWC-36S	G	9/28/2017 11:47	AAI0935-03	GW	2	X	003
4	BRGWC-37S	G	9/28/2017 13:46	AAI0935-04	GW	2	X	004
5	BRGWC-38S	G	9/28/2017 12:45	AAI0935-05	GW	2	X	005
6	DUP-3	G	9/28/2017 0:00	AAI0935-06	GW	2	X	006
7	FB-3	G	9/28/2017 12:00	AAI0935-07	W	4	X	007
8	RB-3	G	9/28/2017 12:05	AAI0935-08	W	2	X	008
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	9/29/17	[signature]	10-2-17 940	
2					
3					

Cooler Temperature on Receipt N/A °C | Custody Seal Y or (N) | Received on Ice Y or (N) | Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE 310185
Atlanta, GA 30308 P:404-506-7239

REPORT TO: Sajan Abraham
CC: Maria Padilla
REQUESTED COMPLETION DATE: —
PO #: labarch@southernco.com

PROJECT NAME/STATE: Plant Branch
PROJECT #: State CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Appendix 3 and 4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 and SM2540C)	Radium 226 and 228 (SW-846 9315/9320)	LAB ID NUMBER
9-28-17	1020	GW		X	BRGWC-175	4	1	1	2	1
9-28-17	0920	GW		X	BRGWC-355	4	1	1	2	2
9-28-17	1147	GW		X	BRGWC-365	4	1	1	2	3
9-28-17	1346	GW		X	BRGWC-375	4	1	1	2	4
9-28-17	1245	GW		X	BRGWC-385	4	1	1	2	5
9-28-17	—	GW		X	DUP-3	4	1	1	2	6
9-28-17	1200	W		X	FB-3	6	1	1	4	7
9-28-17	1205	W		X	RB-3	4	1	1	2	8
										9
										10

WB 9-28-17

ANALYSIS REQUESTED
CONTAINER TYPE: P P P
PRESERVATION: 3 2 3

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

30231663

SAMPLED BY AND TITLE: William Ballard, Geologist
DATE/TIME: 9-28-17 / 1400

RELINQUISHED BY: [signature]
DATE/TIME: 9/28/17 / 1705

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: [signature]
DATE/TIME: 09/28/17 1725

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (CLIENT) OTHER FS

pH Checked: Yes No NA
Temp: Yes No NA
Temperature: Min 0.1 Max
Custody Seal: (Intact) Broken Not Present N/A
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: 40210935
Entered Into LIMS: MR
Tracking #:

Pittsburgh Lab Sample Condition Upon Receipt

30231663

Pace Analytical

Client Name: Pace GA Project #

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Label MC
LIMS Login ANL

Tracking #: 7413 6658 9400

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: ——— °C Final Temp: ——— °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ML 10-2-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC: -Includes date/time/ID Matrix: Liq	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used: -Pace Containers Used:	X			10.
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, Phenolics	X X			16. pH < 2
				Initial when completed: MC Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: MC Date: 10-2-17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

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)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	10/11/2017
Worklist:	38137
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1350987
MB concentration:	0.185
M/B Counting Uncertainty:	0.313
MB MDC:	0.686
MB Numerical Performance Indicator:	1.16
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS38137	LCSD38137
Count Date:	10/13/2017	10/13/2017
Spike I.D.:	17-033	17-033
Spike Concentration (pCi/mL):	23.282	23.282
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.806	0.805
Target Conc. (pCi/L, g, F):	5.774	5.786
Uncertainty (Calculated):	0.416	0.417
Result (pCi/L, g, F):	6.195	5.113
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.744	0.681
Numerical Performance Indicator:	0.97	-1.65
Percent Recovery:	107.29%	88.37%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Duplicate Sample Assessment		
Sample I.D.:	LCS38137	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD38137	
Sample Result (pCi/L, g, F):	6.195	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.744	
Sample Duplicate Result (pCi/L, g, F):	5.113	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.681	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	2.104	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	19.35%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (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:	

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

Comments:

10/18/17

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	10/10/2017
Worklist:	38136
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1350986
MB concentration:	0.348
M/B Counting Uncertainty:	0.216
MB MDC:	0.333
MB Numerical Performance Indicator:	3.16
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS38136	LCSD38136
Count Date:	10/11/2017	
Spike I.D.:	17-030	
Spike Concentration (pCi/mL):	80.190	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.506	
Target Conc. (pCi/L, g, F):	15.856	
Uncertainty (Calculated):	1.461	
Result (pCi/L, g, F):	13.314	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.040	
Numerical Performance Indicator:	-2.78	
Percent Recovery:	83.97%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

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):	
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):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/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:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30231663007	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30231663007DUP	
Sample Result (pCi/L, g, F):	0.376	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.209	
Sample Duplicate Result (pCi/L, g, F):	0.094	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.177	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	2.018	30231663007
Duplicate RPD:	120.18%	30231663007DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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 Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

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

Comments:
*The method blank result is below the reporting limit for this analysis and is acceptable.

***Batch must be re-prepped due to unacceptable precision.

February 2018

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

March 12, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 261843

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on February 14, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.

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

CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 261843

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 261843

Lab ID	Sample ID	Matrix	Date Collected	Date Received
261843001	**BRGWA-6S**	Water	02/13/18 13:33	02/14/18 14:50
261843002	**BRGWA-6S**	Water	02/13/18 13:33	02/14/18 14:50
261843003	**BRGWA-5I**	Water	02/13/18 14:33	02/14/18 14:50
261843004	**BRGWA-5I**	Water	02/13/18 14:33	02/14/18 14:50
261843005	**BRGWA-5S**	Water	02/13/18 15:32	02/14/18 14:50
261843006	**BRGWA-5S**	Water	02/13/18 15:32	02/14/18 14:50
261843007	**BRGWA-2S**	Water	02/13/18 15:19	02/14/18 14:50
261843008	**BRGWA-2S**	Water	02/13/18 15:19	02/14/18 14:50
261843009	**BRGWA-2I**	Water	02/13/18 16:43	02/14/18 14:50
261843010	**BRGWA-2I**	Water	02/13/18 16:43	02/14/18 14:50

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

SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 261843

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
261843001	**BRGWA-6S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	NAL	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261843002	**BRGWA-6S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261843003	**BRGWA-5I**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	NAL	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261843004	**BRGWA-5I**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261843005	**BRGWA-5S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	NAL	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261843006	**BRGWA-5S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261843007	**BRGWA-2S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	NAL	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261843008	**BRGWA-2S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261843009	**BRGWA-2I**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	NAL	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261843010	**BRGWA-2I**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-6S **Lab ID: 261843001** Collected: 02/13/18 13:33 Received: 02/14/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/19/18 11:27	02/20/18 19:30	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/19/18 11:27	02/20/18 19:30	7440-38-2	
Barium	**14.5**	ug/L	10.0	0.42	1	02/19/18 11:27	02/20/18 19:30	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/19/18 11:27	02/20/18 19:30	7440-41-7	
Boron	ND	ug/L	40.0	6.0	1	02/19/18 11:27	02/20/18 19:30	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/19/18 11:27	02/20/18 19:30	7440-43-9	
Calcium	**3650**	ug/L	500	40.4	1	02/19/18 11:27	02/20/18 19:30	7440-70-2	
Chromium	**14.4**	ug/L	10.0	0.45	1	02/19/18 11:27	02/20/18 19:30	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/19/18 11:27	02/20/18 19:30	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/19/18 11:27	02/20/18 19:30	7439-92-1	
Lithium	**2.7J**	ug/L	50.0	1.5	1	02/19/18 11:27	02/20/18 19:30	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/19/18 11:27	02/20/18 19:30	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/19/18 11:27	02/20/18 19:30	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/19/18 11:27	02/20/18 19:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:10	02/24/18 16:03	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**61.0**	mg/L	25.0	25.0	1		02/19/18 19:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.3**	mg/L	0.25	0.024	1		02/19/18 16:27	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/19/18 16:27	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		02/19/18 16:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-5I **Lab ID: 261843003** Collected: 02/13/18 14:33 Received: 02/14/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/19/18 11:27	02/20/18 19:41	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/19/18 11:27	02/20/18 19:41	7440-38-2	
Barium	**54.0**	ug/L	10.0	0.42	1	02/19/18 11:27	02/20/18 19:41	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/19/18 11:27	02/20/18 19:41	7440-41-7	
Boron	ND	ug/L	40.0	6.0	1	02/19/18 11:27	02/20/18 19:41	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/19/18 11:27	02/20/18 19:41	7440-43-9	
Calcium	ND	ug/L	25000	2020	50	02/19/18 11:27	02/20/18 19:47	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/19/18 11:27	02/20/18 19:41	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/19/18 11:27	02/20/18 19:41	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/19/18 11:27	02/20/18 19:41	7439-92-1	
Lithium	**4.1J**	ug/L	50.0	1.5	1	02/19/18 11:27	02/20/18 19:41	7439-93-2	
Molybdenum	**8.0J**	ug/L	10.0	1.0	1	02/19/18 11:27	02/20/18 19:41	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/19/18 11:27	02/20/18 19:41	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/19/18 11:27	02/20/18 19:41	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:10	02/24/18 16:06	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**141**	mg/L	25.0	25.0	1		02/19/18 19:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.7**	mg/L	0.25	0.024	1		02/19/18 17:30	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/19/18 17:30	16984-48-8	
Sulfate	**6.6**	mg/L	1.0	0.017	1		02/19/18 17:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-5S **Lab ID: 261843005** Collected: 02/13/18 15:32 Received: 02/14/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/19/18 11:27	02/20/18 19:53	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/19/18 11:27	02/20/18 19:53	7440-38-2	
Barium	**54.0**	ug/L	10.0	0.42	1	02/19/18 11:27	02/20/18 19:53	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/19/18 11:27	02/20/18 19:53	7440-41-7	
Boron	ND	ug/L	40.0	6.0	1	02/19/18 11:27	02/20/18 19:53	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/19/18 11:27	02/20/18 19:53	7440-43-9	
Calcium	ND	ug/L	25000	2020	50	02/19/18 11:27	02/20/18 19:58	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/19/18 11:27	02/20/18 19:53	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/19/18 11:27	02/20/18 19:53	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/19/18 11:27	02/20/18 19:53	7439-92-1	
Lithium	ND	ug/L	50.0	1.5	1	02/19/18 11:27	02/20/18 19:53	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/19/18 11:27	02/20/18 19:53	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/19/18 11:27	02/20/18 19:53	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/19/18 11:27	02/20/18 19:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	**0.13J**	ug/L	0.20	0.036	1	02/23/18 15:10	02/24/18 16:08	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**150**	mg/L	25.0	25.0	1		02/19/18 19:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.1**	mg/L	0.25	0.024	1		02/19/18 17:52	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/19/18 17:52	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		02/19/18 17:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-2S **Lab ID: 261843007** Collected: 02/13/18 15:19 Received: 02/14/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/19/18 11:27	02/20/18 20:04	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/19/18 11:27	02/20/18 20:04	7440-38-2	
Barium	**10.2**	ug/L	10.0	0.42	1	02/19/18 11:27	02/20/18 20:04	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/19/18 11:27	02/20/18 20:04	7440-41-7	
Boron	ND	ug/L	40.0	6.0	1	02/19/18 11:27	02/20/18 20:04	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/19/18 11:27	02/20/18 20:04	7440-43-9	
Calcium	**3940**	ug/L	500	40.4	1	02/19/18 11:27	02/20/18 20:04	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/19/18 11:27	02/20/18 20:04	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/19/18 11:27	02/20/18 20:04	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/19/18 11:27	02/20/18 20:04	7439-92-1	
Lithium	ND	ug/L	50.0	1.5	1	02/19/18 11:27	02/20/18 20:04	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/19/18 11:27	02/20/18 20:04	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/19/18 11:27	02/20/18 20:04	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/19/18 11:27	02/20/18 20:04	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	**0.19J**	ug/L	0.20	0.036	1	02/23/18 15:10	02/24/18 16:10	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**63.0**	mg/L	25.0	25.0	1		02/19/18 19:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.7**	mg/L	0.25	0.024	1		02/19/18 18:13	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/19/18 18:13	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		02/19/18 18:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-2I **Lab ID: 261843009** Collected: 02/13/18 16:43 Received: 02/14/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/19/18 11:27	02/20/18 20:27	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/19/18 11:27	02/20/18 20:27	7440-38-2	
Barium	**13.4**	ug/L	10.0	0.42	1	02/19/18 11:27	02/20/18 20:27	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/19/18 11:27	02/20/18 20:27	7440-41-7	
Boron	**14.1J**	ug/L	40.0	6.0	1	02/19/18 11:27	02/20/18 20:27	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/19/18 11:27	02/20/18 20:27	7440-43-9	
Calcium	ND	ug/L	25000	2020	50	02/19/18 11:27	02/20/18 20:33	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/19/18 11:27	02/20/18 20:27	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/19/18 11:27	02/20/18 20:27	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/19/18 11:27	02/20/18 20:27	7439-92-1	
Lithium	**59.5**	ug/L	50.0	1.5	1	02/19/18 11:27	02/20/18 20:27	7439-93-2	
Molybdenum	**1.9J**	ug/L	10.0	1.0	1	02/19/18 11:27	02/20/18 20:27	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/19/18 11:27	02/20/18 20:27	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/19/18 11:27	02/20/18 20:27	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	**0.21**	ug/L	0.20	0.036	1	02/23/18 15:10	02/24/18 16:13	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**165**	mg/L	25.0	25.0	1		02/19/18 19:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.1**	mg/L	0.25	0.024	1		02/19/18 18:34	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/19/18 18:34	16984-48-8	
Sulfate	**4.7J**	mg/L	1.0	0.017	1		02/19/18 18:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261843

QC Batch: 1553 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 261843001, 261843003, 261843005, 261843007, 261843009

METHOD BLANK: 9248 Matrix: Water
Associated Lab Samples: 261843001, 261843003, 261843005, 261843007, 261843009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.036	02/24/18 15:09	

LABORATORY CONTROL SAMPLE: 9249

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 9250 9251

Parameter	Units	261482001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	1.7	2.6	68	103	75-125	41	20	M1,R1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261843

QC Batch: 1219 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 261843001, 261843003, 261843005, 261843007, 261843009

METHOD BLANK: 7863 Matrix: Water
Associated Lab Samples: 261843001, 261843003, 261843005, 261843007, 261843009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	3.0	0.60	02/20/18 19:18	
Arsenic	ug/L	ND	5.0	0.52	02/20/18 19:18	
Barium	ug/L	ND	10.0	0.42	02/20/18 19:18	
Beryllium	ug/L	ND	3.0	0.091	02/20/18 19:18	
Boron	ug/L	ND	40.0	6.0	02/20/18 19:18	
Cadmium	ug/L	ND	1.0	0.14	02/20/18 19:18	
Calcium	ug/L	ND	500	40.4	02/20/18 19:18	
Chromium	ug/L	ND	10.0	0.45	02/20/18 19:18	
Cobalt	ug/L	ND	10.0	0.26	02/20/18 19:18	
Lead	ug/L	ND	5.0	0.067	02/20/18 19:18	
Lithium	ug/L	ND	50.0	1.5	02/20/18 19:18	
Molybdenum	ug/L	ND	10.0	1.0	02/20/18 19:18	
Selenium	ug/L	ND	10.0	1.8	02/20/18 19:18	
Thallium	ug/L	ND	1.0	0.052	02/20/18 19:18	

LABORATORY CONTROL SAMPLE: 7864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	109	109	80-120	
Arsenic	ug/L	100	99.7	100	80-120	
Barium	ug/L	100	100	100	80-120	
Beryllium	ug/L	100	105	105	80-120	
Boron	ug/L	1000	1060	106	80-120	
Cadmium	ug/L	100	103	103	80-120	
Calcium	ug/L	1000	1060	106	80-120	
Chromium	ug/L	100	103	103	80-120	
Cobalt	ug/L	100	105	105	80-120	
Lead	ug/L	100	105	105	80-120	
Lithium	ug/L	100	104	104	80-120	
Molybdenum	ug/L	100	102	102	80-120	
Selenium	ug/L	100	99.0	99	80-120	
Thallium	ug/L	100	105	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 7884 7885

Parameter	Units	261937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	100	100	118	112	118	112	75-125	5	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261843

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 7884 7885

Parameter	Units	261937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	100	100	104	107	104	107	75-125	2	20	
Barium	ug/L	39.6	100	100	145	140	105	101	75-125	3	20	
Beryllium	ug/L	ND	100	100	94.8	95.9	95	96	75-125	1	20	
Boron	ug/L	ND	1000	1000	963	968	96	96	75-125	1	20	
Cadmium	ug/L	ND	100	100	107	108	107	108	75-125	1	20	
Calcium	ug/L	33800	1000	1000	33400	31900	-48	-194	75-125	4	20	M6
Chromium	ug/L	11.0	100	100	119	119	108	108	75-125	0	20	
Cobalt	ug/L	ND	100	100	108	107	108	107	75-125	0	20	
Lead	ug/L	ND	100	100	102	105	102	104	75-125	2	20	
Lithium	ug/L	ND	100	100	96.6	99.0	96	98	75-125	2	20	
Molybdenum	ug/L	ND	100	100	107	106	107	106	75-125	1	20	
Selenium	ug/L	ND	100	100	100	107	98	105	75-125	7	20	
Thallium	ug/L	ND	100	100	103	104	103	104	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261843

QC Batch: 398642 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 261843001, 261843003, 261843005, 261843007, 261843009

METHOD BLANK: 2211073 Matrix: Water
Associated Lab Samples: 261843001, 261843003, 261843005, 261843007, 261843009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/19/18 19:13	

LABORATORY CONTROL SAMPLE: 2211074

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	250	100	90-110	

SAMPLE DUPLICATE: 2211075

Parameter	Units	92373282001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	136	75.0	58	5	D6

SAMPLE DUPLICATE: 2211076

Parameter	Units	261862002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	153	153	0	5	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261843

QC Batch: 1216 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 261843001, 261843003, 261843005, 261843007, 261843009

METHOD BLANK: 7854 Matrix: Water
Associated Lab Samples: 261843001, 261843003, 261843005, 261843007, 261843009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	02/19/18 15:02	
Fluoride	mg/L	ND	0.30	0.029	02/19/18 15:02	
Sulfate	mg/L	ND	1.0	0.017	02/19/18 15:02	

LABORATORY CONTROL SAMPLE: 7855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.2	102	90-110	
Fluoride	mg/L	10	10	100	90-110	
Sulfate	mg/L	10	10.3	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 7856 7857

Parameter	Units	261843001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.3	10	10	12.3	12.3	101	100	90-110	0	15	
Fluoride	mg/L	ND	10	10	9.9	9.9	99	99	90-110	0	15	
Sulfate	mg/L	ND	10	10	10.7	10.7	101	101	90-110	0	15	

MATRIX SPIKE SAMPLE: 7858

Parameter	Units	261843003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	4.7	10	14.3	96	90-110	
Fluoride	mg/L	ND	10	10	100	90-110	
Sulfate	mg/L	6.6	10	16.5	99	90-110	

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REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-6S **Lab ID: 261843002** Collected: 02/13/18 13:33 Received: 02/14/18 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.347 ± 0.213 (0.301) C:80% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**-0.206 ± 0.276 (0.688) C:79% T:84%**	pCi/L	03/02/18 12:26	15262-20-1	
Total Radium	Total Radium Calculation	**0.347 ± 0.489 (0.989)**	pCi/L	03/09/18 12:44	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-5I **Lab ID: 261843004** Collected: 02/13/18 14:33 Received: 02/14/18 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0914 ± 0.126 (0.262) C:84% T:NA**	pCi/L	03/01/18 10:27	13982-63-3	
Radium-228	EPA 9320	**-0.0687 ± 0.342 (0.805) C:75% T:82%**	pCi/L	03/02/18 12:27	15262-20-1	
Total Radium	Total Radium Calculation	**0.0914 ± 0.468 (1.07)**	pCi/L	03/09/18 12:44	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-5S **Lab ID: 261843006** Collected: 02/13/18 15:32 Received: 02/14/18 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.252 ± 0.174 (0.262) C:87% T:NA**	pCi/L	03/01/18 10:27	13982-63-3	
Radium-228	EPA 9320	**0.0974 ± 0.338 (0.762) C:74% T:82%**	pCi/L	03/02/18 12:27	15262-20-1	
Total Radium	Total Radium Calculation	**0.349 ± 0.512 (1.02)**	pCi/L	03/09/18 12:44	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-2S **Lab ID: 261843008** Collected: 02/13/18 15:19 Received: 02/14/18 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.195 ± 0.155 (0.253) C:88% T:NA**	pCi/L	03/01/18 10:27	13982-63-3	
Radium-228	EPA 9320	**0.815 ± 0.475 (0.885) C:77% T:77%**	pCi/L	03/02/18 15:31	15262-20-1	
Total Radium	Total Radium Calculation	**1.01 ± 0.630 (1.14)**	pCi/L	03/09/18 12:44	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261843

Sample: BRGWA-2I **Lab ID: 261843010** Collected: 02/13/18 16:43 Received: 02/14/18 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.176 ± 0.152 (0.265) C:91% T:NA**	pCi/L	03/01/18 10:27	13982-63-3	
Radium-228	EPA 9320	**-0.0141 ± 0.372 (0.865) C:77% T:81%**	pCi/L	03/02/18 15:31	15262-20-1	
Total Radium	Total Radium Calculation	**0.176 ± 0.524 (1.13)**	pCi/L	03/09/18 12:44	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261843

QC Batch: 289267 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 261843002, 261843004, 261843006, 261843008, 261843010

METHOD BLANK: 1417373 Matrix: Water
Associated Lab Samples: 261843002, 261843004, 261843006, 261843008, 261843010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0779 ± 0.131 (0.292) C:87% T:NA	pCi/L	03/01/18 08:44	

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.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261843

QC Batch: 289270 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 261843002, 261843004, 261843006, 261843008, 261843010

METHOD BLANK: 1417376 Matrix: Water
Associated Lab Samples: 261843002, 261843004, 261843006, 261843008, 261843010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.103 ± 0.234 (0.520) C:83% T:87%	pCi/L	03/02/18 11:18	

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.

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Branch
Pace Project No.: 261843

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.

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.

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.

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.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-GA	Pace Analytical Services - Atlanta, GA
PASI-PA	Pace Analytical Services - Greensburg

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.
R1	RPD value was outside control limits.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch
Pace Project No.: 261843

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
261843001	**BRGWA-6S**	EPA 3005A	1219	EPA 6020B	1264
261843003	**BRGWA-5I**	EPA 3005A	1219	EPA 6020B	1264
261843005	**BRGWA-5S**	EPA 3005A	1219	EPA 6020B	1264
261843007	**BRGWA-2S**	EPA 3005A	1219	EPA 6020B	1264
261843009	**BRGWA-2I**	EPA 3005A	1219	EPA 6020B	1264
261843001	**BRGWA-6S**	EPA 7470A	1553	EPA 7470A	1584
261843003	**BRGWA-5I**	EPA 7470A	1553	EPA 7470A	1584
261843005	**BRGWA-5S**	EPA 7470A	1553	EPA 7470A	1584
261843007	**BRGWA-2S**	EPA 7470A	1553	EPA 7470A	1584
261843009	**BRGWA-2I**	EPA 7470A	1553	EPA 7470A	1584
261843002	**BRGWA-6S**	EPA 9315	289267		
261843004	**BRGWA-5I**	EPA 9315	289267		
261843006	**BRGWA-5S**	EPA 9315	289267		
261843008	**BRGWA-2S**	EPA 9315	289267		
261843010	**BRGWA-2I**	EPA 9315	289267		
261843002	**BRGWA-6S**	EPA 9320	289270		
261843004	**BRGWA-5I**	EPA 9320	289270		
261843006	**BRGWA-5S**	EPA 9320	289270		
261843008	**BRGWA-2S**	EPA 9320	289270		
261843010	**BRGWA-2I**	EPA 9320	289270		
261843002	**BRGWA-6S**	Total Radium Calculation	290643		
261843004	**BRGWA-5I**	Total Radium Calculation	290643		
261843006	**BRGWA-5S**	Total Radium Calculation	290643		
261843008	**BRGWA-2S**	Total Radium Calculation	290643		
261843010	**BRGWA-2I**	Total Radium Calculation	290643		
261843001	**BRGWA-6S**	SM 2540C	398642		
261843003	**BRGWA-5I**	SM 2540C	398642		
261843005	**BRGWA-5S**	SM 2540C	398642		
261843007	**BRGWA-2S**	SM 2540C	398642		
261843009	**BRGWA-2I**	SM 2540C	398642		
261843001	**BRGWA-6S**	EPA 300.0	1216		
261843003	**BRGWA-5I**	EPA 300.0	1216		
261843005	**BRGWA-5S**	EPA 300.0	1216		
261843007	**BRGWA-2S**	EPA 300.0	1216		
261843009	**BRGWA-2I**	EPA 300.0	1216		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Georgia Power - Coal Combustion Residuals	Report To: Soju Abraham	Attention:
Address: ~~3700 Chamblee Tucker Road~~ 241 Ralph M. Gill Blvd SE 3Y0185 Atlanta, GA 30341 Atlanta, GA 30354	Copy To: Maria Padilla	Company Name:
Email:	Purchase Order #: jabraham@southernco.com	Address:
Phone: 404-506-7231 Fax	Project Name: Plant Branch N=6 Sample Event	Pace Quote:
Requested Due Date: -	Project #: State CCR	Pace Project Manager: besty.mcdaniel@pacelabs.com,
		Pace Profile #:

Regulatory Agency

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Metals	Chloride, Fluoride, Sulfate	Total Dissolved Solids (TDS	Radium 226/228	Residual Chlorine (Y/N)
1	BRGWA-6S	WT	G	—	—	2-13-18	1533		5	2		3							1	1	1	2	1/2
2	BRGWA-5I	WT	G	—	—	2-13-18	1433		5	2		3							1	1	1	2	3/4
3	BRGWA-5S	WT	G	—	—	2-13-18	1532		5	2		3							1	1	1	2	5/6
4	BRGWA-2S	WT	G	—	—	2-13-18	1519		5	2		3							1	1	1	2	7/8
5	BRGWA-2I	WT	G	—	—	2-13-18	1643		5	2		3							1	1	1	2	9/10
6		WT																					
7		WT																					
8		WT																					
9		WT																					
10		WT																					
11		WT																					
12		WT																					

WB 2-13-18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Travis Martinez / Golder	2-14-18	1145	M Zalman	02/14/18	1450	2.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William Ballou, Golder

SIGNATURE of SAMPLER: William Ballou DATE Signed: 2-13-18

Courier

WO#: 261843

261843

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 261843

PM: BM Due Date: 02/21/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Thermometer Used THR 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.3 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 2/14/18 MR

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.	
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.	
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.	
Sufficient Volume:	☑Yes	☐No	☐N/A	8.	
Correct Containers Used:	☑Yes	☐No	☐N/A	9.	
-Pace Containers Used:	☑Yes	☐No	☐N/A		
Containers Intact:	☑Yes	☐No	☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.	
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.	
-Includes date/time/ID/Analysis Matrix:	W				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.	
Trip Blank Present:	☐Yes	☐No	☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A		
Pace Trip Blank Lot # (if purchased):					

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

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)

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

March 13, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 261937

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on February 16, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.

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

CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 261937

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 261937

Lab ID	Sample ID	Matrix	Date Collected	Date Received
261937001	**BRGWC-17S**	Water	02/15/18 11:50	02/16/18 11:50
261937002	**BRGWC-17S**	Water	02/15/18 11:50	02/16/18 11:50
261937003	**BRGWC-33S**	Water	02/15/18 09:31	02/16/18 11:50
261937004	**BRGWC-33S**	Water	02/15/18 09:31	02/16/18 11:50
261937005	**BRGWC-34S**	Water	02/15/18 10:30	02/16/18 11:50
261937006	**BRGWC-34S**	Water	02/15/18 10:30	02/16/18 11:50
261937007	**BRGWC-35S**	Water	02/15/18 09:27	02/16/18 11:50
261937008	**BRGWC-35S**	Water	02/15/18 09:27	02/16/18 11:50
261937009	**BRGWC-36S**	Water	02/15/18 11:44	02/16/18 11:50
261937010	**BRGWC-36S**	Water	02/15/18 11:44	02/16/18 11:50
261937011	**BRGWC-37S**	Water	02/15/18 14:10	02/16/18 11:50
261937012	**BRGWC-37S**	Water	02/15/18 14:10	02/16/18 11:50
261937013	**BRGWC-38S**	Water	02/15/18 13:00	02/16/18 11:50
261937014	**BRGWC-38S**	Water	02/15/18 13:00	02/16/18 11:50
261937015	**Dup-2**	Water	02/15/18 00:00	02/16/18 11:50
261937016	**Dup-2**	Water	02/15/18 00:00	02/16/18 11:50
261937017	**Rad-2**	Water	02/15/18 09:27	02/16/18 11:50
261937018	**FB-2**	Water	02/15/18 10:17	02/16/18 11:50
261937019	**FB-2**	Water	02/15/18 10:17	02/16/18 11:50
261937020	**RB-2**	Water	02/15/18 13:58	02/16/18 11:50
261937021	**RB-2**	Water	02/15/18 13:58	02/16/18 11:50

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

SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 261937

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
261937001	**BRGWC-17S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937002	**BRGWC-17S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937003	**BRGWC-33S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937004	**BRGWC-33S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937005	**BRGWC-34S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937006	**BRGWC-34S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937007	**BRGWC-35S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937008	**BRGWC-35S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937009	**BRGWC-36S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937010	**BRGWC-36S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937011	**BRGWC-37S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA

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

SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 261937

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937012	**BRGWC-37S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937013	**BRGWC-38S**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937014	**BRGWC-38S**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937015	**Dup-2**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937016	**Dup-2**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937017	**Rad-2**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937018	**FB-2**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937019	**FB-2**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
261937020	**RB-2**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	MTC	1	PASI-GA
		SM 2540C	MVC	1	PASI-A
		EPA 300.0	RLC	3	PASI-GA
261937021	**RB-2**	EPA 9315	JC2	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-17S **Lab ID: 261937001** Collected: 02/15/18 11:50 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/19/18 11:27	02/20/18 22:56	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/19/18 11:27	02/20/18 22:56	7440-38-2	
Barium	**39.6**	ug/L	10.0	0.42	1	02/19/18 11:27	02/20/18 22:56	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/19/18 11:27	02/20/18 22:56	7440-41-7	
Boron	ND	ug/L	40.0	6.0	1	02/19/18 11:27	02/20/18 22:56	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/19/18 11:27	02/20/18 22:56	7440-43-9	
Calcium	**33800**	ug/L	25000	2020	50	02/19/18 11:27	02/20/18 23:02	7440-70-2	M6
Chromium	**11.0**	ug/L	10.0	0.45	1	02/19/18 11:27	02/20/18 22:56	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/19/18 11:27	02/20/18 22:56	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/19/18 11:27	02/20/18 22:56	7439-92-1	
Lithium	ND	ug/L	50.0	1.5	1	02/19/18 11:27	02/20/18 22:56	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/19/18 11:27	02/20/18 22:56	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/19/18 11:27	02/20/18 22:56	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/19/18 11:27	02/20/18 22:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 20:06	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**292**	mg/L	25.0	25.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**5.3**	mg/L	0.25	0.024	1		02/20/18 19:39	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/20/18 19:39	16984-48-8	
Sulfate	**109**	mg/L	10.0	0.17	10		03/03/18 12:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-33S **Lab ID: 261937003** Collected: 02/15/18 09:31 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/19/18 11:27	02/20/18 23:47	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/19/18 11:27	02/20/18 23:47	7440-38-2	
Barium	**24.8**	ug/L	10.0	0.42	1	02/19/18 11:27	02/20/18 23:47	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/19/18 11:27	02/20/18 23:47	7440-41-7	
Boron	**1220**	ug/L	40.0	6.0	1	02/19/18 11:27	02/20/18 23:47	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/19/18 11:27	02/20/18 23:47	7440-43-9	
Calcium	**50900**	ug/L	25000	2020	50	02/19/18 11:27	02/20/18 23:53	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/19/18 11:27	02/20/18 23:47	7440-47-3	
Cobalt	**53.6**	ug/L	10.0	0.26	1	02/19/18 11:27	02/20/18 23:47	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/19/18 11:27	02/20/18 23:47	7439-92-1	
Lithium	**10.6J**	ug/L	50.0	1.5	1	02/19/18 11:27	02/20/18 23:47	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/19/18 11:27	02/20/18 23:47	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/19/18 11:27	02/20/18 23:47	7782-49-2	
Thallium	**0.24J**	ug/L	1.0	0.052	1	02/19/18 11:27	02/20/18 23:47	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 20:08	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**332**	mg/L	25.0	25.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.3**	mg/L	0.25	0.024	1		02/20/18 20:45	16887-00-6	
Fluoride	**0.42**	mg/L	0.30	0.029	1		02/20/18 20:45	16984-48-8	
Sulfate	**197**	mg/L	20.0	0.34	20		03/03/18 12:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-34S **Lab ID: 261937005** Collected: 02/15/18 10:30 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/19/18 11:27	02/20/18 23:59	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/19/18 11:27	02/20/18 23:59	7440-38-2	
Barium	**34.6**	ug/L	10.0	0.42	1	02/19/18 11:27	02/20/18 23:59	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/19/18 11:27	02/20/18 23:59	7440-41-7	
Boron	**2550**	ug/L	40.0	6.0	1	02/19/18 11:27	02/20/18 23:59	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/19/18 11:27	02/20/18 23:59	7440-43-9	
Calcium	**100000**	ug/L	25000	2020	50	02/19/18 11:27	02/21/18 00:05	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/19/18 11:27	02/20/18 23:59	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/19/18 11:27	02/20/18 23:59	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/19/18 11:27	02/20/18 23:59	7439-92-1	
Lithium	ND	ug/L	50.0	1.5	1	02/19/18 11:27	02/20/18 23:59	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/19/18 11:27	02/20/18 23:59	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/19/18 11:27	02/20/18 23:59	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/19/18 11:27	02/20/18 23:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 20:11	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**612**	mg/L	50.0	50.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**7.2**	mg/L	0.25	0.024	1		02/20/18 21:07	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/20/18 21:07	16984-48-8	
Sulfate	**335**	mg/L	25.0	0.42	25		03/03/18 12:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-35S **Lab ID: 261937007** Collected: 02/15/18 09:27 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/19/18 11:27	02/21/18 00:10	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/19/18 11:27	02/21/18 00:10	7440-38-2	
Barium	**48.5**	ug/L	10.0	0.42	1	02/19/18 11:27	02/21/18 00:10	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/19/18 11:27	02/21/18 00:10	7440-41-7	
Boron	**1580**	ug/L	40.0	6.0	1	02/19/18 11:27	02/21/18 00:10	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/19/18 11:27	02/21/18 00:10	7440-43-9	
Calcium	**56600**	ug/L	25000	2020	50	02/19/18 11:27	02/21/18 00:16	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/19/18 11:27	02/21/18 00:10	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/19/18 11:27	02/21/18 00:10	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/19/18 11:27	02/21/18 00:10	7439-92-1	
Lithium	**2.1J**	ug/L	50.0	1.5	1	02/19/18 11:27	02/21/18 00:10	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/19/18 11:27	02/21/18 00:10	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/19/18 11:27	02/21/18 00:10	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/19/18 11:27	02/21/18 00:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 19:56	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**500**	mg/L	25.0	25.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.2**	mg/L	0.25	0.024	1		02/20/18 21:29	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/20/18 21:29	16984-48-8	
Sulfate	**266**	mg/L	20.0	0.34	20		03/03/18 14:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-36S **Lab ID: 261937009** Collected: 02/15/18 11:44 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/22/18 10:25	02/23/18 23:16	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/22/18 10:25	02/23/18 23:16	7440-38-2	
Barium	**38.0**	ug/L	10.0	0.42	1	02/22/18 10:25	02/23/18 23:16	7440-39-3	
Beryllium	ND	ug/L	15.0	0.46	5	02/22/18 10:25	02/27/18 17:58	7440-41-7	D3
Boron	**1110**	ug/L	200	29.8	5	02/22/18 10:25	02/27/18 17:58	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/22/18 10:25	02/23/18 23:16	7440-43-9	
Calcium	**50100**	ug/L	5000	404	10	02/22/18 10:25	02/27/18 17:53	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/22/18 10:25	02/23/18 23:16	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/22/18 10:25	02/23/18 23:16	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/22/18 10:25	02/23/18 23:16	7439-92-1	
Lithium	ND	ug/L	250	7.5	5	02/22/18 10:25	02/27/18 17:58	7439-93-2	D3
Molybdenum	ND	ug/L	10.0	1.0	1	02/22/18 10:25	02/23/18 23:16	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/22/18 10:25	02/23/18 23:16	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/22/18 10:25	02/23/18 23:16	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 20:13	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**513**	mg/L	25.0	25.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**5.4**	mg/L	0.25	0.024	1		02/20/18 21:51	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/20/18 21:51	16984-48-8	
Sulfate	**292**	mg/L	20.0	0.34	20		03/03/18 14:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-37S **Lab ID: 261937011** Collected: 02/15/18 14:10 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/22/18 10:25	02/23/18 23:56	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/22/18 10:25	02/23/18 23:56	7440-38-2	
Barium	**24.3**	ug/L	10.0	0.42	1	02/22/18 10:25	02/23/18 23:56	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/22/18 10:25	02/23/18 23:56	7440-41-7	
Boron	ND	ug/L	40.0	6.0	1	02/22/18 10:25	02/23/18 23:56	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/22/18 10:25	02/23/18 23:56	7440-43-9	
Calcium	**3390**	ug/L	500	40.4	1	02/22/18 10:25	02/23/18 23:56	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/22/18 10:25	02/23/18 23:56	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/22/18 10:25	02/23/18 23:56	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/22/18 10:25	02/23/18 23:56	7439-92-1	
Lithium	ND	ug/L	50.0	1.5	1	02/22/18 10:25	02/23/18 23:56	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/22/18 10:25	02/23/18 23:56	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/22/18 10:25	02/23/18 23:56	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/22/18 10:25	02/23/18 23:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 20:20	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**54.0**	mg/L	25.0	25.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.3**	mg/L	0.25	0.024	1		02/20/18 22:12	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/20/18 22:12	16984-48-8	
Sulfate	**1.9J**	mg/L	1.0	0.017	1		02/20/18 22:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-38S **Lab ID: 261937013** Collected: 02/15/18 13:00 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/22/18 10:25	02/24/18 00:19	7440-36-0	
Arsenic	**1.6J**	ug/L	5.0	0.52	1	02/22/18 10:25	02/24/18 00:19	7440-38-2	
Barium	**21.5**	ug/L	10.0	0.42	1	02/22/18 10:25	02/24/18 00:19	7440-39-3	
Beryllium	ND	ug/L	15.0	0.46	5	02/22/18 10:25	02/27/18 19:14	7440-41-7	D3
Boron	**2090**	ug/L	2000	298	50	02/22/18 10:25	02/24/18 00:25	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/22/18 10:25	02/24/18 00:19	7440-43-9	
Calcium	**45300**	ug/L	25000	2020	50	02/22/18 10:25	02/24/18 00:25	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/22/18 10:25	02/24/18 00:19	7440-47-3	
Cobalt	**279**	ug/L	10.0	0.26	1	02/22/18 10:25	02/24/18 00:19	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/22/18 10:25	02/24/18 00:19	7439-92-1	
Lithium	**25.4J**	ug/L	250	7.5	5	02/22/18 10:25	02/27/18 19:14	7439-93-2	D3
Molybdenum	ND	ug/L	10.0	1.0	1	02/22/18 10:25	02/24/18 00:19	7439-98-7	
Selenium	**43.5**	ug/L	10.0	1.8	1	02/22/18 10:25	02/24/18 00:19	7782-49-2	
Thallium	**0.26J**	ug/L	1.0	0.052	1	02/22/18 10:25	02/24/18 00:19	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	**0.15J**	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 20:23	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**722**	mg/L	50.0	50.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**8.0**	mg/L	0.25	0.024	1		02/20/18 22:34	16887-00-6	
Fluoride	**0.82**	mg/L	0.30	0.029	1		02/20/18 22:34	16984-48-8	
Sulfate	**432**	mg/L	25.0	0.42	25		03/03/18 15:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: Dup-2 **Lab ID: 261937015** Collected: 02/15/18 00:00 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/22/18 10:25	02/24/18 00:30	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/22/18 10:25	02/24/18 00:30	7440-38-2	
Barium	**38.6**	ug/L	10.0	0.42	1	02/22/18 10:25	02/24/18 00:30	7440-39-3	
Beryllium	ND	ug/L	15.0	0.46	5	02/22/18 10:25	02/27/18 19:19	7440-41-7	D3
Boron	ND	ug/L	200	29.8	5	02/22/18 10:25	02/27/18 19:19	7440-42-8	D3
Cadmium	ND	ug/L	1.0	0.14	1	02/22/18 10:25	02/24/18 00:30	7440-43-9	
Calcium	**31800**	ug/L	25000	2020	50	02/22/18 10:25	02/24/18 00:36	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/22/18 10:25	02/24/18 00:30	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/22/18 10:25	02/24/18 00:30	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/22/18 10:25	02/24/18 00:30	7439-92-1	
Lithium	ND	ug/L	250	7.5	5	02/22/18 10:25	02/27/18 19:19	7439-93-2	D3
Molybdenum	ND	ug/L	10.0	1.0	1	02/22/18 10:25	02/24/18 00:30	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/22/18 10:25	02/24/18 00:30	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/22/18 10:25	02/24/18 00:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 20:25	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**308**	mg/L	25.0	25.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**5.4**	mg/L	0.25	0.024	1		02/20/18 22:56	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/20/18 22:56	16984-48-8	
Sulfate	**107**	mg/L	10.0	0.17	10		03/03/18 15:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: FB-2 **Lab ID: 261937018** Collected: 02/15/18 10:17 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/22/18 10:25	02/24/18 00:42	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/22/18 10:25	02/24/18 00:42	7440-38-2	
Barium	ND	ug/L	10.0	0.42	1	02/22/18 10:25	02/24/18 00:42	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/22/18 10:25	02/24/18 00:42	7440-41-7	
Boron	ND	ug/L	40.0	6.0	1	02/22/18 10:25	02/24/18 00:42	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/22/18 10:25	02/24/18 00:42	7440-43-9	
Calcium	ND	ug/L	500	40.4	1	02/22/18 10:25	02/24/18 00:42	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/22/18 10:25	02/24/18 00:42	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/22/18 10:25	02/24/18 00:42	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/22/18 10:25	02/24/18 00:42	7439-92-1	
Lithium	ND	ug/L	50.0	1.5	1	02/22/18 10:25	02/24/18 00:42	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/22/18 10:25	02/24/18 00:42	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/22/18 10:25	02/24/18 00:42	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/22/18 10:25	02/24/18 00:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 20:27	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	ND	mg/L	0.25	0.024	1		02/21/18 00:43	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/21/18 00:43	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		02/21/18 00:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 261937

Sample: RB-2 **Lab ID: 261937020** Collected: 02/15/18 13:58 Received: 02/16/18 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	ug/L	3.0	0.60	1	02/22/18 10:25	02/24/18 00:48	7440-36-0	
Arsenic	ND	ug/L	5.0	0.52	1	02/22/18 10:25	02/24/18 00:48	7440-38-2	
Barium	ND	ug/L	10.0	0.42	1	02/22/18 10:25	02/24/18 00:48	7440-39-3	
Beryllium	ND	ug/L	3.0	0.091	1	02/22/18 10:25	02/24/18 00:48	7440-41-7	
Boron	ND	ug/L	40.0	6.0	1	02/22/18 10:25	02/24/18 00:48	7440-42-8	
Cadmium	ND	ug/L	1.0	0.14	1	02/22/18 10:25	02/24/18 00:48	7440-43-9	
Calcium	ND	ug/L	500	40.4	1	02/22/18 10:25	02/24/18 00:48	7440-70-2	
Chromium	ND	ug/L	10.0	0.45	1	02/22/18 10:25	02/24/18 00:48	7440-47-3	
Cobalt	ND	ug/L	10.0	0.26	1	02/22/18 10:25	02/24/18 00:48	7440-48-4	
Lead	ND	ug/L	5.0	0.067	1	02/22/18 10:25	02/24/18 00:48	7439-92-1	
Lithium	ND	ug/L	50.0	1.5	1	02/22/18 10:25	02/24/18 00:48	7439-93-2	
Molybdenum	ND	ug/L	10.0	1.0	1	02/22/18 10:25	02/24/18 00:48	7439-98-7	
Selenium	ND	ug/L	10.0	1.8	1	02/22/18 10:25	02/24/18 00:48	7782-49-2	
Thallium	ND	ug/L	1.0	0.052	1	02/22/18 10:25	02/24/18 00:48	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	ug/L	0.20	0.036	1	02/23/18 15:16	02/23/18 20:30	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		02/20/18 23:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	ND	mg/L	0.25	0.024	1		02/21/18 01:04	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		02/21/18 01:04	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		02/21/18 01:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261937

QC Batch: 1556 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 261937001, 261937003, 261937005, 261937007, 261937009, 261937011, 261937013, 261937015, 261937018, 261937020

METHOD BLANK: 9260 Matrix: Water
Associated Lab Samples: 261937001, 261937003, 261937005, 261937007, 261937009, 261937011, 261937013, 261937015, 261937018, 261937020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.036	02/23/18 19:52	

LABORATORY CONTROL SAMPLE: 9261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 9262 9263

Parameter	Units	261937007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.3	2.3	94	94	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261937

QC Batch: 1219 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 261937001, 261937003, 261937005, 261937007

METHOD BLANK: 7863 Matrix: Water
Associated Lab Samples: 261937001, 261937003, 261937005, 261937007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	3.0	0.60	02/20/18 19:18	
Arsenic	ug/L	ND	5.0	0.52	02/20/18 19:18	
Barium	ug/L	ND	10.0	0.42	02/20/18 19:18	
Beryllium	ug/L	ND	3.0	0.091	02/20/18 19:18	
Boron	ug/L	ND	40.0	6.0	02/20/18 19:18	
Cadmium	ug/L	ND	1.0	0.14	02/20/18 19:18	
Calcium	ug/L	ND	500	40.4	02/20/18 19:18	
Chromium	ug/L	ND	10.0	0.45	02/20/18 19:18	
Cobalt	ug/L	ND	10.0	0.26	02/20/18 19:18	
Lead	ug/L	ND	5.0	0.067	02/20/18 19:18	
Lithium	ug/L	ND	50.0	1.5	02/20/18 19:18	
Molybdenum	ug/L	ND	10.0	1.0	02/20/18 19:18	
Selenium	ug/L	ND	10.0	1.8	02/20/18 19:18	
Thallium	ug/L	ND	1.0	0.052	02/20/18 19:18	

LABORATORY CONTROL SAMPLE: 7864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	109	109	80-120	
Arsenic	ug/L	100	99.7	100	80-120	
Barium	ug/L	100	100	100	80-120	
Beryllium	ug/L	100	105	105	80-120	
Boron	ug/L	1000	1060	106	80-120	
Cadmium	ug/L	100	103	103	80-120	
Calcium	ug/L	1000	1060	106	80-120	
Chromium	ug/L	100	103	103	80-120	
Cobalt	ug/L	100	105	105	80-120	
Lead	ug/L	100	105	105	80-120	
Lithium	ug/L	100	104	104	80-120	
Molybdenum	ug/L	100	102	102	80-120	
Selenium	ug/L	100	99.0	99	80-120	
Thallium	ug/L	100	105	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 7884 7885

Parameter	Units	261937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	100	100	118	112	118	112	75-125	5	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261937

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 7884 7885

Parameter	Units	261937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	100	100	104	107	104	107	75-125	2	20	
Barium	ug/L	39.6	100	100	145	140	105	101	75-125	3	20	
Beryllium	ug/L	ND	100	100	94.8	95.9	95	96	75-125	1	20	
Boron	ug/L	ND	1000	1000	963	968	96	96	75-125	1	20	
Cadmium	ug/L	ND	100	100	107	108	107	108	75-125	1	20	
Calcium	ug/L	33800	1000	1000	33400	31900	-48	-194	75-125	4	20	M6
Chromium	ug/L	11.0	100	100	119	119	108	108	75-125	0	20	
Cobalt	ug/L	ND	100	100	108	107	108	107	75-125	0	20	
Lead	ug/L	ND	100	100	102	105	102	104	75-125	2	20	
Lithium	ug/L	ND	100	100	96.6	99.0	96	98	75-125	2	20	
Molybdenum	ug/L	ND	100	100	107	106	107	106	75-125	1	20	
Selenium	ug/L	ND	100	100	100	107	98	105	75-125	7	20	
Thallium	ug/L	ND	100	100	103	104	103	104	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261937

QC Batch: 1353 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 261937009, 261937011, 261937013, 261937015, 261937018, 261937020

METHOD BLANK: 8341 Matrix: Water
Associated Lab Samples: 261937009, 261937011, 261937013, 261937015, 261937018, 261937020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	3.0	0.60	02/23/18 22:07	
Arsenic	ug/L	ND	5.0	0.52	02/23/18 22:07	
Barium	ug/L	ND	10.0	0.42	02/23/18 22:07	
Beryllium	ug/L	ND	3.0	0.091	02/23/18 22:07	
Boron	ug/L	ND	40.0	6.0	02/23/18 22:07	
Cadmium	ug/L	ND	1.0	0.14	02/23/18 22:07	
Calcium	ug/L	ND	500	40.4	02/23/18 22:07	
Chromium	ug/L	ND	10.0	0.45	02/23/18 22:07	
Cobalt	ug/L	ND	10.0	0.26	02/23/18 22:07	
Lead	ug/L	ND	5.0	0.067	02/23/18 22:07	
Lithium	ug/L	ND	50.0	1.5	02/23/18 22:07	
Molybdenum	ug/L	ND	10.0	1.0	02/23/18 22:07	
Selenium	ug/L	ND	10.0	1.8	02/23/18 22:07	
Thallium	ug/L	ND	1.0	0.052	02/23/18 22:07	

LABORATORY CONTROL SAMPLE: 8342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	112	112	80-120	
Arsenic	ug/L	100	103	103	80-120	
Barium	ug/L	100	105	105	80-120	
Beryllium	ug/L	100	102	102	80-120	
Boron	ug/L	1000	1060	106	80-120	
Cadmium	ug/L	100	105	105	80-120	
Calcium	ug/L	1000	1070	107	80-120	
Chromium	ug/L	100	108	108	80-120	
Cobalt	ug/L	100	105	105	80-120	
Lead	ug/L	100	103	103	80-120	
Lithium	ug/L	100	104	104	80-120	
Molybdenum	ug/L	100	112	112	80-120	
Selenium	ug/L	100	105	105	80-120	
Thallium	ug/L	100	102	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 8966 8967

Parameter	Units	261937009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	100	100	106	109	106	109	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261937

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 8966 8967

Parameter	Units	261937009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	100	100	98.4	103	98	103	75-125	4	20	
Barium	ug/L	38.0	100	100	138	139	100	101	75-125	1	20	
Beryllium	ug/L	ND	100	100	98.1	104	98	104	75-125	6	20	
Boron	ug/L	1110	1000	1000	2020	2030	91	92	75-125	1	20	
Cadmium	ug/L	ND	100	100	98.3	107	98	107	75-125	9	20	
Calcium	ug/L	50100	1000	1000	53200	51200	306	109	75-125	4	20	
Chromium	ug/L	ND	100	100	112	114	103	105	75-125	2	20	
Cobalt	ug/L	ND	100	100	98.7	104	99	104	75-125	5	20	
Lead	ug/L	ND	100	100	93.4	98.7	93	99	75-125	6	20	
Lithium	ug/L	ND	100	100	100J	106J	97	103	75-125		20	
Molybdenum	ug/L	ND	100	100	105	110	105	110	75-125	5	20	
Selenium	ug/L	ND	100	100	104	109	100	104	75-125	4	20	
Thallium	ug/L	ND	100	100	92.9	97.7	93	98	75-125	5	20	

SAMPLE DUPLICATE: 8979

Parameter	Units	261999004 Result	Dup Result	RPD	Max RPD	Qualifiers
Antimony	ug/L	ND	ND		20	
Arsenic	ug/L	1.1J	0.95J		20	
Barium	ug/L	37.0	37.1	0	20	
Beryllium	ug/L	ND	ND		20	
Boron	ug/L	508	493	3	20	
Cadmium	ug/L	ND	ND		20	
Calcium	ug/L	46500	48300	4	20	
Chromium	ug/L	ND	ND		20	
Cobalt	ug/L	ND	1.3J		20	
Lead	ug/L	ND	ND		20	
Lithium	ug/L	9.6J	9.3J		20	
Molybdenum	ug/L	5.3J	5.2J		20	
Selenium	ug/L	ND	2.2J		20	
Thallium	ug/L	ND	ND		20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261937

QC Batch: 398949 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 261937001, 261937003, 261937005, 261937007, 261937009, 261937011, 261937013, 261937015, 261937018, 261937020

METHOD BLANK: 2212845 Matrix: Water
Associated Lab Samples: 261937001, 261937003, 261937005, 261937007, 261937009, 261937011, 261937013, 261937015, 261937018, 261937020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/20/18 23:00	

LABORATORY CONTROL SAMPLE: 2212846

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	234	94	90-110	

SAMPLE DUPLICATE: 2212847

Parameter	Units	92373628004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		5	

SAMPLE DUPLICATE: 2212848

Parameter	Units	261937003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	332	331	0	5	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 261937

QC Batch: 1279 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 261937001, 261937003, 261937005, 261937007, 261937009, 261937011, 261937013, 261937015, 261937018, 261937020

METHOD BLANK: 8047 Matrix: Water
Associated Lab Samples: 261937001, 261937003, 261937005, 261937007, 261937009, 261937011, 261937013, 261937015, 261937018, 261937020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	02/20/18 18:10	
Fluoride	mg/L	ND	0.30	0.029	02/20/18 18:10	
Sulfate	mg/L	ND	1.0	0.017	02/20/18 18:10	

LABORATORY CONTROL SAMPLE: 8048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.5	105	90-110	
Fluoride	mg/L	10	10.2	102	90-110	
Sulfate	mg/L	10	10	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 8049 8050

Parameter	Units	261937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.3	10	10	14.6	14.6	93	93	90-110	0	15	
Fluoride	mg/L	ND	10	10	10.3	10.2	103	102	90-110	1	15	
Sulfate	mg/L	109	10	10	96.0	95.8	-132	-133	90-110	0	15	E

MATRIX SPIKE SAMPLE: 8051

Parameter	Units	261937003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	6.3	10	15.5	92	90-110	
Fluoride	mg/L	0.42	10	11.1	107	90-110	
Sulfate	mg/L	197	10	150	-470	90-110	E

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REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-17S **Lab ID: 261937002** Collected: 02/15/18 11:50 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.362 ± 0.260 (0.471) C:85% T:NA**	pCi/L	03/01/18 08:45	13982-63-3	
Radium-228	EPA 9320	**0.310 ± 0.279 (0.558) C:78% T:84%**	pCi/L	03/02/18 11:18	15262-20-1	
Total Radium	Total Radium Calculation	**0.672 ± 0.539 (1.03)**	pCi/L	03/09/18 12:43	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-33S **Lab ID: 261937004** Collected: 02/15/18 09:31 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.894 ± 0.349 (0.431) C:85% T:NA**	pCi/L	03/01/18 08:45	13982-63-3	
Radium-228	EPA 9320	**0.245 ± 0.368 (0.795) C:79% T:77%**	pCi/L	03/02/18 14:36	15262-20-1	
Total Radium	Total Radium Calculation	**1.14 ± 0.717 (1.23)**	pCi/L	03/09/18 12:43	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-34S **Lab ID: 261937006** Collected: 02/15/18 10:30 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.620 ± 0.262 (0.261) C:89% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**0.0480 ± 0.333 (0.765) C:79% T:77%**	pCi/L	03/02/18 14:36	15262-20-1	
Total Radium	Total Radium Calculation	**0.668 ± 0.595 (1.03)**	pCi/L	03/09/18 12:43	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-35S **Lab ID: 261937008** Collected: 02/15/18 09:27 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.474 ± 0.230 (0.267) C:87% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**0.268 ± 0.334 (0.707) C:82% T:74%**	pCi/L	03/02/18 14:36	15262-20-1	
Total Radium	Total Radium Calculation	**0.742 ± 0.564 (0.974)**	pCi/L	03/09/18 12:43	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-36S **Lab ID: 261937010** Collected: 02/15/18 11:44 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.486 ± 0.232 (0.260) C:87% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**0.265 ± 0.348 (0.740) C:81% T:76%**	pCi/L	03/02/18 14:36	15262-20-1	
Total Radium	Total Radium Calculation	**0.751 ± 0.580 (1.000)**	pCi/L	03/09/18 12:43	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-37S **Lab ID: 261937012** Collected: 02/15/18 14:10 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.320 ± 0.190 (0.263) C:93% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**0.549 ± 0.364 (0.681) C:77% T:75%**	pCi/L	03/02/18 14:36	15262-20-1	
Total Radium	Total Radium Calculation	**0.869 ± 0.554 (0.944)**	pCi/L	03/09/18 12:43	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: BRGWC-38S **Lab ID: 261937014** Collected: 02/15/18 13:00 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**1.03 ± 0.343 (0.265) C:89% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**1.28 ± 0.456 (0.611) C:73% T:82%**	pCi/L	03/02/18 14:36	15262-20-1	
Total Radium	Total Radium Calculation	**2.31 ± 0.799 (0.876)**	pCi/L	03/09/18 12:43	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: Dup-2 **Lab ID: 261937016** Collected: 02/15/18 00:00 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.280 ± 0.188 (0.281) C:83% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**0.202 ± 0.310 (0.669) C:79% T:72%**	pCi/L	03/02/18 14:36	15262-20-1	
Total Radium	Total Radium Calculation	**0.482 ± 0.498 (0.950)**	pCi/L	03/09/18 12:43	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: Rad-2 **Lab ID: 261937017** Collected: 02/15/18 09:27 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.721 ± 0.305 (0.379) C:86% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**0.283 ± 0.325 (0.681) C:80% T:75%**	pCi/L	03/02/18 14:37	15262-20-1	
Total Radium	Total Radium Calculation	**1.00 ± 0.630 (1.06)**	pCi/L	03/09/18 12:43	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: FB-2 **Lab ID: 261937019** Collected: 02/15/18 10:17 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.289 ± 0.202 (0.328) C:85% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**0.716 ± 0.418 (0.778) C:76% T:83%**	pCi/L	03/02/18 12:26	15262-20-1	
Total Radium	Total Radium Calculation	**1.01 ± 0.620 (1.11)**	pCi/L	03/09/18 12:43	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

Sample: RB-2 **Lab ID: 261937021** Collected: 02/15/18 13:58 Received: 02/16/18 11:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.530 ± 0.268 (0.336) C:74% T:NA**	pCi/L	03/01/18 08:55	13982-63-3	
Radium-228	EPA 9320	**0.292 ± 0.360 (0.765) C:73% T:88%**	pCi/L	03/02/18 12:26	15262-20-1	
Total Radium	Total Radium Calculation	**0.822 ± 0.628 (1.10)**	pCi/L	03/09/18 12:43	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

QC Batch: 289267 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 261937002, 261937004, 261937006, 261937008, 261937010, 261937012, 261937014, 261937016, 261937017, 261937019, 261937021

METHOD BLANK: 1417373 Matrix: Water
Associated Lab Samples: 261937002, 261937004, 261937006, 261937008, 261937010, 261937012, 261937014, 261937016, 261937017, 261937019, 261937021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0779 ± 0.131 (0.292) C:87% T:NA	pCi/L	03/01/18 08:44	

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 261937

QC Batch: 289270 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 261937002, 261937004, 261937006, 261937008, 261937010, 261937012, 261937014, 261937016, 261937017, 261937019, 261937021

METHOD BLANK: 1417376 Matrix: Water
Associated Lab Samples: 261937002, 261937004, 261937006, 261937008, 261937010, 261937012, 261937014, 261937016, 261937017, 261937019, 261937021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.103 ± 0.234 (0.520) C:83% T:87%	pCi/L	03/02/18 11:18	

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.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant Branch
Pace Project No.: 261937

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.

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.

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.

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.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-GA	Pace Analytical Services - Atlanta, GA
PASI-PA	Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch
Pace Project No.: 261937

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
261937001	BRGWC-17S	EPA 3005A	1219	EPA 6020B	1264
261937003	BRGWC-33S	EPA 3005A	1219	EPA 6020B	1264
261937005	BRGWC-34S	EPA 3005A	1219	EPA 6020B	1264
261937007	BRGWC-35S	EPA 3005A	1219	EPA 6020B	1264
261937009	BRGWC-36S	EPA 3005A	1353	EPA 6020B	1565
261937011	BRGWC-37S	EPA 3005A	1353	EPA 6020B	1565
261937013	BRGWC-38S	EPA 3005A	1353	EPA 6020B	1565
261937015	Dup-2	EPA 3005A	1353	EPA 6020B	1565
261937018	FB-2	EPA 3005A	1353	EPA 6020B	1565
261937020	RB-2	EPA 3005A	1353	EPA 6020B	1565
261937001	BRGWC-17S	EPA 7470A	1556	EPA 7470A	1575
261937003	BRGWC-33S	EPA 7470A	1556	EPA 7470A	1575
261937005	BRGWC-34S	EPA 7470A	1556	EPA 7470A	1575
261937007	BRGWC-35S	EPA 7470A	1556	EPA 7470A	1575
261937009	BRGWC-36S	EPA 7470A	1556	EPA 7470A	1575
261937011	BRGWC-37S	EPA 7470A	1556	EPA 7470A	1575
261937013	BRGWC-38S	EPA 7470A	1556	EPA 7470A	1575
261937015	Dup-2	EPA 7470A	1556	EPA 7470A	1575
261937018	FB-2	EPA 7470A	1556	EPA 7470A	1575
261937020	RB-2	EPA 7470A	1556	EPA 7470A	1575
261937002	BRGWC-17S	EPA 9315	289267		
261937004	BRGWC-33S	EPA 9315	289267		
261937006	BRGWC-34S	EPA 9315	289267		
261937008	BRGWC-35S	EPA 9315	289267		
261937010	BRGWC-36S	EPA 9315	289267		
261937012	BRGWC-37S	EPA 9315	289267		
261937014	BRGWC-38S	EPA 9315	289267		
261937016	Dup-2	EPA 9315	289267		
261937017	Rad-2	EPA 9315	289267		
261937019	FB-2	EPA 9315	289267		
261937021	RB-2	EPA 9315	289267		
261937002	BRGWC-17S	EPA 9320	289270		
261937004	BRGWC-33S	EPA 9320	289270		
261937006	BRGWC-34S	EPA 9320	289270		
261937008	BRGWC-35S	EPA 9320	289270		
261937010	BRGWC-36S	EPA 9320	289270		
261937012	BRGWC-37S	EPA 9320	289270		
261937014	BRGWC-38S	EPA 9320	289270		
261937016	Dup-2	EPA 9320	289270		
261937017	Rad-2	EPA 9320	289270		
261937019	FB-2	EPA 9320	289270		
261937021	RB-2	EPA 9320	289270		
261937002	BRGWC-17S	Total Radium Calculation	290642		
261937004	BRGWC-33S	Total Radium Calculation	290642		
261937006	BRGWC-34S	Total Radium Calculation	290642		
261937008	BRGWC-35S	Total Radium Calculation	290642		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch
Pace Project No.: 261937

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
261937010	**BRGWC-36S**	Total Radium Calculation	290642		
261937012	**BRGWC-37S**	Total Radium Calculation	290642		
261937014	**BRGWC-38S**	Total Radium Calculation	290642		
261937016	**Dup-2**	Total Radium Calculation	290642		
261937017	**Rad-2**	Total Radium Calculation	290642		
261937019	**FB-2**	Total Radium Calculation	290642		
261937021	**RB-2**	Total Radium Calculation	290642		
261937001	**BRGWC-17S**	SM 2540C	398949		
261937003	**BRGWC-33S**	SM 2540C	398949		
261937005	**BRGWC-34S**	SM 2540C	398949		
261937007	**BRGWC-35S**	SM 2540C	398949		
261937009	**BRGWC-36S**	SM 2540C	398949		
261937011	**BRGWC-37S**	SM 2540C	398949		
261937013	**BRGWC-38S**	SM 2540C	398949		
261937015	**Dup-2**	SM 2540C	398949		
261937018	**FB-2**	SM 2540C	398949		
261937020	**RB-2**	SM 2540C	398949		
261937001	**BRGWC-17S**	EPA 300.0	1279		
261937003	**BRGWC-33S**	EPA 300.0	1279		
261937005	**BRGWC-34S**	EPA 300.0	1279		
261937007	**BRGWC-35S**	EPA 300.0	1279		
261937009	**BRGWC-36S**	EPA 300.0	1279		
261937011	**BRGWC-37S**	EPA 300.0	1279		
261937013	**BRGWC-38S**	EPA 300.0	1279		
261937015	**Dup-2**	EPA 300.0	1279		
261937018	**FB-2**	EPA 300.0	1279		
261937020	**RB-2**	EPA 300.0	1279		

CHAIN OF CUSTODY RECORD

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Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd. SE 10185
Atlanta, GA 30308 P:404-506-7239

REPORT TO: Soya Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: labarch@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	CONTAINER TYPE: P	P	P								LAB ID NUMBER
							PRESERVATION: 3	7	3								
							Metals App. 3+4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0+SM2540C)	Radium 226 and 228 (SW-846 9315/9320)								
2-15-18	1150	GW		✓	BR6WL-17S	5	1	2	2								1/2
2-15-18	0931	GW		✓	BR6WL-33S	5	1	2	2								3/4
2-15-18	1030	GW		✓	BR6WL-34S	5	1	2	2								5/6
2-15-18	0927	GW		✓	BR6WL-35S	5	1	2	2								7/8
2-15-18	1144	GW		✓	BR6WL-36S	5	1	2	2								9/10
2-15-18	1410	GW		✓	BR6WL-37S	5	1	2	2								11/12
2-15-18	1300	GW		✓	BR6WL-38S	5	1	2	2								13/14
2-15-18	—	GW		✓	Dup-2	5	1	2	2								15/16
2-15-18	0927	GW		✓	Rad-2	2			2								17
2-15-18	1017	W		✓	FB-2	5	1	2	2								18/19
2-15-18	1358	W		✓	RB-2	5	1	2	2								20/21

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
~~ST - STORM WATER~~	~~L - LIQUID~~
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Ballou, Geologist | DATE/TIME: 2-15-18/1500

RELINQUISHED BY: [signature] | DATE/TIME: 2-16-18/090

RECEIVED BY: | DATE/TIME:

RELINQUISHED BY: | DATE/TIME:

RECEIVED BY/LAB: [signature] | DATE/TIME: 02/16/18 1150

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER

pH checked: Yes No NA | Ice: Yes No NA | Temperature: Min: 0.1 Max:

Custody Seal: Intact Broken Not Present N/A | # of Coolers | Cooler ID:

WO# : 261937

261937

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO# : 261937

PM: BM Due Date: 02/23/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.1 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 2/16/18 MM

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.	
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.	
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.	
Sufficient Volume:	☑Yes	☐No	☐N/A	8.	
Correct Containers Used:	☑Yes	☐No	☐N/A	9.	
-Pace Containers Used:	☑Yes	☐No	☐N/A		
Containers Intact:	☑Yes	☐No	☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.	
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.	
-Includes date/time/ID/Analysis Matrix: GW					
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.	
Trip Blank Present:	☐Yes	☐No	☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A		
Pace Trip Blank Lot # (if purchased):					

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

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)

June 2018

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

July 05, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 266538

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 27, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 266538

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

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SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 266538

Lab ID	Sample ID	Matrix	Date Collected	Date Received
266538001	**BRGWA-2I**	Water	06/26/18 12:50	06/27/18 11:45
266538002	**BRGWA-2S**	Water	06/26/18 11:50	06/27/18 11:45
266538003	**BRGWA-5I**	Water	06/26/18 10:40	06/27/18 11:45
266538004	**BRGWA-5S**	Water	06/26/18 09:39	06/27/18 11:45
266538005	**BRGWA-6S**	Water	06/26/18 09:45	06/27/18 11:45

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SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 266538

Lab ID	Sample ID	Method	Analysts	Analytes Reported
266538001	**BRGWA-2I**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266538002	**BRGWA-2S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266538003	**BRGWA-5I**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266538004	**BRGWA-5S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266538005	**BRGWA-6S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

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ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266538

Sample: BRGWA-2I **Lab ID: 266538001** Collected: 06/26/18 12:50 Received: 06/27/18 11:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/28/18 13:05	06/29/18 15:29	7440-36-0	
Arsenic	**0.00062J**	mg/L	0.0050	0.00057	1	06/28/18 13:05	06/29/18 15:29	7440-38-2	
Barium	**0.014**	mg/L	0.010	0.00078	1	06/28/18 13:05	06/29/18 15:29	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/28/18 13:05	06/29/18 15:29	7440-41-7	
Boron	**0.012J**	mg/L	0.040	0.0039	1	06/28/18 13:05	06/29/18 15:29	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/28/18 13:05	06/29/18 15:29	7440-43-9	
Calcium	**16.0J**	mg/L	25.0	0.69	50	06/28/18 13:05	06/29/18 15:34	7440-70-2	D3
Chromium	ND	mg/L	0.010	0.0016	1	06/28/18 13:05	06/29/18 15:29	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/28/18 13:05	06/29/18 15:29	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/28/18 13:05	06/29/18 15:29	7439-92-1	
Lithium	**0.089**	mg/L	0.050	0.00097	1	06/28/18 13:05	06/29/18 15:29	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/28/18 13:05	06/29/18 15:29	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/28/18 13:05	06/29/18 15:29	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/28/18 13:05	06/29/18 15:29	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 08:45	06/29/18 13:38	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**188**	mg/L	10.0	10.0	1		06/29/18 18:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.4**	mg/L	0.25	0.024	1		06/29/18 11:47	16887-00-6	B
Fluoride	**0.085J**	mg/L	0.30	0.029	1		06/29/18 11:47	16984-48-8	
Sulfate	**6.2**	mg/L	1.0	0.017	1		06/29/18 11:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266538

Sample: BRGWA-2S **Lab ID: 266538002** Collected: 06/26/18 11:50 Received: 06/27/18 11:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/28/18 13:05	06/29/18 15:40	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/28/18 13:05	06/29/18 15:40	7440-38-2	
Barium	**0.0093J**	mg/L	0.010	0.00078	1	06/28/18 13:05	06/29/18 15:40	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/28/18 13:05	06/29/18 15:40	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	06/28/18 13:05	06/29/18 15:40	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/28/18 13:05	06/29/18 15:40	7440-43-9	
Calcium	**3.6**	mg/L	0.50	0.014	1	06/28/18 13:05	06/29/18 15:40	7440-70-2	
Chromium	**0.0080J**	mg/L	0.010	0.0016	1	06/28/18 13:05	06/29/18 15:40	7440-47-3	
Cobalt	**0.0019J**	mg/L	0.010	0.00052	1	06/28/18 13:05	06/29/18 15:40	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/28/18 13:05	06/29/18 15:40	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/28/18 13:05	06/29/18 15:40	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/28/18 13:05	06/29/18 15:40	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/28/18 13:05	06/29/18 15:40	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/28/18 13:05	06/29/18 15:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 08:45	06/29/18 13:41	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**71.0**	mg/L	10.0	10.0	1		06/29/18 18:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.2**	mg/L	0.25	0.024	1		06/29/18 12:55	16887-00-6	B
Fluoride	**0.048J**	mg/L	0.30	0.029	1		06/29/18 12:55	16984-48-8	
Sulfate	**0.69J**	mg/L	1.0	0.017	1		06/29/18 12:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266538

Sample: BRGWA-5I **Lab ID: 266538003** Collected: 06/26/18 10:40 Received: 06/27/18 11:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/28/18 13:05	06/29/18 15:51	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/28/18 13:05	06/29/18 15:51	7440-38-2	
Barium	**0.032**	mg/L	0.010	0.00078	1	06/28/18 13:05	06/29/18 15:51	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/28/18 13:05	06/29/18 15:51	7440-41-7	
Boron	**0.0042J**	mg/L	0.040	0.0039	1	06/28/18 13:05	06/29/18 15:51	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/28/18 13:05	06/29/18 15:51	7440-43-9	
Calcium	**13.5J**	mg/L	25.0	0.69	50	06/28/18 13:05	06/29/18 15:57	7440-70-2	D3
Chromium	**0.0053J**	mg/L	0.010	0.0016	1	06/28/18 13:05	06/29/18 15:51	7440-47-3	
Cobalt	**0.00090J**	mg/L	0.010	0.00052	1	06/28/18 13:05	06/29/18 15:51	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/28/18 13:05	06/29/18 15:51	7439-92-1	
Lithium	**0.0025J**	mg/L	0.050	0.00097	1	06/28/18 13:05	06/29/18 15:51	7439-93-2	
Molybdenum	**0.0041J**	mg/L	0.010	0.0019	1	06/28/18 13:05	06/29/18 15:51	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/28/18 13:05	06/29/18 15:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/28/18 13:05	06/29/18 15:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 08:45	06/29/18 13:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**133**	mg/L	10.0	10.0	1		06/29/18 18:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.5**	mg/L	0.25	0.024	1		06/29/18 13:18	16887-00-6	
Fluoride	**0.045J**	mg/L	0.30	0.029	1		06/29/18 13:18	16984-48-8	
Sulfate	**3.5**	mg/L	1.0	0.017	1		06/29/18 13:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266538

Sample: BRGWA-5S **Lab ID: 266538004** Collected: 06/26/18 09:39 Received: 06/27/18 11:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/28/18 13:05	06/29/18 16:03	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/28/18 13:05	06/29/18 16:03	7440-38-2	
Barium	**0.063**	mg/L	0.010	0.00078	1	06/28/18 13:05	06/29/18 16:03	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/28/18 13:05	06/29/18 16:03	7440-41-7	
Boron	**0.0056J**	mg/L	0.040	0.0039	1	06/28/18 13:05	06/29/18 16:03	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/28/18 13:05	06/29/18 16:03	7440-43-9	
Calcium	**23.5J**	mg/L	25.0	0.69	50	06/28/18 13:05	06/29/18 16:09	7440-70-2	D3
Chromium	**0.0043J**	mg/L	0.010	0.0016	1	06/28/18 13:05	06/29/18 16:03	7440-47-3	
Cobalt	**0.00052J**	mg/L	0.010	0.00052	1	06/28/18 13:05	06/29/18 16:03	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/28/18 13:05	06/29/18 16:03	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/28/18 13:05	06/29/18 16:03	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/28/18 13:05	06/29/18 16:03	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/28/18 13:05	06/29/18 16:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/28/18 13:05	06/29/18 16:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 08:45	06/29/18 13:45	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**154**	mg/L	10.0	10.0	1		06/29/18 18:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.1**	mg/L	0.25	0.024	1		06/29/18 13:41	16887-00-6	
Fluoride	**0.072J**	mg/L	0.30	0.029	1		06/29/18 13:41	16984-48-8	
Sulfate	**0.91J**	mg/L	1.0	0.017	1		06/29/18 13:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266538

Sample: BRGWA-6S **Lab ID: 266538005** Collected: 06/26/18 09:45 Received: 06/27/18 11:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/28/18 13:05	06/29/18 16:28	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/28/18 13:05	06/29/18 16:28	7440-38-2	
Barium	**0.014**	mg/L	0.010	0.00078	1	06/28/18 13:05	06/29/18 16:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/28/18 13:05	06/29/18 16:28	7440-41-7	
Boron	**0.0041J**	mg/L	0.040	0.0039	1	06/28/18 13:05	06/29/18 16:28	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/28/18 13:05	06/29/18 16:28	7440-43-9	
Calcium	**3.3**	mg/L	0.50	0.014	1	06/28/18 13:05	06/29/18 16:28	7440-70-2	
Chromium	**0.015**	mg/L	0.010	0.0016	1	06/28/18 13:05	06/29/18 16:28	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/28/18 13:05	06/29/18 16:28	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/28/18 13:05	06/29/18 16:28	7439-92-1	
Lithium	**0.0029J**	mg/L	0.050	0.00097	1	06/28/18 13:05	06/29/18 16:28	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/28/18 13:05	06/29/18 16:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/28/18 13:05	06/29/18 16:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/28/18 13:05	06/29/18 16:28	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 08:45	06/29/18 13:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**71.0**	mg/L	10.0	10.0	1		06/29/18 18:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.6**	mg/L	0.25	0.024	1		06/29/18 14:04	16887-00-6	B
Fluoride	**0.041J**	mg/L	0.30	0.029	1		06/29/18 14:04	16984-48-8	
Sulfate	**0.54J**	mg/L	1.0	0.017	1		06/29/18 14:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266538

QC Batch: 8998 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 266538001, 266538002, 266538003, 266538004, 266538005

METHOD BLANK: 41230 Matrix: Water
Associated Lab Samples: 266538001, 266538002, 266538003, 266538004, 266538005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000036	06/29/18 12:41	

LABORATORY CONTROL SAMPLE: 41231

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0026	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41232 41233

Parameter	Units	266425001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0025	0.0025	98	101	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

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266538

QC Batch: 8929 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 266538001, 266538002, 266538003, 266538004, 266538005

METHOD BLANK: 40910 Matrix: Water
Associated Lab Samples: 266538001, 266538002, 266538003, 266538004, 266538005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	06/29/18 15:17	
Arsenic	mg/L	ND	0.0050	0.00057	06/29/18 15:17	
Barium	mg/L	ND	0.010	0.00078	06/29/18 15:17	
Beryllium	mg/L	ND	0.0030	0.000050	06/29/18 15:17	
Boron	mg/L	ND	0.040	0.0039	06/29/18 15:17	
Cadmium	mg/L	ND	0.0010	0.000093	06/29/18 15:17	
Calcium	mg/L	ND	0.50	0.014	06/29/18 15:17	
Chromium	mg/L	ND	0.010	0.0016	06/29/18 15:17	
Cobalt	mg/L	ND	0.010	0.00052	06/29/18 15:17	
Lead	mg/L	ND	0.0050	0.00027	06/29/18 15:17	
Lithium	mg/L	ND	0.050	0.00097	06/29/18 15:17	
Molybdenum	mg/L	ND	0.010	0.0019	06/29/18 15:17	
Selenium	mg/L	ND	0.010	0.0014	06/29/18 15:17	
Thallium	mg/L	ND	0.0010	0.00014	06/29/18 15:17	

LABORATORY CONTROL SAMPLE: 40911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.10	102	80-120	
Arsenic	mg/L	.1	0.10	102	80-120	
Barium	mg/L	.1	0.098	98	80-120	
Beryllium	mg/L	.1	0.11	107	80-120	
Boron	mg/L	1	1.1	110	80-120	
Cadmium	mg/L	.1	0.10	100	80-120	
Calcium	mg/L	1	1.0	102	80-120	
Chromium	mg/L	.1	0.10	104	80-120	
Cobalt	mg/L	.1	0.10	103	80-120	
Lead	mg/L	.1	0.10	102	80-120	
Lithium	mg/L	.1	0.11	109	80-120	
Molybdenum	mg/L	.1	0.10	103	80-120	
Selenium	mg/L	.1	0.10	102	80-120	
Thallium	mg/L	.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 40912 40913

Parameter	Units	266541002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.10	0.10	100	100	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266538

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 40912 40913

Parameter	Units	266541002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	.1	.1	0.10	0.10	101	99	75-125	2	20	
Barium	mg/L	0.063	.1	.1	0.18	0.18	116	121	75-125	3	20	
Beryllium	mg/L	ND	.1	.1	0.11	0.11	109	106	75-125	3	20	
Boron	mg/L	0.0080J	1	1	1.1	1.1	110	108	75-125	2	20	
Cadmium	mg/L	ND	.1	.1	0.099	0.098	99	98	75-125	1	20	
Calcium	mg/L	15.5J	1	1	15.4J	15.5J	-12	4	75-125	1	20	M6
Chromium	mg/L	ND	.1	.1	0.11	0.11	106	105	75-125	1	20	
Cobalt	mg/L	ND	.1	.1	0.11	0.10	107	103	75-125	4	20	
Lead	mg/L	ND	.1	.1	0.098	0.097	98	97	75-125	2	20	
Lithium	mg/L	0.0045J	.1	.1	0.11	0.11	107	106	75-125	1	20	
Molybdenum	mg/L	ND	.1	.1	0.10	0.10	103	103	75-125	1	20	
Selenium	mg/L	ND	.1	.1	0.098	0.099	98	99	75-125	1	20	
Thallium	mg/L	ND	.1	.1	0.098	0.097	97	97	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266538

QC Batch: 9043 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 266538001, 266538002, 266538003, 266538004, 266538005

LABORATORY CONTROL SAMPLE: 41410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	416	104	84-108	

SAMPLE DUPLICATE: 41411

Parameter	Units	266484002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	186	188	1	10	

SAMPLE DUPLICATE: 41902

Parameter	Units	266548001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	201	201	0	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266538

QC Batch: 8908 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 266538001, 266538002, 266538003, 266538004, 266538005

METHOD BLANK: 40829 Matrix: Water
Associated Lab Samples: 266538001, 266538002, 266538003, 266538004, 266538005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.31	0.25	0.024	06/29/18 11:01	
Fluoride	mg/L	ND	0.30	0.029	06/29/18 11:01	
Sulfate	mg/L	ND	1.0	0.017	06/29/18 11:01	

LABORATORY CONTROL SAMPLE: 40830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.1	101	90-110	
Fluoride	mg/L	10	10.5	105	90-110	
Sulfate	mg/L	10	10.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 40831 40832

Parameter	Units	266538001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.4	10	10	12.6	12.6	102	101	90-110	0	15	
Fluoride	mg/L	0.085J	10	10	10.7	10.7	106	106	90-110	0	15	
Sulfate	mg/L	6.2	10	10	16.5	16.5	102	102	90-110	0	15	

MATRIX SPIKE SAMPLE: 40833

Parameter	Units	266538002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.2	10	12.2	100	90-110	
Fluoride	mg/L	0.048J	10	10.5	104	90-110	
Sulfate	mg/L	0.69J	10	11.2	105	90-110	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Branch
Pace Project No.: 266538

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.

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.

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.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch
Pace Project No.: 266538

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
266538001	**BRGWA-2I**	EPA 3005A	8929	EPA 6020B	9053
266538002	**BRGWA-2S**	EPA 3005A	8929	EPA 6020B	9053
266538003	**BRGWA-5I**	EPA 3005A	8929	EPA 6020B	9053
266538004	**BRGWA-5S**	EPA 3005A	8929	EPA 6020B	9053
266538005	**BRGWA-6S**	EPA 3005A	8929	EPA 6020B	9053
266538001	**BRGWA-2I**	EPA 7470A	8998	EPA 7470A	9040
266538002	**BRGWA-2S**	EPA 7470A	8998	EPA 7470A	9040
266538003	**BRGWA-5I**	EPA 7470A	8998	EPA 7470A	9040
266538004	**BRGWA-5S**	EPA 7470A	8998	EPA 7470A	9040
266538005	**BRGWA-6S**	EPA 7470A	8998	EPA 7470A	9040
266538001	**BRGWA-2I**	SM 2540C	9043		
266538002	**BRGWA-2S**	SM 2540C	9043		
266538003	**BRGWA-5I**	SM 2540C	9043		
266538004	**BRGWA-5S**	SM 2540C	9043		
266538005	**BRGWA-6S**	SM 2540C	9043		
266538001	**BRGWA-2I**	EPA 300.0	8908		
266538002	**BRGWA-2S**	EPA 300.0	8908		
266538003	**BRGWA-5I**	EPA 300.0	8908		
266538004	**BRGWA-5S**	EPA 300.0	8908		
266538005	**BRGWA-6S**	EPA 300.0	8908		

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE 31085
Atlanta, GA 30308 P. 404-506-7234

REPORT TO: Jaji Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: jabrahe@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State LCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS											
					CONTAINER TYPE:			P	P	P							
					PRESERVATION:			3	7	3							
								Metals (EPA 6020 / 7470)	TDS, Cl, F, SO4 (EPA 300.0 + SM2540C)	Radium 226 & 228 (SW-846 9315 / 9320)							
6-26-18	1250	GW		X	BRGWA-2I	4	---	1	1	2							
6-26-18	1150	GW		X	BRGWA-2S	4		1	1	2							
6-26-18	1040	GW		X	BRGWA-5I	4		1	1	2							
6-26-18	0939	GW		X	BRGWA-5S	4		1	1	2							
6-26-18	0945	GW		X	BRGWA-6S	4		1	1	2							

LAB ID NUMBER

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
~~ST~~ -	~~STORM WATER~~	L -	LIQUID
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

WO#: 266538

266538

SAMPLED BY AND TITLE: Travis Martinez | DATE/TIME: 6-26-18/1800 | RELINQUISHED BY: | DATE/TIME: 6-27-18/0830

RECEIVED BY: | DATE/TIME: | RELINQUISHED BY: | DATE/TIME:

RECEIVED BY LAB: Malman | DATE/TIME: 06/27/18 1145 | SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: Yes No NA | Ice: Yes No NA | Temperature: Min: 0.3 Max | Custody Seal: Intact Broken Not Present N/A | # of Coolers | Cooler ID:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 266538

PM: BM Due Date: 07/05/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.3 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/27/18 MR

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted: Date/Time:

Comments/ Resolution:

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).

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

July 26, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 266540

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 27, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Julie Lehrman, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

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CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 266540

Pennsylvania Certification IDs

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
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

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(770)734-4200

SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 266540

Lab ID	Sample ID	Matrix	Date Collected	Date Received
266540001	**BRGWA-2I**	Water	06/26/18 12:50	06/27/18 11:45
266540002	**BRGWA-2S**	Water	06/26/18 11:50	06/27/18 11:45
266540003	**BRGWA-5I**	Water	06/26/18 10:40	06/27/18 11:45
266540004	**BRGWA-5S**	Water	06/26/18 09:39	06/27/18 11:45
266540005	**BRGWA-6S**	Water	06/26/18 09:45	06/27/18 11:45

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SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 266540

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
266540001	**BRGWA-2I**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
266540002	**BRGWA-2S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
266540003	**BRGWA-5I**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
266540004	**BRGWA-5S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
266540005	**BRGWA-6S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266540

Sample: BRGWA-2I **Lab ID: 266540001** Collected: 06/26/18 12:50 Received: 06/27/18 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.355 ± 0.174 (0.244) C:88% T:NA**	pCi/L	07/09/18 08:12	13982-63-3	
Radium-228	EPA 9320	**0.668 ± 0.451 (0.872) C:76% T:84%**	pCi/L	07/19/18 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**1.02 ± 0.625 (1.12)**	pCi/L	07/24/18 11:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266540

Sample: BRGWA-2S **Lab ID: 266540002** Collected: 06/26/18 11:50 Received: 06/27/18 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.236 ± 0.129 (0.174) C:96% T:NA**	pCi/L	07/09/18 08:12	13982-63-3	
Radium-228	EPA 9320	**1.02 ± 0.559 (1.01) C:72% T:73%**	pCi/L	07/19/18 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**1.26 ± 0.688 (1.18)**	pCi/L	07/24/18 11:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266540

Sample: BRGWA-5I **Lab ID: 266540003** Collected: 06/26/18 10:40 Received: 06/27/18 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.257 ± 0.160 (0.275) C:95% T:NA**	pCi/L	07/09/18 08:12	13982-63-3	
Radium-228	EPA 9320	**0.857 ± 0.639 (1.25) C:79% T:74%**	pCi/L	07/19/18 18:26	15262-20-1	
Total Radium	Total Radium Calculation	**1.11 ± 0.799 (1.53)**	pCi/L	07/24/18 11:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266540

Sample: BRGWA-5S **Lab ID: 266540004** Collected: 06/26/18 09:39 Received: 06/27/18 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.281 ± 0.147 (0.209) C:94% T:NA**	pCi/L	07/09/18 08:12	13982-63-3	
Radium-228	EPA 9320	**0.333 ± 0.507 (1.09) C:72% T:86%**	pCi/L	07/19/18 18:26	15262-20-1	
Total Radium	Total Radium Calculation	**0.614 ± 0.654 (1.30)**	pCi/L	07/24/18 11:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266540

Sample: BRGWA-6S **Lab ID: 266540005** Collected: 06/26/18 09:45 Received: 06/27/18 11:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.198 ± 0.136 (0.226) C:91% T:NA**	pCi/L	07/09/18 08:13	13982-63-3	
Radium-228	EPA 9320	**0.705 ± 0.534 (1.05) C:76% T:91%**	pCi/L	07/19/18 18:27	15262-20-1	
Total Radium	Total Radium Calculation	**0.903 ± 0.670 (1.28)**	pCi/L	07/24/18 11:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266540

QC Batch: 304503 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 266540001, 266540002, 266540003, 266540004, 266540005

METHOD BLANK: 1489835 Matrix: Water
Associated Lab Samples: 266540001, 266540002, 266540003, 266540004, 266540005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.224 ± 0.132 (0.194) C:96% T:NA	pCi/L	07/09/18 08:06	

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266540

QC Batch: 304502 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 266540001, 266540002, 266540003, 266540004, 266540005

METHOD BLANK: 1489833 Matrix: Water
Associated Lab Samples: 266540001, 266540002, 266540003, 266540004, 266540005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.518 ± 0.408 (0.794) C:78% T:66%	pCi/L	07/19/18 15:40	

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

Pace Analytical Services, LLC
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QUALIFIERS

Project: Plant Branch
Pace Project No.: 266540

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.

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.

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.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch
Pace Project No.: 266540

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
266540001	**BRGWA-2I**	EPA 9315	304503		
266540002	**BRGWA-2S**	EPA 9315	304503		
266540003	**BRGWA-5I**	EPA 9315	304503		
266540004	**BRGWA-5S**	EPA 9315	304503		
266540005	**BRGWA-6S**	EPA 9315	304503		
266540001	**BRGWA-2I**	EPA 9320	304502		
266540002	**BRGWA-2S**	EPA 9320	304502		
266540003	**BRGWA-5I**	EPA 9320	304502		
266540004	**BRGWA-5S**	EPA 9320	304502		
266540005	**BRGWA-6S**	EPA 9320	304502		
266540001	**BRGWA-2I**	Total Radium Calculation	306888		
266540002	**BRGWA-2S**	Total Radium Calculation	306895		
266540003	**BRGWA-5I**	Total Radium Calculation	306895		
266540004	**BRGWA-5S**	Total Radium Calculation	306895		
266540005	**BRGWA-6S**	Total Radium Calculation	306895		

CHAIN OF CUSTODY RECORD

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE 30308
Atlanta, GA 30308 P. 404-506-7234

REPORT TO: Jeff Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: jahrahe@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State LCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	ANALYSIS REQUESTED: Methods APP 3 & 4 (EPA 600/4-79-020)	TDS, Cl, F, SO4 (EPA 300.0 + SM2540C)	Radium 226 & 228 (9315/9320) (SW-846)	LAB ID NUMBER
6-26-18	1250	GW		X	BRGWA-2I	4	1	1	2	
6-26-18	1150	GW		X	BRGWA-2S	4	1	1	2	
6-26-18	1040	GW		X	BRGWA-5I	4	1	1	2	
6-26-18	0939	GW		X	BRGWA-5S	4	1	1	2	
6-26-18	0945	GW		X	BRGWA-6S	4	1	1	2	

CONTAINER TYPE: P | P | P
PRESERVATION: 3 | 7 | 3

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

WO#: 266540

266540

SAMPLED BY AND TITLE: Travis Martinez | DATE/TIME: 6-26-18/1800

RELINQUISHED BY: | DATE/TIME: 6-27-18/1030

RECEIVED BY: | DATE/TIME:

RECEIVED BY LAB: | DATE/TIME: 06/27/18 1145

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: Yes No NA | Ice: Yes No NA | Temperature: Min: 0.3 Max:

Custody Seal: Intact Broken Not Present N/A | # of Coolers | Cooler ID:

FOR LAB USE ONLY

LAB #:

Entered into LIMS:

Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO# : 266540

PM: BM Due Date: 07/26/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.3 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/27/18 MR

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW				
All containers needing preservation have been checked	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted: Date/Time:

Comments/ Resolution:

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-ALL-C-003rev.3, 11September2006

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

July 09, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 266578

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 28, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 266578

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 266578

Lab ID	Sample ID	Matrix	Date Collected	Date Received
266578001	**BRGWC-34S**	Water	06/27/18 12:55	06/28/18 10:15
266578002	**BRGWC-33S**	Water	06/27/18 11:38	06/28/18 10:15
266578003	**BRGWC-35S**	Water	06/27/18 13:46	06/28/18 10:15
266578004	**BRGWC-17S**	Water	06/27/18 15:54	06/28/18 10:15
266578005	**Dup-2**	Water	06/27/18 00:00	06/28/18 10:15
266578006	**RB-1**	Water	06/27/18 09:37	06/28/18 10:15
266578007	**FB-1**	Water	06/27/18 09:45	06/28/18 10:15

Pace Analytical Services, LLC
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(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 266578

Lab ID	Sample ID	Method	Analysts	Analytes Reported
266578001	**BRGWC-34S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266578002	**BRGWC-33S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266578003	**BRGWC-35S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266578004	**BRGWC-17S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266578005	**Dup-2**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266578006	**RB-1**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266578007	**FB-1**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266578

Sample: BRGWC-34S **Lab ID: 266578001** Collected: 06/27/18 12:55 Received: 06/28/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/29/18 10:35	06/29/18 18:29	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/29/18 10:35	06/29/18 18:29	7440-38-2	
Barium	**0.028**	mg/L	0.010	0.00078	1	06/29/18 10:35	06/29/18 18:29	7440-39-3	
Beryllium	**0.00013J**	mg/L	0.0030	0.000050	1	06/29/18 10:35	06/29/18 18:29	7440-41-7	
Boron	**2.2**	mg/L	0.040	0.0039	1	06/29/18 10:35	06/29/18 18:29	7440-42-8	M1
Cadmium	**0.00017J**	mg/L	0.0010	0.000093	1	06/29/18 10:35	06/29/18 18:29	7440-43-9	
Calcium	**90.1**	mg/L	25.0	0.69	50	06/29/18 10:35	06/29/18 18:35	7440-70-2	M6
Chromium	ND	mg/L	0.010	0.0016	1	06/29/18 10:35	06/29/18 18:29	7440-47-3	
Cobalt	**0.0041J**	mg/L	0.010	0.00052	1	06/29/18 10:35	06/29/18 18:29	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/29/18 10:35	06/29/18 18:29	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/29/18 10:35	06/29/18 18:29	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/29/18 10:35	06/29/18 18:29	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/29/18 10:35	06/29/18 18:29	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/29/18 10:35	06/29/18 18:29	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 09:45	06/29/18 15:04	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**359**	mg/L	10.0	10.0	1		06/29/18 18:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**7.1**	mg/L	0.25	0.024	1		07/02/18 18:17	16887-00-6	
Fluoride	**0.21J**	mg/L	0.30	0.029	1		07/02/18 18:17	16984-48-8	
Sulfate	**296**	mg/L	20.0	0.34	20		07/06/18 12:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266578

Sample: BRGWC-33S **Lab ID: 266578002** Collected: 06/27/18 11:38 Received: 06/28/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/29/18 10:35	06/29/18 19:20	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/29/18 10:35	06/29/18 19:20	7440-38-2	
Barium	**0.023**	mg/L	0.010	0.00078	1	06/29/18 10:35	06/29/18 19:20	7440-39-3	
Beryllium	**0.0020J**	mg/L	0.0030	0.000050	1	06/29/18 10:35	06/29/18 19:20	7440-41-7	
Boron	**0.96**	mg/L	0.040	0.0039	1	06/29/18 10:35	06/29/18 19:20	7440-42-8	
Cadmium	**0.00038J**	mg/L	0.0010	0.000093	1	06/29/18 10:35	06/29/18 19:20	7440-43-9	
Calcium	**55.1**	mg/L	25.0	0.69	50	06/29/18 10:35	06/29/18 19:26	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/29/18 10:35	06/29/18 19:20	7440-47-3	
Cobalt	**0.054**	mg/L	0.010	0.00052	1	06/29/18 10:35	06/29/18 19:20	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/29/18 10:35	06/29/18 19:20	7439-92-1	
Lithium	**0.010J**	mg/L	0.050	0.00097	1	06/29/18 10:35	06/29/18 19:20	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/29/18 10:35	06/29/18 19:20	7439-98-7	
Selenium	**0.0017J**	mg/L	0.010	0.0014	1	06/29/18 10:35	06/29/18 19:20	7782-49-2	
Thallium	**0.00022J**	mg/L	0.0010	0.00014	1	06/29/18 10:35	06/29/18 19:20	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 09:45	06/29/18 15:06	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**538**	mg/L	10.0	10.0	1		06/29/18 18:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.5**	mg/L	0.25	0.024	1		07/02/18 18:37	16887-00-6	
Fluoride	**0.32**	mg/L	0.30	0.029	1		07/02/18 18:37	16984-48-8	
Sulfate	**200**	mg/L	20.0	0.34	20		07/06/18 12:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266578

Sample: BRGWC-35S **Lab ID: 266578003** Collected: 06/27/18 13:46 Received: 06/28/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/29/18 10:35	06/29/18 19:32	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/29/18 10:35	06/29/18 19:32	7440-38-2	
Barium	**0.046**	mg/L	0.010	0.00078	1	06/29/18 10:35	06/29/18 19:32	7440-39-3	
Beryllium	**0.00015J**	mg/L	0.0030	0.000050	1	06/29/18 10:35	06/29/18 19:32	7440-41-7	
Boron	**1.7**	mg/L	0.040	0.0039	1	06/29/18 10:35	06/29/18 19:32	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/29/18 10:35	06/29/18 19:32	7440-43-9	
Calcium	**66.2**	mg/L	25.0	0.69	50	06/29/18 10:35	06/29/18 19:37	7440-70-2	
Chromium	**0.0062J**	mg/L	0.010	0.0016	1	06/29/18 10:35	06/29/18 19:32	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/29/18 10:35	06/29/18 19:32	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/29/18 10:35	06/29/18 19:32	7439-92-1	
Lithium	**0.0021J**	mg/L	0.050	0.00097	1	06/29/18 10:35	06/29/18 19:32	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/29/18 10:35	06/29/18 19:32	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/29/18 10:35	06/29/18 19:32	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/29/18 10:35	06/29/18 19:32	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 09:45	06/29/18 15:09	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**347**	mg/L	10.0	10.0	1		06/29/18 18:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**5.9**	mg/L	0.25	0.024	1		07/02/18 18:58	16887-00-6	
Fluoride	**0.22J**	mg/L	0.30	0.029	1		07/02/18 18:58	16984-48-8	
Sulfate	**278**	mg/L	20.0	0.34	20		07/06/18 14:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266578

Sample: BRGWC-17S **Lab ID: 266578004** Collected: 06/27/18 15:54 Received: 06/28/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/29/18 10:35	06/29/18 19:43	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/29/18 10:35	06/29/18 19:43	7440-38-2	
Barium	**0.041**	mg/L	0.010	0.00078	1	06/29/18 10:35	06/29/18 19:43	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/29/18 10:35	06/29/18 19:43	7440-41-7	
Boron	**0.0088J**	mg/L	0.040	0.0039	1	06/29/18 10:35	06/29/18 19:43	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/29/18 10:35	06/29/18 19:43	7440-43-9	
Calcium	**34.1**	mg/L	25.0	0.69	50	06/29/18 10:35	06/29/18 19:49	7440-70-2	
Chromium	**0.0098J**	mg/L	0.010	0.0016	1	06/29/18 10:35	06/29/18 19:43	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/29/18 10:35	06/29/18 19:43	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/29/18 10:35	06/29/18 19:43	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/29/18 10:35	06/29/18 19:43	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/29/18 10:35	06/29/18 19:43	7439-98-7	
Selenium	**0.0020J**	mg/L	0.010	0.0014	1	06/29/18 10:35	06/29/18 19:43	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/29/18 10:35	06/29/18 19:43	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 09:45	06/29/18 15:11	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**353**	mg/L	10.0	10.0	1		06/29/18 18:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.2**	mg/L	0.25	0.024	1		07/02/18 20:41	16887-00-6	
Fluoride	**0.093J**	mg/L	0.30	0.029	1		07/02/18 20:41	16984-48-8	
Sulfate	**118**	mg/L	10.0	0.17	10		07/06/18 14:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266578

Sample: Dup-2 **Lab ID: 266578005** Collected: 06/27/18 00:00 Received: 06/28/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/29/18 10:35	06/29/18 20:06	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/29/18 10:35	06/29/18 20:06	7440-38-2	
Barium	**0.023**	mg/L	0.010	0.00078	1	06/29/18 10:35	06/29/18 20:06	7440-39-3	
Beryllium	**0.0021J**	mg/L	0.0030	0.000050	1	06/29/18 10:35	06/29/18 20:06	7440-41-7	
Boron	**1.0**	mg/L	0.040	0.0039	1	06/29/18 10:35	06/29/18 20:06	7440-42-8	
Cadmium	**0.00039J**	mg/L	0.0010	0.000093	1	06/29/18 10:35	06/29/18 20:06	7440-43-9	
Calcium	**55.1**	mg/L	25.0	0.69	50	06/29/18 10:35	06/29/18 20:12	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/29/18 10:35	06/29/18 20:06	7440-47-3	
Cobalt	**0.053**	mg/L	0.010	0.00052	1	06/29/18 10:35	06/29/18 20:06	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/29/18 10:35	06/29/18 20:06	7439-92-1	
Lithium	**0.010J**	mg/L	0.050	0.00097	1	06/29/18 10:35	06/29/18 20:06	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/29/18 10:35	06/29/18 20:06	7439-98-7	
Selenium	**0.0015J**	mg/L	0.010	0.0014	1	06/29/18 10:35	06/29/18 20:06	7782-49-2	
Thallium	**0.00021J**	mg/L	0.0010	0.00014	1	06/29/18 10:35	06/29/18 20:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 09:45	06/29/18 15:14	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**23.0**	mg/L	10.0	10.0	1		06/29/18 18:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.5**	mg/L	0.25	0.024	1		07/02/18 21:02	16887-00-6	
Fluoride	**0.26J**	mg/L	0.30	0.029	1		07/02/18 21:02	16984-48-8	
Sulfate	**204**	mg/L	25.0	0.42	25		07/06/18 15:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266578

Sample: RB-1 **Lab ID: 266578006** Collected: 06/27/18 09:37 Received: 06/28/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/29/18 10:35	06/29/18 20:17	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/29/18 10:35	06/29/18 20:17	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	06/29/18 10:35	06/29/18 20:17	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/29/18 10:35	06/29/18 20:17	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	06/29/18 10:35	06/29/18 20:17	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/29/18 10:35	06/29/18 20:17	7440-43-9	
Calcium	**0.025J**	mg/L	0.50	0.014	1	06/29/18 10:35	06/29/18 20:17	7440-70-2	B
Chromium	ND	mg/L	0.010	0.0016	1	06/29/18 10:35	06/29/18 20:17	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/29/18 10:35	06/29/18 20:17	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/29/18 10:35	06/29/18 20:17	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/29/18 10:35	06/29/18 20:17	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/29/18 10:35	06/29/18 20:17	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/29/18 10:35	06/29/18 20:17	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/29/18 10:35	06/29/18 20:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 09:45	06/29/18 15:16	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**26.0**	mg/L	10.0	10.0	1		06/29/18 18:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.45**	mg/L	0.25	0.024	1		07/02/18 21:43	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		07/02/18 21:43	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		07/02/18 21:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266578

Sample: FB-1 **Lab ID: 266578007** Collected: 06/27/18 09:45 Received: 06/28/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/29/18 10:35	06/29/18 20:23	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/29/18 10:35	06/29/18 20:23	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	06/29/18 10:35	06/29/18 20:23	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/29/18 10:35	06/29/18 20:23	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	06/29/18 10:35	06/29/18 20:23	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/29/18 10:35	06/29/18 20:23	7440-43-9	
Calcium	**0.029J**	mg/L	0.50	0.014	1	06/29/18 10:35	06/29/18 20:23	7440-70-2	B
Chromium	ND	mg/L	0.010	0.0016	1	06/29/18 10:35	06/29/18 20:23	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/29/18 10:35	06/29/18 20:23	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/29/18 10:35	06/29/18 20:23	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/29/18 10:35	06/29/18 20:23	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/29/18 10:35	06/29/18 20:23	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/29/18 10:35	06/29/18 20:23	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/29/18 10:35	06/29/18 20:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	06/29/18 09:45	06/29/18 15:18	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**390**	mg/L	10.0	10.0	1		06/29/18 18:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.28**	mg/L	0.25	0.024	1		07/02/18 22:04	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		07/02/18 22:04	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		07/02/18 22:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266578

QC Batch: 9011 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 266578001, 266578002, 266578003, 266578004, 266578005, 266578006, 266578007

METHOD BLANK: 41261 Matrix: Water
Associated Lab Samples: 266578001, 266578002, 266578003, 266578004, 266578005, 266578006, 266578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000036	06/29/18 14:36	

LABORATORY CONTROL SAMPLE: 41262

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0026	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41263 41264

Parameter	Units	266541001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0025	0.0026	99	103	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.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266578

QC Batch: 9022 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 266578001, 266578002, 266578003, 266578004, 266578005, 266578006, 266578007

METHOD BLANK: 41298 Matrix: Water
Associated Lab Samples: 266578001, 266578002, 266578003, 266578004, 266578005, 266578006, 266578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	06/29/18 18:00	
Arsenic	mg/L	ND	0.0050	0.00057	06/29/18 18:00	
Barium	mg/L	ND	0.010	0.00078	06/29/18 18:00	
Beryllium	mg/L	ND	0.0030	0.000050	06/29/18 18:00	
Boron	mg/L	ND	0.040	0.0039	06/29/18 18:00	
Cadmium	mg/L	ND	0.0010	0.000093	06/29/18 18:00	
Calcium	mg/L	0.030J	0.50	0.014	06/29/18 18:00	
Chromium	mg/L	ND	0.010	0.0016	06/29/18 18:00	
Cobalt	mg/L	ND	0.010	0.00052	06/29/18 18:00	
Lead	mg/L	ND	0.0050	0.00027	06/29/18 18:00	
Lithium	mg/L	ND	0.050	0.00097	06/29/18 18:00	
Molybdenum	mg/L	ND	0.010	0.0019	06/29/18 18:00	
Selenium	mg/L	ND	0.010	0.0014	06/29/18 18:00	
Thallium	mg/L	ND	0.0010	0.00014	06/29/18 18:00	

LABORATORY CONTROL SAMPLE: 41299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.10	104	80-120	
Arsenic	mg/L	.1	0.10	100	80-120	
Barium	mg/L	.1	0.099	99	80-120	
Beryllium	mg/L	.1	0.10	101	80-120	
Boron	mg/L	1	0.99	99	80-120	
Cadmium	mg/L	.1	0.10	100	80-120	
Calcium	mg/L	1	1.0	104	80-120	
Chromium	mg/L	.1	0.10	100	80-120	
Cobalt	mg/L	.1	0.10	101	80-120	
Lead	mg/L	.1	0.10	103	80-120	
Lithium	mg/L	.1	0.097	97	80-120	
Molybdenum	mg/L	.1	0.10	102	80-120	
Selenium	mg/L	.1	0.10	101	80-120	
Thallium	mg/L	.1	0.10	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41300 41301

Parameter	Units	266578001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.11	0.11	110	110	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266578

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41300 41301

Parameter	Units	266578001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	.1	.1	0.11	0.10	110	105	75-125	5	20	
Barium	mg/L	0.028	.1	.1	0.14	0.14	107	107	75-125	0	20	
Beryllium	mg/L	0.00013J	.1	.1	0.10	0.095	103	94	75-125	9	20	
Boron	mg/L	2.2	1	1	3.5	3.4	131	116	75-125	4	20	M1
Cadmium	mg/L	0.00017J	.1	.1	0.11	0.10	105	105	75-125	1	20	
Calcium	mg/L	90.1	1	1	95.1	93.5	498	345	75-125	2	20	M6
Chromium	mg/L	ND	.1	.1	0.10	0.11	103	106	75-125	2	20	
Cobalt	mg/L	0.0041J	.1	.1	0.11	0.11	105	105	75-125	0	20	
Lead	mg/L	ND	.1	.1	0.10	0.10	104	104	75-125	1	20	
Lithium	mg/L	ND	.1	.1	0.11	0.099	104	98	75-125	6	20	
Molybdenum	mg/L	ND	.1	.1	0.11	0.11	109	109	75-125	0	20	
Selenium	mg/L	ND	.1	.1	0.11	0.11	112	110	75-125	2	20	
Thallium	mg/L	ND	.1	.1	0.10	0.10	104	104	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

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266578

QC Batch: 9045 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 266578001, 266578002, 266578003, 266578004, 266578005, 266578006, 266578007

LABORATORY CONTROL SAMPLE: 41416

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	406	102	84-108	

SAMPLE DUPLICATE: 41417

Parameter	Units	266570030 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	554	584	5	10	

SAMPLE DUPLICATE: 41418

Parameter	Units	266649001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	9800	10200	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.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266578

QC Batch: 9128 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 266578001, 266578002, 266578003, 266578004, 266578005, 266578006, 266578007

METHOD BLANK: 41788 Matrix: Water
Associated Lab Samples: 266578001, 266578002, 266578003, 266578004, 266578005, 266578006, 266578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.28	0.25	0.024	07/02/18 15:11	
Fluoride	mg/L	ND	0.30	0.029	07/02/18 15:11	
Sulfate	mg/L	ND	1.0	0.017	07/02/18 15:11	

LABORATORY CONTROL SAMPLE: 41789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.9	99	90-110	
Fluoride	mg/L	10	9.9	99	90-110	
Sulfate	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41790 41791

Parameter	Units	266574001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	701	10	10	341	341	-3610	-3600	90-110	0	15	E,M1
Fluoride	mg/L	0.95	10	10	10.9	10.9	100	100	90-110	0	15	
Sulfate	mg/L	1.4	10	10	11.4	11.4	100	100	90-110	0	15	

MATRIX SPIKE SAMPLE: 41792

Parameter	Units	266574002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	4930	10	648	-42800	90-110	E,M1
Fluoride	mg/L	0.15J	10	7.2	71	90-110	M1
Sulfate	mg/L	599	10	312	-2860	90-110	E,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.

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Branch
Pace Project No.: 266578

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.

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.

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.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch
Pace Project No.: 266578

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
266578001	**BRGWC-34S**	EPA 3005A	9022	EPA 6020B	9062
266578002	**BRGWC-33S**	EPA 3005A	9022	EPA 6020B	9062
266578003	**BRGWC-35S**	EPA 3005A	9022	EPA 6020B	9062
266578004	**BRGWC-17S**	EPA 3005A	9022	EPA 6020B	9062
266578005	**Dup-2**	EPA 3005A	9022	EPA 6020B	9062
266578006	**RB-1**	EPA 3005A	9022	EPA 6020B	9062
266578007	**FB-1**	EPA 3005A	9022	EPA 6020B	9062
266578001	**BRGWC-34S**	EPA 7470A	9011	EPA 7470A	9048
266578002	**BRGWC-33S**	EPA 7470A	9011	EPA 7470A	9048
266578003	**BRGWC-35S**	EPA 7470A	9011	EPA 7470A	9048
266578004	**BRGWC-17S**	EPA 7470A	9011	EPA 7470A	9048
266578005	**Dup-2**	EPA 7470A	9011	EPA 7470A	9048
266578006	**RB-1**	EPA 7470A	9011	EPA 7470A	9048
266578007	**FB-1**	EPA 7470A	9011	EPA 7470A	9048
266578001	**BRGWC-34S**	SM 2540C	9045		
266578002	**BRGWC-33S**	SM 2540C	9045		
266578003	**BRGWC-35S**	SM 2540C	9045		
266578004	**BRGWC-17S**	SM 2540C	9045		
266578005	**Dup-2**	SM 2540C	9045		
266578006	**RB-1**	SM 2540C	9045		
266578007	**FB-1**	SM 2540C	9045		
266578001	**BRGWC-34S**	EPA 300.0	9128		
266578002	**BRGWC-33S**	EPA 300.0	9128		
266578003	**BRGWC-35S**	EPA 300.0	9128		
266578004	**BRGWC-17S**	EPA 300.0	9128		
266578005	**Dup-2**	EPA 300.0	9128		
266578006	**RB-1**	EPA 300.0	9128		
266578007	**FB-1**	EPA 300.0	9128		

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE 31085 Atlanta, GA 30303 P 404-506-7239

REPORT TO: Joju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: [email address]

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED

							Container type:		P	P	P					
							Preservation:		3	7	3					
Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS			Metals App 3 & 4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0, SM2540C)	Radium 226 & 228 (SW-846 9315/9320)				LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
6-27-18	1255	GW		X	BRGWC-34S	4			1	1	2					
6-27-18	1138	GW		X	BRGWC-33S	4			1	1	2					
6-27-18	1346	GW		X	BRGWC-35S	4			1	1	2					
6-27-18	1554	GW		X	BRGWC-17S	4			1	1	2					
6-27-18	—	GW		X	DUP-2	4			1	1	2					
6-27-18	0937	W		X	RB-1	4			1	1	2					
6-27-18	0945	W		X	FB-1	4			1	1	2					

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ~~ST - STORM WATER~~; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; ~~L - LIQUID~~; P - PRODUCT

WO#: 266578

266578

SAMPLED BY AND TITLE: Travis Martinez / Scientist | DATE/TIME: 6-27-18 / 1800 | RELINQUISHED BY: [signature] | DATE/TIME: 6-28-18 / 0800

RECEIVED BY: | DATE/TIME: | RELINQUISHED BY: | DATE/TIME:

RECEIVED BY LAB: [signature] | DATE/TIME: 06/28/18 1015 | SAMPLE SHIPPED VIA: UPS FED-EX USPS (COURIER) CLIENT OTHER FS

pH checked: (Yes) No NA | Ice: (Yes) No NA | Temperature: Min: 2.5 Max: | Custody Seal: (Intact) Broken Not Present N/A | # of Coolers: | Cooler ID:

FOR LAB USE ONLY
LAB #:
Entered Into LIMS:
Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 266578

PM: BM **Due Date: 07/06/18**

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used: 83

Type of Ice: (Wet) Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.5

Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/28/18 MR

			Comments:
Chain of Custody Present:	☑Yes	☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No ☐N/A	7.
Sufficient Volume:	☑Yes	☐No ☐N/A	8.
Correct Containers Used:	☑Yes	☐No ☐N/A	9.
-Pace Containers Used:	☑Yes	☐No ☐N/A	
Containers Intact:	☑Yes	☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No ☑N/A	11.
Sample Labels match COC:	☑Yes	☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW			
All containers needing preservation have been checked	☑Yes	☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☑N/A	15.
Trip Blank Present:	☐Yes	☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution:

Field Data Required? Y N

Person Contacted: Date/Time:

Comments/ Resolution:

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 DENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

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

July 27, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 266579

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 28, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Julie Lehrman, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

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CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 266579

Pennsylvania Certification IDs

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
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

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SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 266579

Lab ID	Sample ID	Matrix	Date Collected	Date Received
266579001	**BRGWC-34S**	Water	06/27/18 12:55	06/28/18 10:15
266579002	**BRGWC-33S**	Water	06/27/18 11:38	06/28/18 10:15
266579003	**BRGWC-35S**	Water	06/27/18 13:46	06/28/18 10:15
266579004	**BRGWC-17S**	Water	06/27/18 15:54	06/28/18 10:15
266579005	**Dup-2**	Water	06/27/18 00:00	06/28/18 10:15
266579006	**RB-1**	Water	06/27/18 09:37	06/28/18 10:15
266579007	**FB-1**	Water	06/27/18 09:45	06/28/18 10:15

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SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 266579

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
266579001	**BRGWC-34S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
266579002	**BRGWC-33S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266579003	**BRGWC-35S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266579004	**BRGWC-17S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266579005	**Dup-2**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266579006	**RB-1**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266579007	**FB-1**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

Sample: BRGWC-34S **Lab ID: 266579001** Collected: 06/27/18 12:55 Received: 06/28/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.650 ± 0.275 (0.332) C:76% T:NA**	pCi/L	07/16/18 09:44	13982-63-3	
Radium-228	EPA 9320	**0.406 ± 0.538 (1.15) C:73% T:81%**	pCi/L	07/19/18 18:27	15262-20-1	
Total Radium	Total Radium Calculation	**1.06 ± 0.813 (1.48)**	pCi/L	07/25/18 13:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

Sample: BRGWC-33S **Lab ID: 266579002** Collected: 06/27/18 11:38 Received: 06/28/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.347 ± 0.197 (0.296) C:91% T:NA**	pCi/L	07/16/18 09:48	13982-63-3	
Radium-228	EPA 9320	**0.953 ± 0.581 (1.07) C:76% T:81%**	pCi/L	07/19/18 18:27	15262-20-1	
Total Radium	Total Radium Calculation	**1.30 ± 0.778 (1.37)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

Sample: BRGWC-35S **Lab ID: 266579003** Collected: 06/27/18 13:46 Received: 06/28/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.194 ± 0.154 (0.273) C:90% T:NA**	pCi/L	07/16/18 09:44	13982-63-3	
Radium-228	EPA 9320	**0.545 ± 0.500 (1.01) C:77% T:86%**	pCi/L	07/19/18 18:27	15262-20-1	
Total Radium	Total Radium Calculation	**0.739 ± 0.654 (1.28)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

Sample: BRGWC-17S **Lab ID: 266579004** Collected: 06/27/18 15:54 Received: 06/28/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.310 ± 0.185 (0.294) C:91% T:NA**	pCi/L	07/16/18 09:48	13982-63-3	
Radium-228	EPA 9320	**0.382 ± 0.467 (0.989) C:73% T:73%**	pCi/L	07/24/18 16:12	15262-20-1	
Total Radium	Total Radium Calculation	**0.692 ± 0.652 (1.28)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

Sample: Dup-2 **Lab ID: 266579005** Collected: 06/27/18 00:00 Received: 06/28/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.491 ± 0.217 (0.278) C:95% T:NA**	pCi/L	07/16/18 09:48	13982-63-3	
Radium-228	EPA 9320	**0.598 ± 0.523 (1.06) C:73% T:81%**	pCi/L	07/24/18 14:37	15262-20-1	
Total Radium	Total Radium Calculation	**1.09 ± 0.740 (1.34)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

Sample: RB-1 **Lab ID: 266579006** Collected: 06/27/18 09:37 Received: 06/28/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.303 ± 0.192 (0.314) C:88% T:NA**	pCi/L	07/16/18 09:48	13982-63-3	
Radium-228	EPA 9320	**0.386 ± 0.471 (0.997) C:72% T:70%**	pCi/L	07/24/18 12:58	15262-20-1	
Total Radium	Total Radium Calculation	**0.689 ± 0.663 (1.31)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

Sample: FB-1 **Lab ID: 266579007** Collected: 06/27/18 09:45 Received: 06/28/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.153 ± 0.138 (0.258) C:94% T:NA**	pCi/L	07/16/18 09:49	13982-63-3	
Radium-228	EPA 9320	**0.401 ± 0.446 (0.937) C:73% T:77%**	pCi/L	07/24/18 12:58	15262-20-1	
Total Radium	Total Radium Calculation	**0.554 ± 0.584 (1.20)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

QC Batch: 304670 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 266579001, 266579002, 266579003, 266579004, 266579005, 266579006, 266579007

METHOD BLANK: 1490536 Matrix: Water
Associated Lab Samples: 266579001, 266579002, 266579003, 266579004, 266579005, 266579006, 266579007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.280 ± 0.163 (0.233) C:95% T:NA	pCi/L	07/16/18 09:43	

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

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

QC Batch: 304671 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 266579004, 266579005, 266579006, 266579007

METHOD BLANK: 1490537 Matrix: Water
Associated Lab Samples: 266579004, 266579005, 266579006, 266579007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	1.09 ± 0.430 (0.652) C:77% T:86%	pCi/L	07/24/18 12:59	1A

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

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266579

QC Batch: 304502 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 266579001, 266579002, 266579003

METHOD BLANK: 1489833 Matrix: Water
Associated Lab Samples: 266579001, 266579002, 266579003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.518 ± 0.408 (0.794) C:78% T:66%	pCi/L	07/19/18 15:40	

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

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

QUALIFIERS

Project: Plant Branch
Pace Project No.: 266579

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.

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.

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.

LABORATORIES

PASI-PA	Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

1A	Ra-228 Method blank activity greater than the RL of 1.0 pCi/L. Sample results less than the CRDL are reportable without qualification.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch
Pace Project No.: 266579

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
266579001	**BRGWC-34S**	EPA 9315	304670		
266579002	**BRGWC-33S**	EPA 9315	304670		
266579003	**BRGWC-35S**	EPA 9315	304670		
266579004	**BRGWC-17S**	EPA 9315	304670		
266579005	**Dup-2**	EPA 9315	304670		
266579006	**RB-1**	EPA 9315	304670		
266579007	**FB-1**	EPA 9315	304670		
266579001	**BRGWC-34S**	EPA 9320	304502		
266579002	**BRGWC-33S**	EPA 9320	304502		
266579003	**BRGWC-35S**	EPA 9320	304502		
266579004	**BRGWC-17S**	EPA 9320	304671		
266579005	**Dup-2**	EPA 9320	304671		
266579006	**RB-1**	EPA 9320	304671		
266579007	**FB-1**	EPA 9320	304671		
266579001	**BRGWC-34S**	Total Radium Calculation	306983		
266579002	**BRGWC-33S**	Total Radium Calculation	307149		
266579003	**BRGWC-35S**	Total Radium Calculation	307149		
266579004	**BRGWC-17S**	Total Radium Calculation	307149		
266579005	**Dup-2**	Total Radium Calculation	307149		
266579006	**RB-1**	Total Radium Calculation	307149		
266579007	**FB-1**	Total Radium Calculation	307149		

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE 31085 Atlanta, GA 30303 P 404-506-7239

REPORT TO: Joju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: [email address, illegible]@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED:

	Analysis 1	Analysis 2	Analysis 3
CONTAINER TYPE:	P	P	P
PRESERVATION:	3	7	3
Analysis	metals App 3 & 4 (EPA 6010/7470)	TDS, Cl, F, SO4 (EPA 300.0, SM2540C)	Radium 226 & 228 (SW 846 9315/9320)

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	metals App 3 & 4	TDS, Cl, F, SO4	Radium 226 & 228	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
6-27-18	1255	GW		X	BRGWC-34S	4	1	1	2		
6-27-18	1138	GW		X	BRGWC-33S	4	1	1	2		
6-27-18	1346	GW		X	BRGWC-35S	4	1	1	2		
6-27-18	1554	GW		X	BRGWC-17S	4	1	1	2		
6-27-18	—	GW		X	DUP-2	4	1	1	2		
6-27-18	0937	W		X	RB-1	4	1	1	2		
6-27-18	0945	W		X	FB-1	4	1	1	2		

CONTAINER TYPE:
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION:
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

WO#: 266579

266579

SAMPLED BY AND TITLE: Travis Martinez / Scientist | DATE/TIME: 6-27-18 / 1800

RELINQUISHED BY: [signature] | DATE/TIME: 6-28-18 / 0800

RECEIVED BY: | DATE/TIME:

RELINQUISHED BY: | DATE/TIME:

RECEIVED BY LAB: [signature] | DATE/TIME: 06/28/18 1015

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (circled) CLIENT OTHER FS

pH checked: Yes (circled) No NA | Ice: Yes (circled) No NA | Temperature: Min: 2.5 Max: | Custody Seal: Intact (circled) Broken Not Present N/A | # of Coolers: | Cooler ID:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO# : 266579

PM: BM **Due Date: 07/27/18**

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.5 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/28/18 MK

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
Includes date/time/ID/Analysis Matrix: GW				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted: Date/Time

Comments/ Resolution:

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-ALL-C-003rev.3, 11September2006

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

July 10, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 266662

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 29, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
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CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 266662

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

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

SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 266662

Lab ID	Sample ID	Matrix	Date Collected	Date Received
266662001	**BRGWC-36S**	Water	06/28/18 09:24	06/29/18 10:15
266662002	**BRGWC-37S**	Water	06/28/18 10:53	06/29/18 10:15
266662003	**BRGWC-38S**	Water	06/28/18 13:20	06/29/18 10:15
266662004	**Dup-3**	Water	06/28/18 00:00	06/29/18 10:15
266662005	**FB-3**	Water	06/28/18 12:19	06/29/18 10:15
266662006	**RB-3**	Water	06/28/18 11:32	06/29/18 10:15

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

SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 266662

Lab ID	Sample ID	Method	Analysts	Analytes Reported
266662001	**BRGWC-36S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266662002	**BRGWC-37S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266662003	**BRGWC-38S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266662004	**Dup-3**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266662005	**FB-3**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
266662006	**RB-3**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266662

Sample: BRGWC-36S **Lab ID: 266662001** Collected: 06/28/18 09:24 Received: 06/29/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	07/02/18 09:21	07/02/18 18:11	7440-36-0	
Arsenic	**0.00074J**	mg/L	0.0050	0.00057	1	07/02/18 09:21	07/02/18 18:11	7440-38-2	
Barium	**0.035**	mg/L	0.010	0.00078	1	07/02/18 09:21	07/02/18 18:11	7440-39-3	
Beryllium	**0.000081J**	mg/L	0.0030	0.000050	1	07/02/18 09:21	07/02/18 18:11	7440-41-7	
Boron	**0.89**	mg/L	0.040	0.0039	1	07/02/18 09:21	07/02/18 18:11	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	07/02/18 09:21	07/02/18 18:11	7440-43-9	
Calcium	**51.0**	mg/L	25.0	0.69	50	07/02/18 09:21	07/02/18 18:17	7440-70-2	M6
Chromium	**0.0076J**	mg/L	0.010	0.0016	1	07/02/18 09:21	07/02/18 18:11	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	07/02/18 09:21	07/02/18 18:11	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	07/02/18 09:21	07/02/18 18:11	7439-92-1	
Lithium	**0.0022J**	mg/L	0.050	0.00097	1	07/02/18 09:21	07/02/18 18:11	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	07/02/18 09:21	07/02/18 18:11	7439-98-7	
Selenium	**0.0033J**	mg/L	0.010	0.0014	1	07/02/18 09:21	07/02/18 18:11	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	07/02/18 09:21	07/02/18 18:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	07/03/18 08:20	07/03/18 12:34	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**499**	mg/L	10.0	10.0	1		07/03/18 14:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**9.0**	mg/L	0.25	0.024	1		07/03/18 18:52	16887-00-6	M1
Fluoride	**0.51**	mg/L	0.30	0.029	1		07/03/18 18:52	16984-48-8	M1
Sulfate	**284**	mg/L	10.0	0.17	10		07/07/18 15:57	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266662

Sample: BRGWC-37S **Lab ID: 266662002** Collected: 06/28/18 10:53 Received: 06/29/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	07/02/18 09:21	07/02/18 19:03	7440-36-0	
Arsenic	**0.0011J**	mg/L	0.0050	0.00057	1	07/02/18 09:21	07/02/18 19:03	7440-38-2	
Barium	**0.023**	mg/L	0.010	0.00078	1	07/02/18 09:21	07/02/18 19:03	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	07/02/18 09:21	07/02/18 19:03	7440-41-7	
Boron	**0.0067J**	mg/L	0.040	0.0039	1	07/02/18 09:21	07/02/18 19:03	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	07/02/18 09:21	07/02/18 19:03	7440-43-9	
Calcium	**3.1**	mg/L	0.50	0.014	1	07/02/18 09:21	07/02/18 19:03	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	07/02/18 09:21	07/02/18 19:03	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	07/02/18 09:21	07/02/18 19:03	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	07/02/18 09:21	07/02/18 19:03	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	07/02/18 09:21	07/02/18 19:03	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	07/02/18 09:21	07/02/18 19:03	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	07/02/18 09:21	07/02/18 19:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	07/02/18 09:21	07/02/18 19:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	07/03/18 08:20	07/03/18 12:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**59.0**	mg/L	10.0	10.0	1		07/03/18 14:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.1**	mg/L	0.25	0.024	1		07/03/18 19:56	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		07/03/18 19:56	16984-48-8	M1
Sulfate	**0.24J**	mg/L	1.0	0.017	1		07/03/18 19:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266662

Sample: BRGWC-38S **Lab ID: 266662003** Collected: 06/28/18 13:20 Received: 06/29/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	07/02/18 09:21	07/02/18 19:14	7440-36-0	
Arsenic	**0.0023J**	mg/L	0.0050	0.00057	1	07/02/18 09:21	07/02/18 19:14	7440-38-2	
Barium	**0.018**	mg/L	0.010	0.00078	1	07/02/18 09:21	07/02/18 19:14	7440-39-3	
Beryllium	**0.0085**	mg/L	0.0030	0.000050	1	07/02/18 09:21	07/02/18 19:14	7440-41-7	
Boron	**1.5**	mg/L	0.040	0.0039	1	07/02/18 09:21	07/02/18 19:14	7440-42-8	
Cadmium	**0.00056J**	mg/L	0.0010	0.000093	1	07/02/18 09:21	07/02/18 19:14	7440-43-9	
Calcium	**45.9**	mg/L	25.0	0.69	50	07/02/18 09:21	07/02/18 19:20	7440-70-2	
Chromium	**0.0041J**	mg/L	0.010	0.0016	1	07/02/18 09:21	07/02/18 19:14	7440-47-3	
Cobalt	**0.23**	mg/L	0.010	0.00052	1	07/02/18 09:21	07/02/18 19:14	7440-48-4	
Lead	**0.00036J**	mg/L	0.0050	0.00027	1	07/02/18 09:21	07/02/18 19:14	7439-92-1	
Lithium	**0.021J**	mg/L	0.050	0.00097	1	07/02/18 09:21	07/02/18 19:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	07/02/18 09:21	07/02/18 19:14	7439-98-7	
Selenium	**0.037**	mg/L	0.010	0.0014	1	07/02/18 09:21	07/02/18 19:14	7782-49-2	
Thallium	**0.00018J**	mg/L	0.0010	0.00014	1	07/02/18 09:21	07/02/18 19:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	**0.00017J**	mg/L	0.00020	0.000036	1	07/03/18 08:20	07/03/18 12:46	7439-97-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**704**	mg/L	10.0	10.0	1		07/03/18 14:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**5.5**	mg/L	0.25	0.024	1		07/03/18 20:17	16887-00-6	
Fluoride	**1.5**	mg/L	0.30	0.029	1		07/03/18 20:17	16984-48-8	
Sulfate	**453**	mg/L	20.0	0.34	20		07/07/18 16:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266662

Sample: Dup-3 **Lab ID: 266662004** Collected: 06/28/18 00:00 Received: 06/29/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	07/02/18 09:21	07/02/18 19:26	7440-36-0	
Arsenic	**0.00090J**	mg/L	0.0050	0.00057	1	07/02/18 09:21	07/02/18 19:26	7440-38-2	
Barium	**0.023**	mg/L	0.010	0.00078	1	07/02/18 09:21	07/02/18 19:26	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	07/02/18 09:21	07/02/18 19:26	7440-41-7	
Boron	**0.014J**	mg/L	0.040	0.0039	1	07/02/18 09:21	07/02/18 19:26	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	07/02/18 09:21	07/02/18 19:26	7440-43-9	
Calcium	**3.4**	mg/L	0.50	0.014	1	07/02/18 09:21	07/02/18 19:26	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	07/02/18 09:21	07/02/18 19:26	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	07/02/18 09:21	07/02/18 19:26	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	07/02/18 09:21	07/02/18 19:26	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	07/02/18 09:21	07/02/18 19:26	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	07/02/18 09:21	07/02/18 19:26	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	07/02/18 09:21	07/02/18 19:26	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	07/02/18 09:21	07/02/18 19:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	07/03/18 08:20	07/03/18 12:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**57.0**	mg/L	10.0	10.0	1		07/03/18 14:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.2**	mg/L	0.25	0.024	1		07/03/18 20:38	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		07/03/18 20:38	16984-48-8	
Sulfate	**0.29J**	mg/L	1.0	0.017	1		07/03/18 20:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266662

Sample: FB-3 **Lab ID: 266662005** Collected: 06/28/18 12:19 Received: 06/29/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	07/02/18 09:21	07/02/18 19:37	7440-36-0	
Arsenic	**0.0010J**	mg/L	0.0050	0.00057	1	07/02/18 09:21	07/02/18 19:37	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	07/02/18 09:21	07/02/18 19:37	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	07/02/18 09:21	07/02/18 19:37	7440-41-7	
Boron	**0.0055J**	mg/L	0.040	0.0039	1	07/02/18 09:21	07/02/18 19:37	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	07/02/18 09:21	07/02/18 19:37	7440-43-9	
Calcium	**0.095J**	mg/L	0.50	0.014	1	07/02/18 09:21	07/02/18 19:37	7440-70-2	B
Chromium	ND	mg/L	0.010	0.0016	1	07/02/18 09:21	07/02/18 19:37	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	07/02/18 09:21	07/02/18 19:37	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	07/02/18 09:21	07/02/18 19:37	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	07/02/18 09:21	07/02/18 19:37	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	07/02/18 09:21	07/02/18 19:37	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	07/02/18 09:21	07/02/18 19:37	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	07/02/18 09:21	07/02/18 19:37	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	07/03/18 08:20	07/03/18 12:55	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		07/03/18 14:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.067J**	mg/L	0.25	0.024	1		07/03/18 20:59	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		07/03/18 20:59	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		07/03/18 20:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch
Pace Project No.: 266662

Sample: RB-3 **Lab ID: 266662006** Collected: 06/28/18 11:32 Received: 06/29/18 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	07/02/18 09:21	07/02/18 19:43	7440-36-0	
Arsenic	**0.00085J**	mg/L	0.0050	0.00057	1	07/02/18 09:21	07/02/18 19:43	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	07/02/18 09:21	07/02/18 19:43	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	07/02/18 09:21	07/02/18 19:43	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	07/02/18 09:21	07/02/18 19:43	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	07/02/18 09:21	07/02/18 19:43	7440-43-9	
Calcium	**0.17J**	mg/L	0.50	0.014	1	07/02/18 09:21	07/02/18 19:43	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	07/02/18 09:21	07/02/18 19:43	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	07/02/18 09:21	07/02/18 19:43	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	07/02/18 09:21	07/02/18 19:43	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	07/02/18 09:21	07/02/18 19:43	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	07/02/18 09:21	07/02/18 19:43	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	07/02/18 09:21	07/02/18 19:43	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	07/02/18 09:21	07/02/18 19:43	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.000036	1	07/03/18 08:20	07/03/18 12:57	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**14.0**	mg/L	10.0	10.0	1		07/03/18 14:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.084J**	mg/L	0.25	0.024	1		07/03/18 21:21	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		07/03/18 21:21	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		07/03/18 21:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266662

QC Batch: 9168 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 266662001, 266662002, 266662003, 266662004, 266662005, 266662006

METHOD BLANK: 41848 Matrix: Water
Associated Lab Samples: 266662001, 266662002, 266662003, 266662004, 266662005, 266662006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	0.000040J	0.00020	0.000036	07/03/18 12:29	

LABORATORY CONTROL SAMPLE: 41849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0025	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41850 41851

Parameter	Units	266662001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0025	0.0025	98	100	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266662

QC Batch: 9111 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 266662001, 266662002, 266662003, 266662004, 266662005, 266662006

METHOD BLANK: 41720 Matrix: Water
Associated Lab Samples: 266662001, 266662002, 266662003, 266662004, 266662005, 266662006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	07/02/18 17:41	
Arsenic	mg/L	ND	0.0050	0.00057	07/02/18 17:41	
Barium	mg/L	ND	0.010	0.00078	07/02/18 17:41	
Beryllium	mg/L	ND	0.0030	0.000050	07/02/18 17:41	
Boron	mg/L	ND	0.040	0.0039	07/02/18 17:41	
Cadmium	mg/L	ND	0.0010	0.000093	07/02/18 17:41	
Calcium	mg/L	0.016J	0.50	0.014	07/02/18 17:41	
Chromium	mg/L	ND	0.010	0.0016	07/02/18 17:41	
Cobalt	mg/L	ND	0.010	0.00052	07/02/18 17:41	
Lead	mg/L	ND	0.0050	0.00027	07/02/18 17:41	
Lithium	mg/L	ND	0.050	0.00097	07/02/18 17:41	
Molybdenum	mg/L	ND	0.010	0.0019	07/02/18 17:41	
Selenium	mg/L	ND	0.010	0.0014	07/02/18 17:41	
Thallium	mg/L	ND	0.0010	0.00014	07/02/18 17:41	

LABORATORY CONTROL SAMPLE: 41721

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.11	106	80-120	
Arsenic	mg/L	.1	0.10	103	80-120	
Barium	mg/L	.1	0.10	100	80-120	
Beryllium	mg/L	.1	0.11	106	80-120	
Boron	mg/L	1	1.0	105	80-120	
Cadmium	mg/L	.1	0.10	102	80-120	
Calcium	mg/L	1	1.1	111	80-120	
Chromium	mg/L	.1	0.10	104	80-120	
Cobalt	mg/L	.1	0.10	103	80-120	
Lead	mg/L	.1	0.10	102	80-120	
Lithium	mg/L	.1	0.11	107	80-120	
Molybdenum	mg/L	.1	0.10	103	80-120	
Selenium	mg/L	.1	0.10	102	80-120	
Thallium	mg/L	.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41722 41723

Parameter	Units	266662001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.11	0.11	106	108	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266662

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 41722 41723

Parameter	Units	266662001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.00074J	.1	.1	0.11	0.10	104	104	75-125	0	20	
Barium	mg/L	0.035	.1	.1	0.14	0.14	103	106	75-125	3	20	
Beryllium	mg/L	0.000081J	.1	.1	0.092	0.095	92	95	75-125	3	20	
Boron	mg/L	0.89	1	1	1.8	2.0	95	106	75-125	6	20	
Cadmium	mg/L	ND	.1	.1	0.10	0.11	105	106	75-125	1	20	
Calcium	mg/L	51.0	1	1	52.1	52.7	113	174	75-125	1	20	M6
Chromium	mg/L	0.0076J	.1	.1	0.11	0.11	104	104	75-125	0	20	
Cobalt	mg/L	ND	.1	.1	0.10	0.10	101	101	75-125	0	20	
Lead	mg/L	ND	.1	.1	0.10	0.10	100	101	75-125	1	20	
Lithium	mg/L	0.0022J	.1	.1	0.092	0.092	90	90	75-125	0	20	
Molybdenum	mg/L	ND	.1	.1	0.10	0.11	105	107	75-125	2	20	
Selenium	mg/L	0.0033J	.1	.1	0.11	0.11	104	104	75-125	0	20	
Thallium	mg/L	ND	.1	.1	0.10	0.10	101	103	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266662

QC Batch: 9106 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 266662001, 266662002, 266662003, 266662004, 266662005, 266662006

LABORATORY CONTROL SAMPLE: 41707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	405	101	84-108	

SAMPLE DUPLICATE: 41708

Parameter	Units	266622002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	960	986	3	10	

SAMPLE DUPLICATE: 41711

Parameter	Units	266662006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	14.0	15.0	7	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Branch
Pace Project No.: 266662

QC Batch: 9216 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 266662001, 266662002, 266662003, 266662004, 266662005, 266662006

METHOD BLANK: 42027 Matrix: Water
Associated Lab Samples: 266662001, 266662002, 266662003, 266662004, 266662005, 266662006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.11J	0.25	0.024	07/03/18 18:10	
Fluoride	mg/L	ND	0.30	0.029	07/03/18 18:10	
Sulfate	mg/L	ND	1.0	0.017	07/03/18 18:10	

LABORATORY CONTROL SAMPLE: 42028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10	100	90-110	
Fluoride	mg/L	10	10.9	109	90-110	
Sulfate	mg/L	10	9.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 42029 42030

Parameter	Units	266662001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	9.0	10	10	15.2	15.4	62	64	90-110	1	15	M1
Fluoride	mg/L	0.51	10	10	11.4	11.7	109	112	90-110	2	15	M1
Sulfate	mg/L	284	10	10	199	199	-849	-848	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 42031

Parameter	Units	266662002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.1	10	11.8	97	90-110	
Fluoride	mg/L	ND	10	11.4	114	90-110	M1
Sulfate	mg/L	0.24J	10	10.1	99	90-110	

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

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

QUALIFIERS

Project: Plant Branch
Pace Project No.: 266662

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.

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.

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.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
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.

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch
Pace Project No.: 266662

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
266662001	**BRGWC-36S**	EPA 3005A	9111	EPA 6020B	9167
266662002	**BRGWC-37S**	EPA 3005A	9111	EPA 6020B	9167
266662003	**BRGWC-38S**	EPA 3005A	9111	EPA 6020B	9167
266662004	**Dup-3**	EPA 3005A	9111	EPA 6020B	9167
266662005	**FB-3**	EPA 3005A	9111	EPA 6020B	9167
266662006	**RB-3**	EPA 3005A	9111	EPA 6020B	9167
266662001	**BRGWC-36S**	EPA 7470A	9168	EPA 7470A	9224
266662002	**BRGWC-37S**	EPA 7470A	9168	EPA 7470A	9224
266662003	**BRGWC-38S**	EPA 7470A	9168	EPA 7470A	9224
266662004	**Dup-3**	EPA 7470A	9168	EPA 7470A	9224
266662005	**FB-3**	EPA 7470A	9168	EPA 7470A	9224
266662006	**RB-3**	EPA 7470A	9168	EPA 7470A	9224
266662001	**BRGWC-36S**	SM 2540C	9106		
266662002	**BRGWC-37S**	SM 2540C	9106		
266662003	**BRGWC-38S**	SM 2540C	9106		
266662004	**Dup-3**	SM 2540C	9106		
266662005	**FB-3**	SM 2540C	9106		
266662006	**RB-3**	SM 2540C	9106		
266662001	**BRGWC-36S**	EPA 300.0	9216		
266662002	**BRGWC-37S**	EPA 300.0	9216		
266662003	**BRGWC-38S**	EPA 300.0	9216		
266662004	**Dup-3**	EPA 300.0	9216		
266662005	**FB-3**	EPA 300.0	9216		
266662006	**RB-3**	EPA 300.0	9216		

CHAIN OF CUSTODY RECORD

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110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE 31085 Atlanta, GA 30303 P. 404-506-7239

REPORT TO: Joju Abraham

CC: Maria Padilla

REQUESTED COMPLETION DATE: —

PO#: [illegible]@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

					CONTAINER TYPE:	P	P	P	
					PRESERVATION:	3	7	3	
Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App 3 & 4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 & SM2540C)	Radium 226 & 228 (SW 846 9315/9320)
6-28-18	0924	GW		X	BRGWC-36S	4	1	1	2
6-28-18	1053	GW		X	BRGWC-37S	4	1	1	2
6-28-18	1320	GW		X	BRGWC-38S	4	1	1	2
6-28-18	—	GW		X	DUP-3	4	1	1	2
6-28-18	1219	W		X	FB-3	4	1	1	2
6-28-18	1132	W		X	RB-3	4	1	1	2

LAB I.D. NUMBER

REMARKS/ADDITIONAL INFORMATION

CONTAINER TYPE
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

WO#: 266662

266662

SAMPLED BY AND TITLE: Travis Martinez / Scientist	DATE/TIME: 6-28-18 / 1800	RELINQUISHED BY: [signature]	DATE/TIME: 6-29-18 / 0800
RECEIVED BY:	DATE/TIME:	RELINQUISHED BY:	DATE/TIME:
RECEIVED BY LAB: [signature]	DATE/TIME: 06/29/18 1015	SAMPLE SHIPPED VIA: UPS FED-EX USPS (COURIER circled) CLIENT OTHER FS	
pH checked: (Yes circled) No NA / Ice: (Yes circled) No NA	Temperature: Min: 1.8 Max:	Custody Seal: (Intact circled) Broken Not Present N/A / # of Coolers	Cooler ID:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 266662

PM: BM Due Date: 07/09/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.8 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/29/18 mk

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted: Date/Time:

Comments/ Resolution:

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-ALL-C003rev.3, 11September2006

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

July 30, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch
Pace Project No.: 266664

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 29, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Julie Lehrman, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

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(770)734-4200

CERTIFICATIONS

Project: Plant Branch
Pace Project No.: 266664

Pennsylvania Certification IDs

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
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

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SAMPLE SUMMARY

Project: Plant Branch
Pace Project No.: 266664

Lab ID	Sample ID	Matrix	Date Collected	Date Received
266664001	**BRGWC-36S**	Water	06/28/18 09:24	06/29/18 10:15
266664002	**BRGWC-37S**	Water	06/28/18 10:53	06/29/18 10:15
266664003	**BRGWC-38S**	Water	06/28/18 13:20	06/29/18 10:15
266664004	**Dup-3**	Water	06/28/18 00:00	06/29/18 10:15
266664005	**FB-3**	Water	06/28/18 12:19	06/29/18 10:15
266664006	**RB-3**	Water	06/28/18 11:32	06/29/18 10:15

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SAMPLE ANALYTE COUNT

Project: Plant Branch
Pace Project No.: 266664

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
266664001	**BRGWC-36S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266664002	**BRGWC-37S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266664003	**BRGWC-38S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266664004	**Dup-3**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266664005	**FB-3**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
266664006	**RB-3**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266664

Sample: BRGWC-36S **Lab ID: 266664001** Collected: 06/28/18 09:24 Received: 06/29/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.392 ± 0.192 (0.275) C:94% T:NA**	pCi/L	07/17/18 08:14	13982-63-3	
Radium-228	EPA 9320	**-0.265 ± 0.486 (1.19) C:72% T:82%**	pCi/L	07/24/18 18:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.392 ± 0.678 (1.47)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266664

Sample: BRGWC-37S **Lab ID: 266664002** Collected: 06/28/18 10:53 Received: 06/29/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.285 ± 0.156 (0.206) C:89% T:NA**	pCi/L	07/17/18 08:14	13982-63-3	
Radium-228	EPA 9320	**0.0510 ± 0.450 (1.04) C:77% T:85%**	pCi/L	07/24/18 18:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.336 ± 0.606 (1.25)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266664

Sample: BRGWC-38S **Lab ID: 266664003** Collected: 06/28/18 13:20 Received: 06/29/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.440 ± 0.204 (0.246) C:81% T:NA**	pCi/L	07/17/18 08:14	13982-63-3	
Radium-228	EPA 9320	**1.31 ± 0.708 (1.28) C:72% T:75%**	pCi/L	07/24/18 18:39	15262-20-1	2A
Total Radium	Total Radium Calculation	**1.75 ± 0.912 (1.53)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266664

Sample: Dup-3 **Lab ID: 266664004** Collected: 06/28/18 00:00 Received: 06/29/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.108 ± 0.124 (0.254) C:93% T:NA**	pCi/L	07/17/18 08:15	13982-63-3	
Radium-228	EPA 9320	**0.368 ± 0.615 (1.34) C:68% T:71%**	pCi/L	07/24/18 18:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.476 ± 0.739 (1.59)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266664

Sample: FB-3 **Lab ID: 266664005** Collected: 06/28/18 12:19 Received: 06/29/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.293 ± 0.164 (0.241) C:91% T:NA**	pCi/L	07/17/18 08:15	13982-63-3	
Radium-228	EPA 9320	**0.351 ± 0.619 (1.35) C:72% T:61%**	pCi/L	07/24/18 18:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.644 ± 0.783 (1.59)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266664

Sample: RB-3 **Lab ID: 266664006** Collected: 06/28/18 11:32 Received: 06/29/18 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.273 ± 0.163 (0.259) C:91% T:NA**	pCi/L	07/17/18 08:16	13982-63-3	
Radium-228	EPA 9320	**-0.484 ± 0.455 (1.17) C:74% T:78%**	pCi/L	07/24/18 18:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.273 ± 0.618 (1.43)**	pCi/L	07/25/18 15:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266664

QC Batch: 304670 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 266664001, 266664002, 266664003, 266664004, 266664005, 266664006

METHOD BLANK: 1490536 Matrix: Water
Associated Lab Samples: 266664001, 266664002, 266664003, 266664004, 266664005, 266664006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.280 ± 0.163 (0.233) C:95% T:NA	pCi/L	07/16/18 09:43	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch
Pace Project No.: 266664

QC Batch: 304671 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 266664001, 266664002, 266664003, 266664004, 266664005, 266664006

METHOD BLANK: 1490537 Matrix: Water
Associated Lab Samples: 266664001, 266664002, 266664003, 266664004, 266664005, 266664006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	1.09 ± 0.430 (0.652) C:77% T:86%	pCi/L	07/24/18 12:59	1A

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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QUALIFIERS

Project: Plant Branch
Pace Project No.: 266664

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.

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.

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.

LABORATORIES

PASI-PA	Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

1A	Ra-228 Method blank activity greater than the RL of 1.0 pCi/L. Sample results less than the CRDL are reportable without qualification.
2A	Result should be qualified. Method blank activity is greater than the RL of 1.0 pCi/L.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch
Pace Project No.: 266664

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
266664001	**BRGWC-36S**	EPA 9315	304670		
266664002	**BRGWC-37S**	EPA 9315	304670		
266664003	**BRGWC-38S**	EPA 9315	304670		
266664004	**Dup-3**	EPA 9315	304670		
266664005	**FB-3**	EPA 9315	304670		
266664006	**RB-3**	EPA 9315	304670		
266664001	**BRGWC-36S**	EPA 9320	304671		
266664002	**BRGWC-37S**	EPA 9320	304671		
266664003	**BRGWC-38S**	EPA 9320	304671		
266664004	**Dup-3**	EPA 9320	304671		
266664005	**FB-3**	EPA 9320	304671		
266664006	**RB-3**	EPA 9320	304671		
266664001	**BRGWC-36S**	Total Radium Calculation	307149		
266664002	**BRGWC-37S**	Total Radium Calculation	307149		
266664003	**BRGWC-38S**	Total Radium Calculation	307149		
266664004	**Dup-3**	Total Radium Calculation	307149		
266664005	**FB-3**	Total Radium Calculation	307149		
266664006	**RB-3**	Total Radium Calculation	307149		

CHAIN OF CUSTODY RECORD

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PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE 31085 Atlanta, GA 30303 P 404-506-7239

REPORT TO: Joju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO#: lab@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED:
- Metals App 3 & 4 (EPA 6010/7470) — Container type: P; Preservation: 3
- TDS, Cl, F, SO4 (EPA 300.0 & SM2540C) — Container type: P; Preservation: 7
- Radium 226 & 228 (SW-846 9315/9320) — Container type: P; Preservation: 3

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App 3 & 4 (EPA 6010/7470)	TDS, Cl, F, SO4 (EPA 300.0 & SM2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB I.D. NUMBER	REMARKS/ADDITIONAL INFORMATION
6-28-18	0924	GW		X	BRGWC-36S	4	1	1	2		
6-28-18	1053	GW		X	BRGWC-37S	4	1	1	2		
6-28-18	1320	GW		X	BRGWC-38S	4	1	1	2		
6-28-18	—	GW		X	DUP-3	4	1	1	2		
6-28-18	1219	W		X	FB-3	4	1	1	2		
6-28-18	1132	W		X	RB-3	4	1	1	2		

CONTAINER TYPE
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

***MATRIX CODES:**
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

WO#: 266664

266664

SAMPLED BY AND TITLE: Travis Martinez / Scientist | DATE/TIME: 6-28-18 / 1800

RELINQUISHED BY: [signature] | DATE/TIME: 6-29-18 / 0800

RECEIVED BY: | DATE/TIME:

RELINQUISHED BY: | DATE/TIME:

RECEIVED BY LAB: [signature] | DATE/TIME: 06/29/18 1015

SAMPLE SHIPPED VIA: UPS FED-EX USPS (COURIER circled) CLIENT OTHER FS

pH checked: (Yes circled) No NA | Ice: (Yes circled) No NA | Temperature: Min: 1.8 Max: | Custody Seal: (Intact circled) Broken Not Present N/A | # of Coolers: | Cooler ID:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO# : 266664

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other

Tracking #:

PM: BM **Due Date: 07/30/18**

CLIENT: GAPower-CCR

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.8 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/29/18 MK

			Comments:
Chain of Custody Present:	☑Yes	☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No ☐N/A	7.
Sufficient Volume:	☑Yes	☐No ☐N/A	8.
Correct Containers Used:	☑Yes	☐No ☐N/A	9.
-Pace Containers Used:	☑Yes	☐No ☐N/A	
Containers Intact:	☑Yes	☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No ☑N/A	11.
Sample Labels match COC:	☑Yes	☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW			
All containers needing preservation have been checked.	☑Yes	☐No ☐N/A	13
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☑N/A	15.
Trip Blank Present:	☐Yes	☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution:

Person Contacted: Date/Time:

Comments/ Resolution:

Field Data Required? Y N

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 DENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

December 2018

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

December 27, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch Pond E
Pace Project No.: 2612887

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Julie Lehrman, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
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CERTIFICATIONS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
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SAMPLE SUMMARY

Project: Plant Branch Pond E
Pace Project No.: 2612887

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2612887001	**BRGWA-2I**	Water	12/18/18 10:10	12/19/18 09:15
2612887002	**BRGWA-2S**	Water	12/18/18 11:25	12/19/18 09:15
2612887003	**BRGWA-5I**	Water	12/18/18 11:18	12/19/18 09:15
2612887004	**BRGWA-5S**	Water	12/18/18 12:13	12/19/18 09:15
2612887005	**BRGWA-6S**	Water	12/18/18 09:45	12/19/18 09:15
2612887006	**RB-1**	Water	12/18/18 11:55	12/19/18 09:15
2612887007	**FB-1**	Water	12/18/18 12:29	12/19/18 09:15
2612887008	**BRGWC-33S**	Water	12/18/18 14:04	12/19/18 09:15
2612887009	**BRGWC-34S**	Water	12/18/18 15:09	12/19/18 09:15
2612887010	**Dup-1**	Water	12/18/18 00:00	12/19/18 09:15

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Plant Branch Pond E
Pace Project No.: 2612887

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2612887001	BRGWA-2I	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2612887002	BRGWA-2S	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2612887003	BRGWA-5I	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2612887004	BRGWA-5S	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2612887005	BRGWA-6S	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2612887006	RB-1	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2612887007	FB-1	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2612887008	BRGWC-33S	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2612887009	BRGWC-34S	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2612887010	Dup-1	EPA 6020B	CSW	14

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: Plant Branch Pond E
Pace Project No.: 2612887

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

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

ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: BRGWA-2I **Lab ID: 2612887001** Collected: 12/18/18 10:10 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 16:08	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 16:08	7440-38-2	
Barium	**0.0076J**	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 16:08	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 16:08	7440-41-7	
Boron	**0.0086J**	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 16:08	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 16:08	7440-43-9	
Calcium	**14.5J**	mg/L	25.0	0.69	50	12/20/18 11:51	12/21/18 16:13	7440-70-2	D3
Chromium	ND	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 16:08	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 16:08	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 16:08	7439-92-1	
Lithium	**0.024J**	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 16:08	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 16:08	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 16:08	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 16:08	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 13:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**145**	mg/L	25.0	10.0	1		12/20/18 11:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.8**	mg/L	0.25	0.024	1		12/26/18 21:28	16887-00-6	
Fluoride	**0.085J**	mg/L	0.30	0.029	1		12/26/18 21:28	16984-48-8	
Sulfate	**5.9**	mg/L	1.0	0.017	1		12/26/18 21:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: BRGWA-2S **Lab ID: 2612887002** Collected: 12/18/18 11:25 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 16:19	7440-36-0	
Arsenic	**0.00082J**	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 16:19	7440-38-2	
Barium	**0.010**	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 16:19	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 16:19	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 16:19	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 16:19	7440-43-9	
Calcium	**3.8**	mg/L	0.50	0.014	1	12/20/18 11:51	12/21/18 16:19	7440-70-2	
Chromium	**0.012**	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 16:19	7440-47-3	
Cobalt	**0.0032J**	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 16:19	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 16:19	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 16:19	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 16:19	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 16:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 16:19	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 13:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**78.0**	mg/L	25.0	10.0	1		12/20/18 11:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.9**	mg/L	0.25	0.024	1		12/26/18 21:49	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		12/26/18 21:49	16984-48-8	
Sulfate	**0.72J**	mg/L	1.0	0.017	1		12/26/18 21:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: BRGWA-5I **Lab ID: 2612887003** Collected: 12/18/18 11:18 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 16:30	7440-36-0	
Arsenic	**0.00097J**	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 16:30	7440-38-2	
Barium	**0.038**	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 16:30	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 16:30	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 16:30	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 16:30	7440-43-9	
Calcium	**16.4J**	mg/L	25.0	0.69	50	12/20/18 11:51	12/21/18 16:36	7440-70-2	D3,M6
Chromium	**0.0032J**	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 16:30	7440-47-3	
Cobalt	**0.00062J**	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 16:30	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 16:30	7439-92-1	
Lithium	**0.0032J**	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 16:30	7439-93-2	
Molybdenum	**0.0048J**	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 16:30	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 16:30	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 16:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 13:53	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**138**	mg/L	25.0	10.0	1		12/20/18 11:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.5**	mg/L	0.25	0.024	1		12/26/18 22:09	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		12/26/18 22:09	16984-48-8	
Sulfate	**4.3**	mg/L	1.0	0.017	1		12/26/18 22:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: BRGWA-5S **Lab ID: 2612887004** Collected: 12/18/18 12:13 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	**0.00087J**	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 17:39	7440-36-0	
Arsenic	**0.0011J**	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 17:39	7440-38-2	
Barium	**0.045**	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 17:39	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 17:39	7440-41-7	
Boron	**0.0062J**	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 17:39	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 17:39	7440-43-9	
Calcium	**19.8J**	mg/L	25.0	0.69	50	12/20/18 11:51	12/21/18 17:44	7440-70-2	D3
Chromium	**0.0054J**	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 17:39	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 17:39	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 17:39	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 17:39	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 17:39	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 17:39	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 17:39	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 14:00	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**147**	mg/L	25.0	10.0	1		12/20/18 11:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.8**	mg/L	0.25	0.024	1		12/26/18 22:30	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		12/26/18 22:30	16984-48-8	
Sulfate	**0.68J**	mg/L	1.0	0.017	1		12/26/18 22:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: BRGWA-6S **Lab ID: 2612887005** Collected: 12/18/18 09:45 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 17:50	7440-36-0	
Arsenic	**0.00092J**	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 17:50	7440-38-2	
Barium	**0.013**	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 17:50	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 17:50	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 17:50	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 17:50	7440-43-9	
Calcium	**3.5**	mg/L	0.50	0.014	1	12/20/18 11:51	12/21/18 17:50	7440-70-2	
Chromium	**0.015**	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 17:50	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 17:50	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 17:50	7439-92-1	
Lithium	**0.0026J**	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 17:50	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 17:50	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 17:50	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 17:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 14:02	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**70.0**	mg/L	25.0	10.0	1		12/20/18 11:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.3**	mg/L	0.25	0.024	1		12/26/18 22:51	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		12/26/18 22:51	16984-48-8	
Sulfate	**0.39J**	mg/L	1.0	0.017	1		12/26/18 22:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: RB-1 **Lab ID: 2612887006** Collected: 12/18/18 11:55 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 18:02	7440-36-0	
Arsenic	**0.00087J**	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 18:02	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 18:02	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 18:02	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 18:02	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 18:02	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	12/20/18 11:51	12/21/18 18:02	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 18:02	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 18:02	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 18:02	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 18:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 18:02	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 18:02	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 18:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 14:04	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**29.0**	mg/L	25.0	10.0	1		12/20/18 11:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.082J**	mg/L	0.25	0.024	1		12/26/18 23:11	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		12/26/18 23:11	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		12/26/18 23:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: FB-1 **Lab ID: 2612887007** Collected: 12/18/18 12:29 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 18:19	7440-36-0	
Arsenic	**0.00086J**	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 18:19	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 18:19	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 18:19	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 18:19	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 18:19	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	12/20/18 11:51	12/21/18 18:19	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 18:19	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 18:19	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 18:19	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 18:19	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 18:19	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 18:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 18:19	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 14:07	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**20.0J**	mg/L	25.0	10.0	1		12/20/18 11:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.085J**	mg/L	0.25	0.024	1		12/26/18 23:32	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		12/26/18 23:32	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		12/26/18 23:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: BRGWC-33S **Lab ID: 2612887008** Collected: 12/18/18 14:04 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 18:24	7440-36-0	
Arsenic	**0.00091J**	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 18:24	7440-38-2	
Barium	**0.023**	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 18:24	7440-39-3	
Beryllium	**0.0021J**	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 18:24	7440-41-7	
Boron	**1.2**	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 18:24	7440-42-8	
Cadmium	**0.00046J**	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 18:24	7440-43-9	
Calcium	**52.7**	mg/L	25.0	0.69	50	12/20/18 11:51	12/21/18 18:30	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 18:24	7440-47-3	
Cobalt	**0.049**	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 18:24	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 18:24	7439-92-1	
Lithium	**0.011J**	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 18:24	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 18:24	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 18:24	7782-49-2	
Thallium	**0.00022J**	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 18:24	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 14:09	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**358**	mg/L	25.0	10.0	1		12/20/18 11:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.1**	mg/L	0.25	0.024	1		12/27/18 01:36	16887-00-6	
Fluoride	**0.28J**	mg/L	0.30	0.029	1		12/27/18 01:36	16984-48-8	
Sulfate	**222**	mg/L	20.0	0.34	20		12/26/18 23:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: BRGWC-34S **Lab ID: 2612887009** Collected: 12/18/18 15:09 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 18:36	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 18:36	7440-38-2	
Barium	**0.029**	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 18:36	7440-39-3	
Beryllium	**0.00012J**	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 18:36	7440-41-7	
Boron	**2.2**	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 18:36	7440-42-8	
Cadmium	**0.00023J**	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 18:36	7440-43-9	
Calcium	**85.1**	mg/L	25.0	0.69	50	12/20/18 11:51	12/21/18 18:42	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 18:36	7440-47-3	
Cobalt	**0.0032J**	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 18:36	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 18:36	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 18:36	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 18:36	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 18:36	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 18:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 14:12	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**535**	mg/L	25.0	10.0	1		12/20/18 11:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**7.1**	mg/L	0.25	0.024	1		12/27/18 02:17	16887-00-6	
Fluoride	**0.12J**	mg/L	0.30	0.029	1		12/27/18 02:17	16984-48-8	
Sulfate	**345**	mg/L	25.0	0.42	25		12/27/18 01:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2612887

Sample: Dup-1 **Lab ID: 2612887010** Collected: 12/18/18 00:00 Received: 12/19/18 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/20/18 11:51	12/21/18 18:47	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	12/20/18 11:51	12/21/18 18:47	7440-38-2	
Barium	**0.028**	mg/L	0.010	0.00078	1	12/20/18 11:51	12/21/18 18:47	7440-39-3	
Beryllium	**0.00012J**	mg/L	0.0030	0.000050	1	12/20/18 11:51	12/21/18 18:47	7440-41-7	
Boron	**2.1**	mg/L	0.040	0.0039	1	12/20/18 11:51	12/21/18 18:47	7440-42-8	
Cadmium	**0.00020J**	mg/L	0.0010	0.000093	1	12/20/18 11:51	12/21/18 18:47	7440-43-9	
Calcium	**83.6**	mg/L	25.0	0.69	50	12/20/18 11:51	12/21/18 18:53	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	12/20/18 11:51	12/21/18 18:47	7440-47-3	
Cobalt	**0.0032J**	mg/L	0.010	0.00052	1	12/20/18 11:51	12/21/18 18:47	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/20/18 11:51	12/21/18 18:47	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	12/20/18 11:51	12/21/18 18:47	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/20/18 11:51	12/21/18 18:47	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/20/18 11:51	12/21/18 18:47	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/20/18 11:51	12/21/18 18:47	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/21/18 09:27	12/21/18 14:14	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**542**	mg/L	25.0	10.0	1		12/21/18 13:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.9**	mg/L	0.25	0.024	1		12/27/18 14:29	16887-00-6	
Fluoride	**0.21J**	mg/L	0.30	0.029	1		12/27/18 14:29	16984-48-8	
Sulfate	**335**	mg/L	20.0	0.34	20		12/27/18 14:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2612887

QC Batch: 19422 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2612887001, 2612887002, 2612887003, 2612887004, 2612887005, 2612887006, 2612887007, 2612887008, 2612887009, 2612887010

METHOD BLANK: 87825 Matrix: Water
Associated Lab Samples: 2612887001, 2612887002, 2612887003, 2612887004, 2612887005, 2612887006, 2612887007, 2612887008, 2612887009, 2612887010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	12/21/18 13:17	

LABORATORY CONTROL SAMPLE: 87826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0027	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 87827 87828

Parameter	Units	2612884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0027	0.0027	107	110	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.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2612887

QC Batch: 19358 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2612887001, 2612887002, 2612887003, 2612887004, 2612887005, 2612887006, 2612887007, 2612887008, 2612887009, 2612887010

METHOD BLANK: 87378 Matrix: Water
Associated Lab Samples: 2612887001, 2612887002, 2612887003, 2612887004, 2612887005, 2612887006, 2612887007, 2612887008, 2612887009, 2612887010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	12/21/18 14:26	
Arsenic	mg/L	ND	0.0050	0.00057	12/21/18 14:26	
Barium	mg/L	ND	0.010	0.00078	12/21/18 14:26	
Beryllium	mg/L	ND	0.0030	0.000050	12/21/18 14:26	
Boron	mg/L	ND	0.040	0.0039	12/21/18 14:26	
Cadmium	mg/L	ND	0.0010	0.000093	12/21/18 14:26	
Calcium	mg/L	ND	0.50	0.014	12/21/18 14:26	
Chromium	mg/L	ND	0.010	0.0016	12/21/18 14:26	
Cobalt	mg/L	ND	0.010	0.00052	12/21/18 14:26	
Lead	mg/L	ND	0.0050	0.00027	12/21/18 14:26	
Lithium	mg/L	ND	0.050	0.00097	12/21/18 14:26	
Molybdenum	mg/L	ND	0.010	0.0019	12/21/18 14:26	
Selenium	mg/L	ND	0.010	0.0014	12/21/18 14:26	
Thallium	mg/L	ND	0.0010	0.00014	12/21/18 14:26	

LABORATORY CONTROL SAMPLE: 87379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	101	80-120	
Arsenic	mg/L	0.1	0.10	100	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	1.0	100	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Calcium	mg/L	1	0.99	99	80-120	
Chromium	mg/L	0.1	0.10	101	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	
Molybdenum	mg/L	0.1	0.10	101	80-120	
Selenium	mg/L	0.1	0.10	100	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	

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

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2612887

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 87380 87381

Parameter	Units	2612887003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	107	108	75-125	1	20	
Arsenic	mg/L	0.00097J	0.1	0.1	0.10	0.11	102	104	75-125	2	20	
Barium	mg/L	0.038	0.1	0.1	0.14	0.14	101	105	75-125	3	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Boron	mg/L	ND	1	1	0.99	0.98	99	98	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.10	101	103	75-125	2	20	
Calcium	mg/L	16.4J	1	1	17.5J	18.7J	110	232	75-125	7	20	M6
Chromium	mg/L	0.0032J	0.1	0.1	0.11	0.11	103	104	75-125	1	20	
Cobalt	mg/L	0.00062J	0.1	0.1	0.10	0.10	102	101	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.10	0.11	104	105	75-125	1	20	
Lithium	mg/L	0.0032J	0.1	0.1	0.10	0.10	101	99	75-125	2	20	
Molybdenum	mg/L	0.0048J	0.1	0.1	0.11	0.11	108	107	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.097	0.10	97	101	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	104	105	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.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2612887

QC Batch: 19353 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2612887001, 2612887002, 2612887003, 2612887004, 2612887005, 2612887006, 2612887007, 2612887008, 2612887009

LABORATORY CONTROL SAMPLE: 87359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	409	102	84-108	

SAMPLE DUPLICATE: 87360

Parameter	Units	2612812001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	119000 ug/L	115	3	10	

SAMPLE DUPLICATE: 87361

Parameter	Units	2612814001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1040	1320	24	10	D6

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

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2612887

QC Batch: 19449
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2612887010

LABORATORY CONTROL SAMPLE: 87892

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	396	99	84-108	

SAMPLE DUPLICATE: 87893

Parameter	Units	2612966001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1190	1190	0	10	

SAMPLE DUPLICATE: 87894

Parameter	Units	2613021001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	500	505	1	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2612887

QC Batch: 19622 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2612887001, 2612887002, 2612887003, 2612887004, 2612887005, 2612887006, 2612887007, 2612887008, 2612887009, 2612887010

METHOD BLANK: 88642 Matrix: Water
Associated Lab Samples: 2612887001, 2612887002, 2612887003, 2612887004, 2612887005, 2612887006, 2612887007, 2612887008, 2612887009, 2612887010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	12/26/18 14:55	
Fluoride	mg/L	ND	0.30	0.029	12/26/18 14:55	
Sulfate	mg/L	ND	1.0	0.017	12/26/18 14:55	

LABORATORY CONTROL SAMPLE: 88643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.8	98	90-110	
Fluoride	mg/L	10	9.5	95	90-110	
Sulfate	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 88644 88645

Parameter	Units	2612884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.9	10	10	13.0	12.9	101	99	90-110	1	15	
Fluoride	mg/L	ND	10	10	9.8	9.7	98	97	90-110	1	15	
Sulfate	mg/L	0.66J	10	10	10.9	10.9	102	102	90-110	0	15	

MATRIX SPIKE SAMPLE: 88646

Parameter	Units	2612884002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.8	10	12.8	100	90-110	
Fluoride	mg/L	ND	10	9.9	99	90-110	
Sulfate	mg/L	2.1	10	12.3	102	90-110	

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

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

QUALIFIERS

Project: Plant Branch Pond E
Pace Project No.: 2612887

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.

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.

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

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch Pond E
Pace Project No.: 2612887

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2612887001	BRGWA-2I	EPA 3005A	19358	EPA 6020B	19408
2612887002	BRGWA-2S	EPA 3005A	19358	EPA 6020B	19408
2612887003	BRGWA-5I	EPA 3005A	19358	EPA 6020B	19408
2612887004	BRGWA-5S	EPA 3005A	19358	EPA 6020B	19408
2612887005	BRGWA-6S	EPA 3005A	19358	EPA 6020B	19408
2612887006	RB-1	EPA 3005A	19358	EPA 6020B	19408
2612887007	FB-1	EPA 3005A	19358	EPA 6020B	19408
2612887008	BRGWC-33S	EPA 3005A	19358	EPA 6020B	19408
2612887009	BRGWC-34S	EPA 3005A	19358	EPA 6020B	19408
2612887010	Dup-1	EPA 3005A	19358	EPA 6020B	19408
2612887001	BRGWA-2I	EPA 7470A	19422	EPA 7470A	19475
2612887002	BRGWA-2S	EPA 7470A	19422	EPA 7470A	19475
2612887003	BRGWA-5I	EPA 7470A	19422	EPA 7470A	19475
2612887004	BRGWA-5S	EPA 7470A	19422	EPA 7470A	19475
2612887005	BRGWA-6S	EPA 7470A	19422	EPA 7470A	19475
2612887006	RB-1	EPA 7470A	19422	EPA 7470A	19475
2612887007	FB-1	EPA 7470A	19422	EPA 7470A	19475
2612887008	BRGWC-33S	EPA 7470A	19422	EPA 7470A	19475
2612887009	BRGWC-34S	EPA 7470A	19422	EPA 7470A	19475
2612887010	Dup-1	EPA 7470A	19422	EPA 7470A	19475
2612887001	BRGWA-2I	SM 2540C	19353		
2612887002	BRGWA-2S	SM 2540C	19353		
2612887003	BRGWA-5I	SM 2540C	19353		
2612887004	BRGWA-5S	SM 2540C	19353		
2612887005	BRGWA-6S	SM 2540C	19353		
2612887006	RB-1	SM 2540C	19353		
2612887007	FB-1	SM 2540C	19353		
2612887008	BRGWC-33S	SM 2540C	19353		
2612887009	BRGWC-34S	SM 2540C	19353		
2612887010	Dup-1	SM 2540C	19449		
2612887001	BRGWA-2I	EPA 300.0	19622		
2612887002	BRGWA-2S	EPA 300.0	19622		
2612887003	BRGWA-5I	EPA 300.0	19622		
2612887004	BRGWA-5S	EPA 300.0	19622		
2612887005	BRGWA-6S	EPA 300.0	19622		
2612887006	RB-1	EPA 300.0	19622		
2612887007	FB-1	EPA 300.0	19622		
2612887008	BRGWC-33S	EPA 300.0	19622		
2612887009	BRGWC-34S	EPA 300.0	19622		
2612887010	Dup-1	EPA 300.0	19622		

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE 31085 Atlanta, GA 30303 P. 404-506-7239

REPORT TO: Joju Abraham

CC: Maria Padilla

REQUESTED COMPLETION DATE: —

PO #: Juabraha@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED:
- Metals App 3 & 4 (EPA 6020/7470) — Container type: P, Preservation: 3
- TDS, Cl, F, SO4 (EPA 300.0 & SM2540C) — Container type: P, Preservation: 7
- Radium 226 & 228 (SW-846 9315/9320) — Container type: P, Preservation: 3

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App 3 & 4	TDS, Cl, F, SO4	Radium 226 & 228	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
12-18-18	~~1125~~ 1010	GW		X	BRGWA-2I	4	1	1	2		
12-18-18	1125	GW		X	BRGWA-2S	4	1	1	2		
12-18-18	1118	GW		X	BRGWA-5I	4	1	1	2		
12-18-18	1213	GW		X	BRGWA-5S	4	1	1	2		
12-18-18	0945	GW		X	BRGWA-6S	4	1	1	2		
12-18-18	1155	W		X	RB-1	4	1	1	2		
12-18-18	1229	W		X	FB-1	4	1	1	2		
12-18-18	1404	GW		X	BRGWC-33S	6	1	1	4		+2 Radium (Rad-1)
12-18-18	1509	GW		X	BRGWC-34S	4	1	1	2		
12-18-18	—	GW		X	DUP-1	4	1	1	2		

WO#: 2612887
2612887

CONTAINER TYPE:
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION:
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

SAMPLED BY AND TITLE: Travis Martinez/Golder — DATE/TIME: 12-18-18 / 1630

RELINQUISHED BY: [signature] — DATE/TIME: 12-19-18 / 0914

RECEIVED BY: — DATE/TIME:

RELINQUISHED BY: — DATE/TIME:

RECEIVED BY LAB: M Zahman [signature] — DATE/TIME: 12/19/18 0915

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (CLIENT circled) OTHER FS

# of Coolers: — Cooler ID:

pH checked: Yes No NA — Ice: Yes (circled) No NA — Temperature: Min: 0.1 Max

Custody Seal: Intact (circled) Broken Not Present N/A

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2612887

PM: BM **Due Date: 12/27/18**

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 **Type of Ice:** (Wet) Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 0.1 **Biological Tissue is Frozen:** Yes No

Date and Initials of person examining contents: 12/19/18 MR

Temp should be above freezing to 6°C

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☑Yes	☐No	☐N/A	12.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted: Date/Time:

Comments/ Resolution:

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).

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

January 14, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch Pond E
Pace Project No.: 2612888

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Julie Lehrman, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

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

CERTIFICATIONS

Project: Plant Branch Pond E
Pace Project No.: 2612888

Pennsylvania Certification IDs

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
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

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

SAMPLE SUMMARY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2612888001	**BRGWA-2I**	Water	12/18/18 10:10	12/19/18 09:15
2612888002	**BRGWA-2S**	Water	12/18/18 11:25	12/19/18 09:15
2612888003	**BRGWA-5I**	Water	12/18/18 11:18	12/19/18 09:15
2612888004	**BRGWA-5S**	Water	12/18/18 12:13	12/19/18 09:15
2612888005	**BRGWA-6S**	Water	12/18/18 09:45	12/19/18 09:15
2612888006	**RB-1**	Water	12/18/18 11:55	12/19/18 09:15
2612888007	**FB-1**	Water	12/18/18 12:29	12/19/18 09:15
2612888008	**BRGWC-33S**	Water	12/18/18 14:04	12/19/18 09:15
2612888009	**BRGWC-34S**	Water	12/18/18 15:09	12/19/18 09:15
2612888010	**Dup-1**	Water	12/18/18 00:00	12/19/18 09:15

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: Plant Branch Pond E
Pace Project No.: 2612888

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2612888001	BRGWA-2I	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2612888002	BRGWA-2S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2612888003	BRGWA-5I	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2612888004	BRGWA-5S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2612888005	BRGWA-6S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2612888006	RB-1	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2612888007	FB-1	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2612888008	BRGWC-33S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2612888009	BRGWC-34S	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2612888010	Dup-1	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: BRGWA-2I **Lab ID: 2612888001** Collected: 12/18/18 10:10 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.191 ± 0.132 (0.190) C:92% T:NA**	pCi/L	01/07/19 11:20	13982-63-3	
Radium-228	EPA 9320	**0.296 ± 0.306 (0.630) C:79% T:86%**	pCi/L	01/08/19 16:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.487 ± 0.438 (0.820)**	pCi/L	01/10/19 13:48	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: BRGWA-2S **Lab ID: 2612888002** Collected: 12/18/18 11:25 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.238 ± 0.147 (0.215) C:99% T:NA**	pCi/L	01/07/19 11:20	13982-63-3	
Radium-228	EPA 9320	**0.202 ± 0.273 (0.581) C:80% T:90%**	pCi/L	01/08/19 16:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.440 ± 0.420 (0.796)**	pCi/L	01/10/19 13:48	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: BRGWA-5I **Lab ID: 2612888003** Collected: 12/18/18 11:18 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.343 ± 0.283 (0.537) C:95% T:NA**	pCi/L	01/08/19 07:59	13982-63-3	
Radium-228	EPA 9320	**0.0774 ± 0.440 (0.993) C:74% T:90%**	pCi/L	01/09/19 12:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.420 ± 0.723 (1.53)**	pCi/L	01/10/19 13:48	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: BRGWA-5S **Lab ID: 2612888004** Collected: 12/18/18 12:13 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.436 ± 0.255 (0.354) C:96% T:NA**	pCi/L	01/08/19 08:00	13982-63-3	
Radium-228	EPA 9320	**0.00902 ± 0.387 (0.890) C:77% T:86%**	pCi/L	01/09/19 12:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.445 ± 0.642 (1.24)**	pCi/L	01/10/19 13:48	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: BRGWA-6S **Lab ID: 2612888005** Collected: 12/18/18 09:45 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0638 ± 0.175 (0.425) C:98% T:NA**	pCi/L	01/08/19 08:00	13982-63-3	
Radium-228	EPA 9320	**0.289 ± 0.427 (0.922) C:78% T:86%**	pCi/L	01/09/19 12:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.353 ± 0.602 (1.35)**	pCi/L	01/10/19 13:48	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: RB-1 **Lab ID: 2612888006** Collected: 12/18/18 11:55 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.607 ± 0.327 (0.496) C:95% T:NA**	pCi/L	01/08/19 08:00	13982-63-3	
Radium-228	EPA 9320	**0.259 ± 0.409 (0.888) C:82% T:84%**	pCi/L	01/09/19 12:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.866 ± 0.736 (1.38)**	pCi/L	01/10/19 13:48	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: FB-1 **Lab ID: 2612888007** Collected: 12/18/18 12:29 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.202 ± 0.196 (0.371) C:98% T:NA**	pCi/L	01/08/19 08:00	13982-63-3	
Radium-228	EPA 9320	**-0.421 ± 0.426 (1.03) C:78% T:86%**	pCi/L	01/09/19 12:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.202 ± 0.622 (1.40)**	pCi/L	01/10/19 13:48	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: BRGWC-33S **Lab ID: 2612888008** Collected: 12/18/18 14:04 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.694 ± 0.332 (0.451) C:94% T:NA**	pCi/L	01/08/19 08:00	13982-63-3	
Radium-228	EPA 9320	**0.950 ± 0.483 (0.862) C:80% T:76%**	pCi/L	01/09/19 12:59	15262-20-1	
Total Radium	Total Radium Calculation	**1.64 ± 0.815 (1.31)**	pCi/L	01/10/19 13:48	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: BRGWC-34S **Lab ID: 2612888009** Collected: 12/18/18 15:09 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.566 ± 0.290 (0.390) C:94% T:NA**	pCi/L	01/08/19 08:00	13982-63-3	
Radium-228	EPA 9320	**0.656 ± 0.426 (0.818) C:74% T:84%**	pCi/L	01/09/19 12:59	15262-20-1	
Total Radium	Total Radium Calculation	**1.22 ± 0.716 (1.21)**	pCi/L	01/10/19 13:48	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

Sample: Dup-1 **Lab ID: 2612888010** Collected: 12/18/18 00:00 Received: 12/19/18 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.184 ± 0.207 (0.418) C:95% T:NA**	pCi/L	01/08/19 08:00	13982-63-3	
Radium-228	EPA 9320	**0.217 ± 0.384 (0.839) C:81% T:81%**	pCi/L	01/09/19 16:06	15262-20-1	
Total Radium	Total Radium Calculation	**0.401 ± 0.591 (1.26)**	pCi/L	01/10/19 13:48	7440-14-4	

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

QC Batch: 325472 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2612888001, 2612888002

METHOD BLANK: 1585943 Matrix: Water
Associated Lab Samples: 2612888001, 2612888002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.172 ± 0.135 (0.224) C:96% T:NA	pCi/L	01/07/19 08:42	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

QC Batch: 325473 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2612888003, 2612888004, 2612888005, 2612888006, 2612888007, 2612888008, 2612888009, 2612888010

METHOD BLANK: 1585945 Matrix: Water
Associated Lab Samples: 2612888003, 2612888004, 2612888005, 2612888006, 2612888007, 2612888008, 2612888009, 2612888010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.182 ± 0.183 (0.344) C:96% T:NA	pCi/L	01/08/19 07:59	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

QC Batch: 325220 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2612888001, 2612888002

METHOD BLANK: 1585108 Matrix: Water
Associated Lab Samples: 2612888001, 2612888002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.865 ± 0.376 (0.603) C:83% T:85%	pCi/L	01/08/19 16:14	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2612888

QC Batch: 325221 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2612888003, 2612888004, 2612888005, 2612888006, 2612888007, 2612888008, 2612888009, 2612888010

METHOD BLANK: 1585109 Matrix: Water
Associated Lab Samples: 2612888003, 2612888004, 2612888005, 2612888006, 2612888007, 2612888008, 2612888009, 2612888010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	1.01 ± 0.429 (0.706) C:80% T:89%	pCi/L	01/09/19 13:00	

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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Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Branch Pond E
Pace Project No.: 2612888

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.

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.

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.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch Pond E
Pace Project No.: 2612888

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2612888001	**BRGWA-2I**	EPA 9315	325472		
2612888002	**BRGWA-2S**	EPA 9315	325472		
2612888003	**BRGWA-5I**	EPA 9315	325473		
2612888004	**BRGWA-5S**	EPA 9315	325473		
2612888005	**BRGWA-6S**	EPA 9315	325473		
2612888006	**RB-1**	EPA 9315	325473		
2612888007	**FB-1**	EPA 9315	325473		
2612888008	**BRGWC-33S**	EPA 9315	325473		
2612888009	**BRGWC-34S**	EPA 9315	325473		
2612888010	**Dup-1**	EPA 9315	325473		
2612888001	**BRGWA-2I**	EPA 9320	325220		
2612888002	**BRGWA-2S**	EPA 9320	325220		
2612888003	**BRGWA-5I**	EPA 9320	325221		
2612888004	**BRGWA-5S**	EPA 9320	325221		
2612888005	**BRGWA-6S**	EPA 9320	325221		
2612888006	**RB-1**	EPA 9320	325221		
2612888007	**FB-1**	EPA 9320	325221		
2612888008	**BRGWC-33S**	EPA 9320	325221		
2612888009	**BRGWC-34S**	EPA 9320	325221		
2612888010	**Dup-1**	EPA 9320	325221		
2612888001	**BRGWA-2I**	Total Radium Calculation	326480		
2612888002	**BRGWA-2S**	Total Radium Calculation	326480		
2612888003	**BRGWA-5I**	Total Radium Calculation	326480		
2612888004	**BRGWA-5S**	Total Radium Calculation	326480		
2612888005	**BRGWA-6S**	Total Radium Calculation	326480		
2612888006	**RB-1**	Total Radium Calculation	326480		
2612888007	**FB-1**	Total Radium Calculation	326480		
2612888008	**BRGWC-33S**	Total Radium Calculation	326480		
2612888009	**BRGWC-34S**	Total Radium Calculation	326480		
2612888010	**Dup-1**	Total Radium Calculation	326480		

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE 31085 Atlanta, GA 30303 P. 404-506-7239

REPORT TO: Joju Abraham

CC: Maria Padilla

REQUESTED COMPLETION DATE: —

PO #: luh... southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED

	Metals App 3 & 4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 & SM2540C)	Radium 226 & 228 (SW-846 9315/9320)
CONTAINER TYPE:	P	P	P
PRESERVATION:	3	7	3

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals	TDS, Cl, F, SO4	Radium	REMARKS/ADDITIONAL INFORMATION
12-18-18	~~1125~~ 1010	GW		X	BRGWA-2I	4	1	1	2	
12-18-18	1125	GW		X	BRGWA-2S	4	1	1	2	
12-18-18	1118	GW		X	BRGWA-5I	4	1	1	2	
12-18-18	1213	GW		X	BRGWA-5S	4	1	1	2	
12-18-18	0945	GW		X	BRGWA-6S	4	1	1	2	
12-18-18	1155	W		X	RB-1	4	1	1	2	
12-18-18	1229	W		X	FB-1	4	1	1	2	
12-18-18	1404	GW		X	BRGWC-33S	6	1	1	4	+2 Radium (Rad-1)
12-18-18	1509	GW		X	BRGWC-34S	4	1	1	2	
12-18-18	—	GW		X	DUP-1	4	1	1	2	

WO#: 2612888

2612888

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ~~ST - STORM WATER~~; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; ~~L - LIQUID~~; P - PRODUCT

SAMPLED BY AND TITLE: Travis Martinez/Golder — DATE/TIME: 12-18-18/1630

RELINQUISHED BY: [signature] — DATE/TIME: 12-19-18/0914

RECEIVED BY: — DATE/TIME:

RELINQUISHED BY: — DATE/TIME:

RECEIVED BY LAB: [signature] — DATE/TIME: 12/19/18 0915

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (CLIENT) OTHER FS

pH checked: (Yes) No NA — Ice: (Yes) No NA — Temperature: Min: 0.1 Max — Custody Seal: (Intact) Broken Not Present N/A — # of Coolers — Cooler ID:

FOR LAB USE ONLY

LAB #:

Entered into LIMS:

Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2612888

PM: BM Due Date: 01/18/19

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other

Tracking #: ____________

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other ____________

Thermometer Used 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.1 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12/19/18 MK

		Comments:
Chain of Custody Present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☑ No ☐ N/A	7.
Sufficient Volume:	☑ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☑ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☑ Yes ☐ No ☐ N/A	
Containers Intact:	☑ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☑ N/A	11.
Sample Labels match COC:	☑ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑ Yes ☐ No ☐ N/A	13
All containers needing preservation are found to be in compliance with EPA recommendation.	☑ Yes ☐ No ☐ N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐ Yes ☑ No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☑ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☑ N/A	15.
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☐ No ☑ N/A	
Pace Trip Blank Lot # (if purchased): ____		

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted: ____________ Date/Time: ____________

Comments/ Resolution: ____________

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

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

December 28, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch Pond E
Pace Project No.: 2613021

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on December 20, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Julie Lehrman, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: Plant Branch Pond E
Pace Project No.: 2613021

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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SAMPLE SUMMARY

Project: Plant Branch Pond E
Pace Project No.: 2613021

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2613021001	**Dup-2**	Water	12/19/18 00:00	12/20/18 15:40
2613021002	**BRGWC-17S**	Water	12/19/18 09:50	12/20/18 15:40
2613021003	**BRGWC-37S**	Water	12/19/18 10:45	12/20/18 15:40
2613021004	**BRGWC-35S**	Water	12/19/18 11:51	12/20/18 15:40
2613021005	**BRGWC-36S**	Water	12/19/18 14:17	12/20/18 15:40
2613021006	**BRGWC-38S**	Water	12/20/18 08:56	12/20/18 15:40
2613021007	**RB-3**	Water	12/20/18 11:05	12/20/18 15:40

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SAMPLE ANALYTE COUNT

Project: Plant Branch Pond E
Pace Project No.: 2613021

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2613021001	**Dup-2**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2613021002	**BRGWC-17S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2613021003	**BRGWC-37S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2613021004	**BRGWC-35S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2613021005	**BRGWC-36S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2613021006	**BRGWC-38S**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2613021007	**RB-3**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2613021

Sample: Dup-2 **Lab ID: 2613021001** Collected: 12/19/18 00:00 Received: 12/20/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/24/18 11:40	12/26/18 16:07	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	12/24/18 11:40	12/26/18 16:07	7440-38-2	
Barium	**0.041**	mg/L	0.010	0.00078	1	12/24/18 11:40	12/26/18 16:07	7440-39-3	
Beryllium	**0.00016J**	mg/L	0.0030	0.000050	1	12/24/18 11:40	12/26/18 16:07	7440-41-7	B
Boron	**1.8**	mg/L	0.040	0.0039	1	12/24/18 11:40	12/26/18 16:07	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/24/18 11:40	12/26/18 16:07	7440-43-9	
Calcium	**64.5**	mg/L	25.0	0.69	50	12/24/18 11:40	12/26/18 16:13	7440-70-2	
Chromium	**0.0079J**	mg/L	0.010	0.0016	1	12/24/18 11:40	12/26/18 16:07	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/24/18 11:40	12/26/18 16:07	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/24/18 11:40	12/26/18 16:07	7439-92-1	
Lithium	**0.0021J**	mg/L	0.050	0.00097	1	12/24/18 11:40	12/26/18 16:07	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/24/18 11:40	12/26/18 16:07	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/24/18 11:40	12/26/18 16:07	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/24/18 11:40	12/26/18 16:07	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/24/18 09:29	12/24/18 14:30	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**500**	mg/L	25.0	10.0	1		12/21/18 13:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**5.8**	mg/L	0.25	0.024	1		12/28/18 08:32	16887-00-6	
Fluoride	**0.059J**	mg/L	0.30	0.029	1		12/28/18 08:32	16984-48-8	
Sulfate	**286**	mg/L	20.0	0.34	20		12/28/18 10:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2613021

Sample: BRGWC-17S **Lab ID: 2613021002** Collected: 12/19/18 09:50 Received: 12/20/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/24/18 11:40	12/26/18 16:19	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	12/24/18 11:40	12/26/18 16:19	7440-38-2	
Barium	**0.038**	mg/L	0.010	0.00078	1	12/24/18 11:40	12/26/18 16:19	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/24/18 11:40	12/26/18 16:19	7440-41-7	
Boron	**0.0045J**	mg/L	0.040	0.0039	1	12/24/18 11:40	12/26/18 16:19	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/24/18 11:40	12/26/18 16:19	7440-43-9	
Calcium	**33.1**	mg/L	25.0	0.69	50	12/24/18 11:40	12/26/18 16:25	7440-70-2	
Chromium	**0.0095J**	mg/L	0.010	0.0016	1	12/24/18 11:40	12/26/18 16:19	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/24/18 11:40	12/26/18 16:19	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/24/18 11:40	12/26/18 16:19	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	12/24/18 11:40	12/26/18 16:19	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/24/18 11:40	12/26/18 16:19	7439-98-7	
Selenium	**0.0014J**	mg/L	0.010	0.0014	1	12/24/18 11:40	12/26/18 16:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/24/18 11:40	12/26/18 16:19	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/24/18 09:29	12/24/18 14:33	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**317**	mg/L	25.0	10.0	1		12/21/18 13:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.9**	mg/L	0.25	0.024	1		12/28/18 08:54	16887-00-6	
Fluoride	**0.16J**	mg/L	0.30	0.029	1		12/28/18 08:54	16984-48-8	
Sulfate	**125**	mg/L	10.0	0.17	10		12/28/18 10:29	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2613021

Sample: BRGWC-37S **Lab ID: 2613021003** Collected: 12/19/18 10:45 Received: 12/20/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/24/18 11:40	12/26/18 16:30	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	12/24/18 11:40	12/26/18 16:30	7440-38-2	
Barium	**0.024**	mg/L	0.010	0.00078	1	12/24/18 11:40	12/26/18 16:30	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/24/18 11:40	12/26/18 16:30	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	12/24/18 11:40	12/26/18 16:30	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/24/18 11:40	12/26/18 16:30	7440-43-9	
Calcium	**3.6**	mg/L	0.50	0.014	1	12/24/18 11:40	12/26/18 16:30	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	12/24/18 11:40	12/26/18 16:30	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/24/18 11:40	12/26/18 16:30	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/24/18 11:40	12/26/18 16:30	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	12/24/18 11:40	12/26/18 16:30	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/24/18 11:40	12/26/18 16:30	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/24/18 11:40	12/26/18 16:30	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/24/18 11:40	12/26/18 16:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/24/18 09:29	12/24/18 14:35	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**68.0**	mg/L	25.0	10.0	1		12/21/18 13:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.9**	mg/L	0.25	0.024	1		12/28/18 09:16	16887-00-6	
Fluoride	**0.094J**	mg/L	0.30	0.029	1		12/28/18 09:16	16984-48-8	
Sulfate	**0.40J**	mg/L	1.0	0.017	1		12/28/18 09:16	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2613021

Sample: BRGWC-35S **Lab ID: 2613021004** Collected: 12/19/18 11:51 Received: 12/20/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/24/18 11:40	12/26/18 16:42	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	12/24/18 11:40	12/26/18 16:42	7440-38-2	
Barium	**0.040**	mg/L	0.010	0.00078	1	12/24/18 11:40	12/26/18 16:42	7440-39-3	
Beryllium	**0.00014J**	mg/L	0.0030	0.000050	1	12/24/18 11:40	12/26/18 16:42	7440-41-7	B
Boron	**1.8**	mg/L	0.040	0.0039	1	12/24/18 11:40	12/26/18 16:42	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/24/18 11:40	12/26/18 16:42	7440-43-9	
Calcium	**64.4**	mg/L	25.0	0.69	50	12/24/18 11:40	12/26/18 16:47	7440-70-2	
Chromium	**0.0073J**	mg/L	0.010	0.0016	1	12/24/18 11:40	12/26/18 16:42	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/24/18 11:40	12/26/18 16:42	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/24/18 11:40	12/26/18 16:42	7439-92-1	
Lithium	**0.0021J**	mg/L	0.050	0.00097	1	12/24/18 11:40	12/26/18 16:42	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/24/18 11:40	12/26/18 16:42	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/24/18 11:40	12/26/18 16:42	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/24/18 11:40	12/26/18 16:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/24/18 09:29	12/24/18 14:37	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**489**	mg/L	25.0	10.0	1		12/21/18 13:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.2**	mg/L	0.25	0.024	1		12/28/18 09:38	16887-00-6	
Fluoride	**0.11J**	mg/L	0.30	0.029	1		12/28/18 09:38	16984-48-8	
Sulfate	**287**	mg/L	20.0	0.34	20		12/28/18 10:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2613021

Sample: BRGWC-36S **Lab ID: 2613021005** Collected: 12/19/18 14:17 Received: 12/20/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/24/18 11:40	12/26/18 16:53	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	12/24/18 11:40	12/26/18 16:53	7440-38-2	
Barium	**0.035**	mg/L	0.010	0.00078	1	12/24/18 11:40	12/26/18 16:53	7440-39-3	
Beryllium	**0.000086J**	mg/L	0.0030	0.000050	1	12/24/18 11:40	12/26/18 16:53	7440-41-7	B
Boron	**1.1**	mg/L	0.040	0.0039	1	12/24/18 11:40	12/26/18 16:53	7440-42-8	
Cadmium	**0.00011J**	mg/L	0.0010	0.000093	1	12/24/18 11:40	12/26/18 16:53	7440-43-9	B
Calcium	**57.1**	mg/L	25.0	0.69	50	12/24/18 11:40	12/26/18 16:59	7440-70-2	
Chromium	**0.0085J**	mg/L	0.010	0.0016	1	12/24/18 11:40	12/26/18 16:53	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/24/18 11:40	12/26/18 16:53	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/24/18 11:40	12/26/18 16:53	7439-92-1	
Lithium	**0.0026J**	mg/L	0.050	0.00097	1	12/24/18 11:40	12/26/18 16:53	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/24/18 11:40	12/26/18 16:53	7439-98-7	
Selenium	**0.0042J**	mg/L	0.010	0.0014	1	12/24/18 11:40	12/26/18 16:53	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/24/18 11:40	12/26/18 16:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/24/18 09:29	12/24/18 14:40	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**521**	mg/L	25.0	10.0	1		12/21/18 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.2**	mg/L	0.25	0.024	1		12/28/18 09:59	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		12/28/18 09:59	16984-48-8	
Sulfate	**319**	mg/L	20.0	0.34	20		12/28/18 11:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2613021

Sample: BRGWC-38S **Lab ID: 2613021006** Collected: 12/20/18 08:56 Received: 12/20/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/24/18 11:40	12/26/18 17:20	7440-36-0	
Arsenic	**0.00098J**	mg/L	0.0050	0.00057	1	12/24/18 11:40	12/26/18 17:20	7440-38-2	
Barium	**0.017**	mg/L	0.010	0.00078	1	12/24/18 11:40	12/26/18 17:20	7440-39-3	
Beryllium	**0.0092**	mg/L	0.0030	0.000050	1	12/24/18 11:40	12/26/18 17:20	7440-41-7	
Boron	**1.7**	mg/L	0.040	0.0039	1	12/24/18 11:40	12/26/18 17:20	7440-42-8	
Cadmium	**0.00062J**	mg/L	0.0010	0.000093	1	12/24/18 11:40	12/26/18 17:20	7440-43-9	B
Calcium	**41.8**	mg/L	25.0	0.69	50	12/24/18 11:40	12/26/18 17:26	7440-70-2	
Chromium	**0.0041J**	mg/L	0.010	0.0016	1	12/24/18 11:40	12/26/18 17:20	7440-47-3	
Cobalt	**0.25**	mg/L	0.010	0.00052	1	12/24/18 11:40	12/26/18 17:20	7440-48-4	
Lead	**0.00039J**	mg/L	0.0050	0.00027	1	12/24/18 11:40	12/26/18 17:20	7439-92-1	
Lithium	**0.022J**	mg/L	0.050	0.00097	1	12/24/18 11:40	12/26/18 17:20	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/24/18 11:40	12/26/18 17:20	7439-98-7	
Selenium	**0.037**	mg/L	0.010	0.0014	1	12/24/18 11:40	12/26/18 17:20	7782-49-2	
Thallium	**0.00023J**	mg/L	0.0010	0.00014	1	12/24/18 11:40	12/26/18 17:20	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	**0.00017J**	mg/L	0.00050	0.000036	1	12/24/18 09:29	12/24/18 14:42	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**642**	mg/L	25.0	10.0	1		12/21/18 14:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**8.0**	mg/L	0.25	0.024	1		12/28/18 10:21	16887-00-6	
Fluoride	**0.68**	mg/L	0.30	0.029	1		12/28/18 10:21	16984-48-8	
Sulfate	**463**	mg/L	25.0	0.42	25		12/28/18 11:38	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2613021

Sample: RB-3 **Lab ID: 2613021007** Collected: 12/20/18 11:05 Received: 12/20/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	12/24/18 11:40	12/26/18 17:31	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	12/24/18 11:40	12/26/18 17:31	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	12/24/18 11:40	12/26/18 17:31	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	12/24/18 11:40	12/26/18 17:31	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	12/24/18 11:40	12/26/18 17:31	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	12/24/18 11:40	12/26/18 17:31	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	12/24/18 11:40	12/26/18 17:31	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	12/24/18 11:40	12/26/18 17:31	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	12/24/18 11:40	12/26/18 17:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	12/24/18 11:40	12/26/18 17:31	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	12/24/18 11:40	12/26/18 17:31	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	12/24/18 11:40	12/26/18 17:31	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	12/24/18 11:40	12/26/18 17:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	12/24/18 11:40	12/26/18 17:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	12/24/18 09:29	12/24/18 14:45	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**22.0J**	mg/L	25.0	10.0	1		12/24/18 16:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.094J**	mg/L	0.25	0.024	1		12/28/18 10:43	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		12/28/18 10:43	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		12/28/18 10:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2613021

QC Batch: 19557 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2613021001, 2613021002, 2613021003, 2613021004, 2613021005, 2613021006, 2613021007

METHOD BLANK: 88494 Matrix: Water
Associated Lab Samples: 2613021001, 2613021002, 2613021003, 2613021004, 2613021005, 2613021006, 2613021007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	12/24/18 13:45	

LABORATORY CONTROL SAMPLE: 88495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0027	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 88496 88497

Parameter	Units	2613019001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0023	0.0023	92	92	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.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2613021

QC Batch: 19572 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2613021001, 2613021002, 2613021003, 2613021004, 2613021005, 2613021006, 2613021007

METHOD BLANK: 88528 Matrix: Water
Associated Lab Samples: 2613021001, 2613021002, 2613021003, 2613021004, 2613021005, 2613021006, 2613021007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	12/26/18 13:45	
Arsenic	mg/L	ND	0.0050	0.00057	12/26/18 13:45	
Barium	mg/L	ND	0.010	0.00078	12/26/18 13:45	
Beryllium	mg/L	0.00012J	0.0030	0.000050	12/26/18 13:45	
Boron	mg/L	ND	0.040	0.0039	12/26/18 13:45	
Cadmium	mg/L	0.00021J	0.0010	0.000093	12/26/18 13:45	
Calcium	mg/L	ND	0.50	0.014	12/26/18 13:45	
Chromium	mg/L	ND	0.010	0.0016	12/26/18 13:45	
Cobalt	mg/L	ND	0.010	0.00052	12/26/18 13:45	
Lead	mg/L	ND	0.0050	0.00027	12/26/18 13:45	
Lithium	mg/L	ND	0.050	0.00097	12/26/18 13:45	
Molybdenum	mg/L	ND	0.010	0.0019	12/26/18 13:45	
Selenium	mg/L	ND	0.010	0.0014	12/26/18 13:45	
Thallium	mg/L	0.00015J	0.0010	0.00014	12/26/18 13:45	

LABORATORY CONTROL SAMPLE: 88529

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	108	80-120	
Arsenic	mg/L	0.1	0.10	101	80-120	
Barium	mg/L	0.1	0.10	101	80-120	
Beryllium	mg/L	0.1	0.11	111	80-120	
Boron	mg/L	1	1.1	112	80-120	
Cadmium	mg/L	0.1	0.10	104	80-120	
Calcium	mg/L	1	1.1	105	80-120	
Chromium	mg/L	0.1	0.11	105	80-120	
Cobalt	mg/L	0.1	0.10	104	80-120	
Lead	mg/L	0.1	0.10	104	80-120	
Lithium	mg/L	0.1	0.11	107	80-120	
Molybdenum	mg/L	0.1	0.11	107	80-120	
Selenium	mg/L	0.1	0.11	106	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 88560 88561

Parameter	Units	2613031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	109	112	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2613021

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 88560 88561

Parameter	Units	2613031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.18	0.1	0.1	0.29	0.29	106	106	75-125	0	20	
Barium	mg/L	0.13	0.1	0.1	0.23	0.23	97	100	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	102	104	75-125	2	20	
Boron	mg/L	0.37	1	1	1.4	1.5	101	108	75-125	5	20	
Cadmium	mg/L	ND	0.1	0.1	0.11	0.11	110	109	75-125	1	20	
Calcium	mg/L	50.7	1	1	51.4	52.8	62	202	75-125	3	20	
Chromium	mg/L	ND	0.1	0.1	0.11	0.11	107	108	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	103	104	75-125	1	20	
Lead	mg/L	0.00028J	0.1	0.1	0.10	0.11	102	105	75-125	3	20	
Lithium	mg/L	0.013J	0.1	0.1	0.11	0.11	97	102	75-125	4	20	
Molybdenum	mg/L	0.023	0.1	0.1	0.13	0.14	111	112	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.10	105	103	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	100	103	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2613021

QC Batch: 19449 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2613021001, 2613021002, 2613021003, 2613021004, 2613021005, 2613021006

LABORATORY CONTROL SAMPLE: 87892

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	396	99	84-108	

SAMPLE DUPLICATE: 87893

Parameter	Units	2612966001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1190	1190	0	10	

SAMPLE DUPLICATE: 87894

Parameter	Units	2613021001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	500	505	1	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2613021

QC Batch: 19553
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2613021007

LABORATORY CONTROL SAMPLE: 88481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	400	100	84-108	

SAMPLE DUPLICATE: 88639

Parameter	Units	2613058001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	233	227	3	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2613021

QC Batch: 19708 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2613021001, 2613021002, 2613021003, 2613021004, 2613021005, 2613021006, 2613021007

METHOD BLANK: 88889 Matrix: Water
Associated Lab Samples: 2613021001, 2613021002, 2613021003, 2613021004, 2613021005, 2613021006, 2613021007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.11J	0.25	0.024	12/28/18 01:38	
Fluoride	mg/L	ND	0.30	0.029	12/28/18 01:38	
Sulfate	mg/L	ND	1.0	0.017	12/28/18 01:38	

LABORATORY CONTROL SAMPLE: 88890

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.9	99	90-110	
Fluoride	mg/L	10	10.0	100	90-110	
Sulfate	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 88891 88892

Parameter	Units	2613019001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	23.3	10	10	30.3	30.2	70	69	90-110	0	15	M1
Fluoride	mg/L	0.54	10	10	11.1	10.9	106	104	90-110	2	15	
Sulfate	mg/L	1650	10	10	557	558	-10900	-10900	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 88893

Parameter	Units	2613019002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	7.0	10	16.6	95	90-110	
Fluoride	mg/L	0.23J	10	10.5	103	90-110	
Sulfate	mg/L	370	10	235	-1360	90-110	E,M1

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Branch Pond E
Pace Project No.: 2613021

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.

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.

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.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch Pond E
Pace Project No.: 2613021

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2613021001	**Dup-2**	EPA 3005A	19572	EPA 6020B	19609
2613021002	**BRGWC-17S**	EPA 3005A	19572	EPA 6020B	19609
2613021003	**BRGWC-37S**	EPA 3005A	19572	EPA 6020B	19609
2613021004	**BRGWC-35S**	EPA 3005A	19572	EPA 6020B	19609
2613021005	**BRGWC-36S**	EPA 3005A	19572	EPA 6020B	19609
2613021006	**BRGWC-38S**	EPA 3005A	19572	EPA 6020B	19609
2613021007	**RB-3**	EPA 3005A	19572	EPA 6020B	19609
2613021001	**Dup-2**	EPA 7470A	19557	EPA 7470A	19591
2613021002	**BRGWC-17S**	EPA 7470A	19557	EPA 7470A	19591
2613021003	**BRGWC-37S**	EPA 7470A	19557	EPA 7470A	19591
2613021004	**BRGWC-35S**	EPA 7470A	19557	EPA 7470A	19591
2613021005	**BRGWC-36S**	EPA 7470A	19557	EPA 7470A	19591
2613021006	**BRGWC-38S**	EPA 7470A	19557	EPA 7470A	19591
2613021007	**RB-3**	EPA 7470A	19557	EPA 7470A	19591
2613021001	**Dup-2**	SM 2540C	19449		
2613021002	**BRGWC-17S**	SM 2540C	19449		
2613021003	**BRGWC-37S**	SM 2540C	19449		
2613021004	**BRGWC-35S**	SM 2540C	19449		
2613021005	**BRGWC-36S**	SM 2540C	19449		
2613021006	**BRGWC-38S**	SM 2540C	19449		
2613021007	**RB-3**	SM 2540C	19553		
2613021001	**Dup-2**	EPA 300.0	19708		
2613021002	**BRGWC-17S**	EPA 300.0	19708		
2613021003	**BRGWC-37S**	EPA 300.0	19708		
2613021004	**BRGWC-35S**	EPA 300.0	19708		
2613021005	**BRGWC-36S**	EPA 300.0	19708		
2613021006	**BRGWC-38S**	EPA 300.0	19708		
2613021007	**RB-3**	EPA 300.0	19708		

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE 31085 Atlanta, GA 30308 P. 404-506-7239

REPORT TO: Joju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: lubrichtesouthernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State CCR

ANALYSIS REQUESTED:

	Metals APP3 & 4 (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 + SM2540C)	Radium 226 & 228 (SW 846 9315/9320)
CONTAINER TYPE:	P	P	P
PRESERVATION:	3	7	3

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals APP3 & 4	TDS, Cl, F, SO4	Radium 226 & 228	LAB I.D. NUMBER	REMARKS/ADDITIONAL INFORMATION
12-19-18	—	GW		X	DUP-2	4	1	1	2		
12-19-18	0950	GW		X	BRGWL-17S	4	1	1	2		
12-19-18	1045	GW		X	BRGWL-37S	4	1	1	2		
12-19-18	1151	GW		X	BRGWL-35S	4	1	1	2		
12-19-18	1417	GW		X	BRGWL-36S	4	1	1	2		
12-20-18	0856	GW		X	BRGWL-38S	6	1	1	4		+2 Radium
12-20-18	1105	W		X	RB-3	4	1	1	2		

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

WO#: 2613021
2613021

SAMPLED BY AND TITLE: Travis Martinez / Golder | DATE/TIME: 12-20-18 / 1300
RELINQUISHED BY: [signature] | DATE/TIME: 12-20-18 / 1540
RECEIVED BY: | DATE/TIME:
RELINQUISHED BY: | DATE/TIME:
RECEIVED BY LAB: [signature] | DATE/TIME: 12/20/18 1540

pH Checked: Yes No NA | Ice: Yes (circled) No NA | Temperature: Min: 0.2 Max:

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT (circled) OTHER FS
Custody Seal: Intact (circled) Broken Not Present N/A | # of Coolers | Cooler ID:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO# : 2613021

PM: BM **Due Date: 12/28/18**

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.2 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12/20/18 MR

		Comments:
Chain of Custody Present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☑ No ☐ N/A	7.
Sufficient Volume:	☑ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☑ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☑ Yes ☐ No ☐ N/A	
Containers Intact:	☑ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☑ N/A	11.
Sample Labels match COC:	☑ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑ Yes ☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑ Yes ☐ No ☐ N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐ Yes ☑ No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☑ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☑ N/A	15.
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☐ No ☑ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted: Date/Time:

Comments/ Resolution:

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)

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

January 16, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch Pond E
Pace Project No.: 2613022

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on December 20, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Julie Lehrman, Golder Associates Inc.
Maria Padilla, Georgia Power
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: Plant Branch Pond E
Pace Project No.: 2613022

Pennsylvania Certification IDs

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
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

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

SAMPLE SUMMARY

Project: Plant Branch Pond E
Pace Project No.: 2613022

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2613022001	**Dup-2**	Water	12/19/18 00:00	12/20/18 15:40
2613022002	**BRGWC-17S**	Water	12/19/18 09:50	12/20/18 15:40
2613022003	**BRGWC-37S**	Water	12/19/18 10:45	12/20/18 15:40
2613022004	**BRGWC-35S**	Water	12/19/18 11:51	12/20/18 15:40
2613022005	**BRGWC-36S**	Water	12/19/18 14:17	12/20/18 15:40
2613022006	**BRGWC-38S**	Water	12/20/18 08:56	12/20/18 15:40
2613022007	**RB-3**	Water	12/20/18 11:05	12/20/18 15:40

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SAMPLE ANALYTE COUNT

Project: Plant Branch Pond E
Pace Project No.: 2613022

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2613022001	**Dup-2**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2613022002	**BRGWC-17S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2613022003	**BRGWC-37S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2613022004	**BRGWC-35S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2613022005	**BRGWC-36S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2613022006	**BRGWC-38S**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
2613022007	**RB-3**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2613022

Sample: Dup-2 **Lab ID: 2613022001** Collected: 12/19/18 00:00 Received: 12/20/18 15:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.352 ± 0.239 (0.372) C:96% T:NA**	pCi/L	01/08/19 08:01	13982-63-3	
Radium-228	EPA 9320	**0.394 ± 0.528 (1.13) C:80% T:74%**	pCi/L	01/09/19 16:02	15262-20-1	
Total Radium	Total Radium Calculation	**0.746 ± 0.767 (1.50)**	pCi/L	01/10/19 13:59	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2613022

Sample: BRGWC-17S **Lab ID: 2613022002** Collected: 12/19/18 09:50 Received: 12/20/18 15:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.314 ± 0.252 (0.440) C:92% T:NA**	pCi/L	01/08/19 08:00	13982-63-3	
Radium-228	EPA 9320	**0.0106 ± 0.456 (1.05) C:80% T:73%**	pCi/L	01/09/19 16:02	15262-20-1	
Total Radium	Total Radium Calculation	**0.325 ± 0.708 (1.49)**	pCi/L	01/10/19 13:59	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2613022

Sample: BRGWC-37S **Lab ID: 2613022003** Collected: 12/19/18 10:45 Received: 12/20/18 15:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.426 ± 0.261 (0.375) C:98% T:NA**	pCi/L	01/08/19 08:01	13982-63-3	
Radium-228	EPA 9320	**0.0276 ± 0.424 (0.967) C:79% T:83%**	pCi/L	01/09/19 16:02	15262-20-1	
Total Radium	Total Radium Calculation	**0.454 ± 0.685 (1.34)**	pCi/L	01/10/19 13:59	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2613022

Sample: BRGWC-35S **Lab ID: 2613022004** Collected: 12/19/18 11:51 Received: 12/20/18 15:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.435 ± 0.275 (0.427) C:86% T:NA**	pCi/L	01/08/19 08:01	13982-63-3	
Radium-228	EPA 9320	**0.0301 ± 0.447 (1.02) C:82% T:75%**	pCi/L	01/09/19 16:02	15262-20-1	
Total Radium	Total Radium Calculation	**0.465 ± 0.722 (1.45)**	pCi/L	01/10/19 13:59	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2613022

Sample: BRGWC-36S **Lab ID: 2613022005** Collected: 12/19/18 14:17 Received: 12/20/18 15:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.693 ± 0.312 (0.366) C:93% T:NA**	pCi/L	01/08/19 08:01	13982-63-3	
Radium-228	EPA 9320	**-0.284 ± 0.511 (1.21) C:80% T:75%**	pCi/L	01/09/19 16:02	15262-20-1	
Total Radium	Total Radium Calculation	**0.693 ± 0.823 (1.58)**	pCi/L	01/10/19 14:05	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2613022

Sample: BRGWC-38S **Lab ID: 2613022006** Collected: 12/20/18 08:56 Received: 12/20/18 15:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**1.00 ± 0.412 (0.535) C:96% T:NA**	pCi/L	01/08/19 08:01	13982-63-3	
Radium-228	EPA 9320	**1.80 ± 0.577 (0.763) C:80% T:78%**	pCi/L	01/09/19 16:06	15262-20-1	
Total Radium	Total Radium Calculation	**2.80 ± 0.989 (1.30)**	pCi/L	01/10/19 14:05	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2613022

Sample: RB-3 **Lab ID: 2613022007** Collected: 12/20/18 11:05 Received: 12/20/18 15:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.222 ± 0.204 (0.378) C:101% T:NA**	pCi/L	01/08/19 08:01	13982-63-3	
Radium-228	EPA 9320	**-0.188 ± 0.305 (0.751) C:79% T:87%**	pCi/L	01/09/19 16:06	15262-20-1	
Total Radium	Total Radium Calculation	**0.222 ± 0.509 (1.13)**	pCi/L	01/10/19 14:05	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2613022

QC Batch: 325473 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2613022001, 2613022002, 2613022003, 2613022004, 2613022005, 2613022006, 2613022007

METHOD BLANK: 1585945 Matrix: Water
Associated Lab Samples: 2613022001, 2613022002, 2613022003, 2613022004, 2613022005, 2613022006, 2613022007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.182 ± 0.183 (0.344) C:96% T:NA	pCi/L	01/08/19 07:59	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Branch Pond E
Pace Project No.: 2613022

QC Batch: 325221 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2613022001, 2613022002, 2613022003, 2613022004, 2613022005, 2613022006, 2613022007

METHOD BLANK: 1585109 Matrix: Water
Associated Lab Samples: 2613022001, 2613022002, 2613022003, 2613022004, 2613022005, 2613022006, 2613022007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	1.01 ± 0.429 (0.706) C:80% T:89%	pCi/L	01/09/19 13:00	

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

Pace Analytical Services, LLC
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QUALIFIERS

Project: Plant Branch Pond E
Pace Project No.: 2613022

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.

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.

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.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch Pond E
Pace Project No.: 2613022

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2613022001	**Dup-2**	EPA 9315	325473		
2613022002	**BRGWC-17S**	EPA 9315	325473		
2613022003	**BRGWC-37S**	EPA 9315	325473		
2613022004	**BRGWC-35S**	EPA 9315	325473		
2613022005	**BRGWC-36S**	EPA 9315	325473		
2613022006	**BRGWC-38S**	EPA 9315	325473		
2613022007	**RB-3**	EPA 9315	325473		
2613022001	**Dup-2**	EPA 9320	325221		
2613022002	**BRGWC-17S**	EPA 9320	325221		
2613022003	**BRGWC-37S**	EPA 9320	325221		
2613022004	**BRGWC-35S**	EPA 9320	325221		
2613022005	**BRGWC-36S**	EPA 9320	325221		
2613022006	**BRGWC-38S**	EPA 9320	325221		
2613022007	**RB-3**	EPA 9320	325221		
2613022001	**Dup-2**	Total Radium Calculation	326481		
2613022002	**BRGWC-17S**	Total Radium Calculation	326481		
2613022003	**BRGWC-37S**	Total Radium Calculation	326481		
2613022004	**BRGWC-35S**	Total Radium Calculation	326481		
2613022005	**BRGWC-36S**	Total Radium Calculation	326482		
2613022006	**BRGWC-38S**	Total Radium Calculation	326482		
2613022007	**RB-3**	Total Radium Calculation	326482		

CHAIN OF CUSTODY RECORD

Pace Analytical® www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE 31085 Atlanta, GA 30303 P. 404-506-7239

REPORT TO: Joju Abraham | CC: Maria Padilla

REQUESTED COMPLETION DATE: — | PO #: [illegible]@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: State LCR

ANALYSIS REQUESTED

	Metals App III (EPA 6020/7470)	TDS, Cl, F, SO4 (EPA 300.0 + SM2540C)	Radium 226 & 228 (SW-846 9315/9320)
CONTAINER TYPE:	P	P	P
PRESERVATION:	3	7	3

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App III	TDS, Cl, F, SO4	Radium 226 & 228	LAB I.D. NUMBER	REMARKS/ADDITIONAL INFORMATION
12-19-18	—	GW		X	DUP-2	4	1	1	2		
12-19-18	0950	GW		X	BRGWC-17S	4	1	1	2		
12-19-18	1045	GW		X	BRGWC-37S	4	1	1	2		
12-19-18	1151	GW		X	BRGWC-35S	4	1	1	2		
12-19-18	1417	GW		X	BRGWC-36S	4	1	1	2		
12-20-18	0856	GW		X	BRGWC-38S	6	1	1	4		+2 Radium
12-20-18	1105	W		X	RB-3	4	1	1	2		

CONTAINER TYPE:
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION:
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

WO# : 2613022

2613022

SAMPLED BY AND TITLE: Travis Martinez / Golder | DATE/TIME: 12-20-18 / 1300

RELINQUISHED BY: [signature] | DATE/TIME: 12-20-18 / 1540

RECEIVED BY: | DATE/TIME:

RELINQUISHED BY: | DATE/TIME:

RECEIVED BY LAB: [signature] | DATE/TIME: 12/20/18 1540

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (CLIENT, circled) OTHER FS

pH Checked: (Yes, circled) No NA | Ice: (Yes, circled) No NA | Temperature: Min: 0.2 Max: | Custody Seal: (Intact, circled) Broken Not Present N/A | # of Coolers | Cooler ID:

FOR LAB USE ONLY

LAB #:

Entered into LIMS:

Tracking #:

Rev. 12/15/2016

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2613022

PM: BM Due Date: 01/21/19

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 23 Type of Ice: (Wet) Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 0.2 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 12/20/18 MR

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☑ No ☐ N/A	7.
Sufficient Volume:	☑ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☑ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☑ Yes ☐ No ☐ N/A	
Containers Intact:	☑ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☑ N/A	11.
Sample Labels match COC:	☑ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑ Yes ☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑ Yes ☐ No ☐ N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐ Yes ☑ No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☑ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☑ N/A	15.
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☐ No ☑ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

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)

March 2019

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

March 28, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch Pond E
Pace Project No.: 2616371

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on March 20, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Julie Lehrman, Golder Associates Inc.
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

CERTIFICATIONS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
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

Project: Plant Branch Pond E
Pace Project No.: 2616371

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2616371001	**BRGWA-2S**	Water	03/19/19 10:10	03/20/19 17:00
2616371002	**BRGWA-2I**	Water	03/19/19 11:25	03/20/19 17:00
2616371003	**BRGWA-5S**	Water	03/19/19 12:15	03/20/19 17:00
2616371004	**BRGWA-5I**	Water	03/19/19 12:50	03/20/19 17:00
2616371005	**BRGWA-6S**	Water	03/19/19 10:25	03/20/19 17:00
2616371006	**BRGWC-17S**	Water	03/19/19 15:50	03/20/19 17:00
2616371007	**BRGWC-36S**	Water	03/19/19 14:20	03/20/19 17:00
2616371008	**FB-1**	Water	03/19/19 09:55	03/20/19 17:00
2616371009	**Dup-1**	Water	03/19/19 00:00	03/20/19 17:00

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SAMPLE ANALYTE COUNT

Project: Plant Branch Pond E
Pace Project No.: 2616371

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2616371001	BRGWA-2S	EPA 6020B	KLH	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3
2616371002	BRGWA-2I	EPA 6020B	KLH	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3
2616371003	BRGWA-5S	EPA 6020B	KLH	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3
2616371004	BRGWA-5I	EPA 6020B	KLH	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3
2616371005	BRGWA-6S	EPA 6020B	KLH	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3
2616371006	BRGWC-17S	EPA 6020B	KLH	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3
2616371007	BRGWC-36S	EPA 6020B	KLH	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3
2616371008	FB-1	EPA 6020B	KLH	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3
2616371009	Dup-1	EPA 6020B	KLH	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Sample: BRGWA-2S **Lab ID: 2616371001** Collected: 03/19/19 10:10 Received: 03/20/19 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	ND	mg/L	0.040	0.0039	1	03/21/19 14:00	03/22/19 23:51	7440-42-8	
Calcium	**3.9**	mg/L	0.50	0.014	1	03/21/19 14:00	03/22/19 23:51	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**68.0**	mg/L	25.0	10.0	1		03/22/19 13:15		D6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.0**	mg/L	0.25	0.024	1		03/26/19 00:45	16887-00-6	B
Fluoride	**0.037J**	mg/L	0.30	0.029	1		03/26/19 00:45	16984-48-8	
Sulfate	**0.78J**	mg/L	1.0	0.017	1		03/26/19 00:45	14808-79-8	B

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Sample: BRGWA-2I **Lab ID: 2616371002** Collected: 03/19/19 11:25 Received: 03/20/19 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**0.0055J**	mg/L	0.040	0.0039	1	03/21/19 14:00	03/23/19 00:03	7440-42-8	
Calcium	**14.3J**	mg/L	25.0	0.69	50	03/21/19 14:00	03/23/19 00:08	7440-70-2	D3
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**154**	mg/L	25.0	10.0	1		03/22/19 13:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.5**	mg/L	0.25	0.024	1		03/26/19 01:54	16887-00-6	B
Fluoride	**0.066J**	mg/L	0.30	0.029	1		03/26/19 01:54	16984-48-8	
Sulfate	**6.0**	mg/L	1.0	0.017	1		03/26/19 01:54	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Sample: BRGWA-5S **Lab ID: 2616371003** Collected: 03/19/19 12:15 Received: 03/20/19 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	ND	mg/L	0.040	0.0039	1	03/21/19 14:00	03/23/19 00:14	7440-42-8	
Calcium	**21.4J**	mg/L	25.0	0.69	50	03/21/19 14:00	03/23/19 00:20	7440-70-2	D3
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**146**	mg/L	25.0	10.0	1		03/22/19 13:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.2**	mg/L	0.25	0.024	1		03/26/19 02:17	16887-00-6	
Fluoride	**0.060J**	mg/L	0.30	0.029	1		03/26/19 02:17	16984-48-8	
Sulfate	**0.74J**	mg/L	1.0	0.017	1		03/26/19 02:17	14808-79-8	B

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Sample: BRGWA-5I **Lab ID: 2616371004** Collected: 03/19/19 12:50 Received: 03/20/19 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	ND	mg/L	0.040	0.0039	1	03/21/19 14:00	03/23/19 00:37	7440-42-8	
Calcium	**12.3J**	mg/L	25.0	0.69	50	03/21/19 14:00	03/23/19 00:43	7440-70-2	D3
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**130**	mg/L	25.0	10.0	1		03/22/19 13:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.5**	mg/L	0.25	0.024	1		03/26/19 02:40	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		03/26/19 02:40	16984-48-8	
Sulfate	**3.0**	mg/L	1.0	0.017	1		03/26/19 02:40	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Sample: BRGWA-6S **Lab ID: 2616371005** Collected: 03/19/19 10:25 Received: 03/20/19 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	ND	mg/L	0.040	0.0039	1	03/21/19 14:00	03/23/19 00:49	7440-42-8	
Calcium	**3.6**	mg/L	0.50	0.014	1	03/21/19 14:00	03/23/19 00:49	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**72.0**	mg/L	25.0	10.0	1		03/22/19 13:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.6**	mg/L	0.25	0.024	1		03/26/19 03:03	16887-00-6	B
Fluoride	**0.030J**	mg/L	0.30	0.029	1		03/26/19 03:03	16984-48-8	
Sulfate	**0.68J**	mg/L	1.0	0.017	1		03/26/19 03:03	14808-79-8	B

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Sample: BRGWC-17S **Lab ID: 2616371006** Collected: 03/19/19 15:50 Received: 03/20/19 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	ND	mg/L	0.040	0.0039	1	03/21/19 14:00	03/23/19 01:00	7440-42-8	
Calcium	**31.6**	mg/L	25.0	0.69	50	03/21/19 14:00	03/23/19 01:06	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**303**	mg/L	25.0	10.0	1		03/22/19 13:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**5.0**	mg/L	0.25	0.024	1		03/26/19 03:25	16887-00-6	
Fluoride	**0.10J**	mg/L	0.30	0.029	1		03/26/19 03:25	16984-48-8	
Sulfate	**126**	mg/L	10.0	0.17	10		03/27/19 20:20	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Sample: BRGWC-36S **Lab ID: 2616371007** Collected: 03/19/19 14:20 Received: 03/20/19 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**1.0**	mg/L	0.040	0.0039	1	03/21/19 14:00	03/23/19 01:11	7440-42-8	
Calcium	**49.5**	mg/L	25.0	0.69	50	03/21/19 14:00	03/23/19 01:17	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**498**	mg/L	25.0	10.0	1		03/22/19 13:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**7.1**	mg/L	0.25	0.024	1		03/26/19 03:48	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		03/26/19 03:48	16984-48-8	
Sulfate	**307**	mg/L	20.0	0.34	20		03/27/19 20:43	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Sample: FB-1 **Lab ID: 2616371008** Collected: 03/19/19 09:55 Received: 03/20/19 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	ND	mg/L	0.040	0.0039	1	03/21/19 14:00	03/22/19 19:05	7440-42-8	
Calcium	ND	mg/L	0.50	0.014	1	03/21/19 14:00	03/22/19 19:05	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**13.0J**	mg/L	25.0	10.0	1		03/22/19 13:11		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.33**	mg/L	0.25	0.024	1		03/26/19 04:11	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		03/26/19 04:11	16984-48-8	
Sulfate	**0.11J**	mg/L	1.0	0.017	1		03/26/19 04:11	14808-79-8	B

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616371

Sample: Dup-1 **Lab ID: 2616371009** Collected: 03/19/19 00:00 Received: 03/20/19 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**0.0058J**	mg/L	0.040	0.0039	1	03/21/19 14:00	03/22/19 19:16	7440-42-8	
Calcium	**14.3J**	mg/L	25.0	0.69	50	03/21/19 14:00	03/22/19 19:22	7440-70-2	D3,M6
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**139**	mg/L	25.0	10.0	1		03/22/19 13:11		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.4**	mg/L	0.25	0.024	1		03/26/19 06:06	16887-00-6	B
Fluoride	**0.065J**	mg/L	0.30	0.029	1		03/26/19 06:06	16984-48-8	
Sulfate	**6.0**	mg/L	1.0	0.017	1		03/26/19 06:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2616371

QC Batch: 24808 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2616371001, 2616371002, 2616371003, 2616371004, 2616371005, 2616371006, 2616371007

METHOD BLANK: 111716 Matrix: Water
Associated Lab Samples: 2616371001, 2616371002, 2616371003, 2616371004, 2616371005, 2616371006, 2616371007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.040	0.0039	03/22/19 20:08	
Calcium	mg/L	ND	0.50	0.014	03/22/19 20:08	

LABORATORY CONTROL SAMPLE: 111717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	0.97	97	80-120	
Calcium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 111718 111719

Parameter	Units	2616369003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	1.1	1	1	1.9	2.0	81	90	75-125	5	20	
Calcium	mg/L	60.2	1	1	63.0	63.0	284	286	75-125	0	20	M6

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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QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2616371

QC Batch: 24810 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2616371008, 2616371009

METHOD BLANK: 111724 Matrix: Water
Associated Lab Samples: 2616371008, 2616371009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.040	0.0039	03/22/19 16:28	
Calcium	mg/L	ND	0.50	0.014	03/22/19 16:28	

LABORATORY CONTROL SAMPLE: 111725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	0.94	94	80-120	
Calcium	mg/L	1	0.95	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 111726 111727

Parameter	Units	2616371009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	0.0058J	1	1	0.90	0.92	89	92	75-125	3	20	
Calcium	mg/L	14.3J	1	1	15.8J	15.0J	144	70	75-125	5	20	M6

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QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2616371

QC Batch: 24911 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2616371001, 2616371002, 2616371003, 2616371004, 2616371005, 2616371006, 2616371007, 2616371008, 2616371009

LABORATORY CONTROL SAMPLE: 112288

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	395	99	84-108	

SAMPLE DUPLICATE: 112289

Parameter	Units	2616371001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	68.0	76.0	11	10	D6

SAMPLE DUPLICATE: 112290

Parameter	Units	2616405001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	412	386	7	10	

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QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2616371

QC Batch: 25012 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2616371001, 2616371002, 2616371003, 2616371004, 2616371005, 2616371006, 2616371007, 2616371008, 2616371009

METHOD BLANK: 112819 Matrix: Water
Associated Lab Samples: 2616371001, 2616371002, 2616371003, 2616371004, 2616371005, 2616371006, 2616371007, 2616371008, 2616371009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.31	0.25	0.024	03/26/19 00:00	
Fluoride	mg/L	ND	0.30	0.029	03/26/19 00:00	
Sulfate	mg/L	0.10J	1.0	0.017	03/26/19 00:00	

LABORATORY CONTROL SAMPLE: 112820

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.3	103	90-110	
Fluoride	mg/L	10	10.2	102	90-110	
Sulfate	mg/L	10	10.8	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 112821 112822

Parameter	Units	2616371001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.0	10	10	12.2	12.2	102	102	90-110	0	15	
Fluoride	mg/L	0.037J	10	10	10.4	10.4	103	104	90-110	0	15	
Sulfate	mg/L	0.78J	10	10	11.8	11.8	110	110	90-110	0	15	

MATRIX SPIKE SAMPLE: 112823

Parameter	Units	2616371002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.5	10	12.2	97	90-110	
Fluoride	mg/L	0.066J	10	10.0	100	90-110	
Sulfate	mg/L	6.0	10	16.2	101	90-110	

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QUALIFIERS

Project: Plant Branch Pond E
Pace Project No.: 2616371

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.

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.

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.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch Pond E
Pace Project No.: 2616371

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2616371001	**BRGWA-2S**	EPA 3005A	24808	EPA 6020B	24824
2616371002	**BRGWA-2I**	EPA 3005A	24808	EPA 6020B	24824
2616371003	**BRGWA-5S**	EPA 3005A	24808	EPA 6020B	24824
2616371004	**BRGWA-5I**	EPA 3005A	24808	EPA 6020B	24824
2616371005	**BRGWA-6S**	EPA 3005A	24808	EPA 6020B	24824
2616371006	**BRGWC-17S**	EPA 3005A	24808	EPA 6020B	24824
2616371007	**BRGWC-36S**	EPA 3005A	24808	EPA 6020B	24824
2616371008	**FB-1**	EPA 3005A	24810	EPA 6020B	24823
2616371009	**Dup-1**	EPA 3005A	24810	EPA 6020B	24823
2616371001	**BRGWA-2S**	SM 2540C	24911		
2616371002	**BRGWA-2I**	SM 2540C	24911		
2616371003	**BRGWA-5S**	SM 2540C	24911		
2616371004	**BRGWA-5I**	SM 2540C	24911		
2616371005	**BRGWA-6S**	SM 2540C	24911		
2616371006	**BRGWC-17S**	SM 2540C	24911		
2616371007	**BRGWC-36S**	SM 2540C	24911		
2616371008	**FB-1**	SM 2540C	24911		
2616371009	**Dup-1**	SM 2540C	24911		
2616371001	**BRGWA-2S**	EPA 300.0	25012		
2616371002	**BRGWA-2I**	EPA 300.0	25012		
2616371003	**BRGWA-5S**	EPA 300.0	25012		
2616371004	**BRGWA-5I**	EPA 300.0	25012		
2616371005	**BRGWA-6S**	EPA 300.0	25012		
2616371006	**BRGWC-17S**	EPA 300.0	25012		
2616371007	**BRGWC-36S**	EPA 300.0	25012		
2616371008	**FB-1**	EPA 300.0	25012		
2616371009	**Dup-1**	EPA 300.0	25012		

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Dawn Prell (Dawn_Prell@golder.com)
CC: rachel_kirkman@golder.com

REQUESTED COMPLETION DATE: Standard TAT
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: Pond E

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals App. III (Boron & Calcium) (EPA 6020)	Cl, F, SO_4, & TDS (EPA 300.0 & SM 2540C)							LAB ID NUMBER
CONTAINER TYPE:								P	P							
PRESERVATION:								3&7	7							
03/19/19	1010	GW		X	BRGWA-2S	2		X	X							1
03/19/19	1125	GW		X	BRGWA-2I	2		X	X							2
03/19/19	1215	GW		X	BRGWA-5S	2		X	X							3
03/19/19	1250	GW		X	BRGWA-5I	2		X	X							4
03/19/19	1025	GW		X	BRGWA-6S	2		X	X							5
03/19/19	1550	GW		X	BRGWC-17S	2		X	X							6
03/19/19	1420	GW		X	BRGWC-36S	2		X	X							7
03/19/19	0955	W			FB-1	2		X	X							8
03/19/19	–	GW			DUP-1	2		X	X							9

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES:
DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: [signature]
DATE/TIME: 3-20-19 1430
RELINQUISHED BY: [signature]
DATE/TIME: 3/20/19
RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:
RECEIVED BY LAB: [signature]
DATE/TIME: 3/20/19 1700
SAMPLE SHIPPED VIA: UPS FED-EX USPS (COURIER) CLIENT OTHER FS
pH checked: Yes No NA
pH: Yes No NA
Temperature: Min: 1.5°C Max:
Custody Seal: Intact Broken (Not Present)
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

WO# : 2616371
2616371

Pace Analytical

Sample Condition Upon Recei

WO#: 2616371

PM: BM Due Date: 03/27/19

CLIENT: GAPower-CCR

Client Name: GA Power

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other

Tracking #:

Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 081 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.5°C Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 3/20/19 DH

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

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)

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

April 02, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Branch Pond E
Pace Project No.: 2616407

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on March 21, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Kristen Jurinko, Golder Associates Inc.
Julie Lehrman, Golder Associates Inc.
Dawn Prell, Golder Associates Inc.
Eric Rolle, Georgia Power - Coal Combustion Residuals
Rebecca Thornton, Pace Analytical Atlanta

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CERTIFICATIONS

Project: Plant Branch Pond E
Pace Project No.: 2616407

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

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SAMPLE SUMMARY

Project: Plant Branch Pond E
Pace Project No.: 2616407

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2616407001	**BRGWC-33S**	Water	03/20/19 09:45	03/21/19 10:35
2616407002	**BRGWC-34S**	Water	03/20/19 10:45	03/21/19 10:35
2616407003	**BRGWC-35S**	Water	03/20/19 12:00	03/21/19 10:35
2616407004	**BRGWC-37S**	Water	03/20/19 15:50	03/21/19 10:35
2616407005	**BRGWC-38S**	Water	03/20/19 16:35	03/21/19 10:35
2616407006	**FB-2**	Water	03/20/19 15:45	03/21/19 10:35

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SAMPLE ANALYTE COUNT

Project: Plant Branch Pond E
Pace Project No.: 2616407

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2616407001	**BRGWC-33S**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2616407002	**BRGWC-34S**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2616407003	**BRGWC-35S**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2616407004	**BRGWC-37S**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2616407005	**BRGWC-38S**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2616407006	**FB-2**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	MWB	3

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616407

Sample: BRGWC-33S **Lab ID: 2616407001** Collected: 03/20/19 09:45 Received: 03/21/19 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**1.3**	mg/L	0.040	0.0039	1	03/25/19 18:21	03/26/19 21:17	7440-42-8	
Calcium	**51.4**	mg/L	25.0	0.69	50	03/25/19 18:21	03/26/19 21:23	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**338**	mg/L	25.0	10.0	1		03/26/19 22:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.2**	mg/L	0.25	0.024	1		03/26/19 14:29	16887-00-6	
Fluoride	**0.14J**	mg/L	0.30	0.029	1		03/26/19 14:29	16984-48-8	
Sulfate	**204**	mg/L	10.0	0.17	10		04/01/19 17:47	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616407

Sample: BRGWC-34S **Lab ID: 2616407002** Collected: 03/20/19 10:45 Received: 03/21/19 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**2.3**	mg/L	0.040	0.0039	1	03/25/19 18:21	03/26/19 21:28	7440-42-8	
Calcium	**82.0**	mg/L	25.0	0.69	50	03/25/19 18:21	03/26/19 21:34	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**517**	mg/L	25.0	10.0	1		03/26/19 22:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.9**	mg/L	0.25	0.024	1		03/26/19 15:37	16887-00-6	
Fluoride	**0.074J**	mg/L	0.30	0.029	1		03/26/19 15:37	16984-48-8	
Sulfate	**329**	mg/L	10.0	0.17	10		04/01/19 18:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616407

Sample: BRGWC-35S **Lab ID: 2616407003** Collected: 03/20/19 12:00 Received: 03/21/19 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**1.7**	mg/L	0.040	0.0039	1	03/25/19 18:21	03/26/19 21:40	7440-42-8	
Calcium	**61.8**	mg/L	25.0	0.69	50	03/25/19 18:21	03/26/19 21:46	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**501**	mg/L	25.0	10.0	1		03/26/19 22:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.6**	mg/L	0.25	0.024	1		03/26/19 16:00	16887-00-6	
Fluoride	**0.088J**	mg/L	0.30	0.029	1		03/26/19 16:00	16984-48-8	
Sulfate	**268**	mg/L	10.0	0.17	10		04/01/19 18:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616407

Sample: BRGWC-37S **Lab ID: 2616407004** Collected: 03/20/19 15:50 Received: 03/21/19 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**0.0040J**	mg/L	0.040	0.0039	1	03/25/19 18:21	03/26/19 21:51	7440-42-8	
Calcium	**3.3**	mg/L	0.50	0.014	1	03/25/19 18:21	03/26/19 21:51	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**68.0**	mg/L	25.0	10.0	1		03/26/19 22:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.3**	mg/L	0.25	0.024	1		03/26/19 16:23	16887-00-6	B
Fluoride	**0.062J**	mg/L	0.30	0.029	1		03/26/19 16:23	16984-48-8	
Sulfate	**0.39J**	mg/L	1.0	0.017	1		03/26/19 16:23	14808-79-8	B

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616407

Sample: BRGWC-38S **Lab ID: 2616407005** Collected: 03/20/19 16:35 Received: 03/21/19 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**1.5**	mg/L	0.040	0.0039	1	03/25/19 18:21	03/26/19 22:03	7440-42-8	
Calcium	**38.2**	mg/L	25.0	0.69	50	03/25/19 18:21	03/26/19 22:08	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**615**	mg/L	25.0	10.0	1		03/26/19 22:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**6.6**	mg/L	0.25	0.024	1		03/26/19 16:46	16887-00-6	
Fluoride	**0.95**	mg/L	0.30	0.029	1		03/26/19 16:46	16984-48-8	
Sulfate	**405**	mg/L	10.0	0.17	10		04/01/19 18:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Branch Pond E
Pace Project No.: 2616407

Sample: FB-2 **Lab ID: 2616407006** Collected: 03/20/19 15:45 Received: 03/21/19 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	ND	mg/L	0.040	0.0039	1	03/25/19 18:21	03/26/19 22:31	7440-42-8	
Calcium	**0.022J**	mg/L	0.50	0.014	1	03/25/19 18:21	03/26/19 22:31	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**22.0J**	mg/L	25.0	10.0	1		03/26/19 22:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.36**	mg/L	0.25	0.024	1		03/28/19 23:09	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		03/28/19 23:09	16984-48-8	
Sulfate	**0.91J**	mg/L	1.0	0.017	1		03/28/19 23:09	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2616407

QC Batch: 25068 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2616407001, 2616407002, 2616407003, 2616407004, 2616407005, 2616407006

METHOD BLANK: 113023 Matrix: Water
Associated Lab Samples: 2616407001, 2616407002, 2616407003, 2616407004, 2616407005, 2616407006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.040	0.0039	03/26/19 18:02	
Calcium	mg/L	ND	0.50	0.014	03/26/19 18:02	

LABORATORY CONTROL SAMPLE: 113024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	0.99	99	80-120	
Calcium	mg/L	1	0.97	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 113025 113026

Parameter	Units	2616405001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	1.5	1	1	2.5	2.5	93	98	75-125	2	20	
Calcium	mg/L	54.2	1	1	54.8	53.9	60	-25	75-125	2	20	M6

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

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2616407

QC Batch: 25049 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2616407001, 2616407002, 2616407003, 2616407004, 2616407005, 2616407006

LABORATORY CONTROL SAMPLE: 112956

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	405	101	84-108	

SAMPLE DUPLICATE: 112957

Parameter	Units	2616510001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	35.0	36.0	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

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2616407

QC Batch: 25013 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2616407001, 2616407002, 2616407003, 2616407004, 2616407005

METHOD BLANK: 112824 Matrix: Water
Associated Lab Samples: 2616407001, 2616407002, 2616407003, 2616407004, 2616407005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.31	0.25	0.024	03/26/19 13:43	
Fluoride	mg/L	ND	0.30	0.029	03/26/19 13:43	
Sulfate	mg/L	0.13J	1.0	0.017	03/26/19 13:43	

LABORATORY CONTROL SAMPLE: 112825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.4	104	90-110	
Fluoride	mg/L	10	10.4	104	90-110	
Sulfate	mg/L	10	11.0	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 113134 113135

Parameter	Units	2616407001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.2	10	10	15.7	15.7	96	96	90-110	0	15	
Fluoride	mg/L	0.14J	10	10	10.4	10.4	102	103	90-110	1	15	
Sulfate	mg/L	204	10	10	161	161	-435	-435	90-110	0	15	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.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant Branch Pond E
Pace Project No.: 2616407

QC Batch: 25289
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2616407006

METHOD BLANK: 113957
Matrix: Water
Associated Lab Samples: 2616407006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.062J	0.25	0.024	03/27/19 20:23	
Fluoride	mg/L	ND	0.30	0.029	03/27/19 20:23	
Sulfate	mg/L	ND	1.0	0.017	03/27/19 20:23	

LABORATORY CONTROL SAMPLE: 113958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.3	103	90-110	
Fluoride	mg/L	10	10.1	101	90-110	
Sulfate	mg/L	10	10.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 113959 113960

Parameter	Units	2616405012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.094J	10	10	9.8	9.8	98	97	90-110	0	15	
Fluoride	mg/L	ND	10	10	9.4	9.5	94	95	90-110	1	15	
Sulfate	mg/L	ND	10	10	8.9	8.9	89	89	90-110	0	15	M1

MATRIX SPIKE SAMPLE: 113961

Parameter	Units	2616407006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	0.36	10	9.8	94	90-110	
Fluoride	mg/L	ND	10	9.9	99	90-110	
Sulfate	mg/L	0.91J	10	8.6	77	90-110	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.

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Branch Pond E
Pace Project No.: 2616407

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.

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.

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.
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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Branch Pond E
Pace Project No.: 2616407

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2616407001	**BRGWC-33S**	EPA 3005A	25068	EPA 6020B	25105
2616407002	**BRGWC-34S**	EPA 3005A	25068	EPA 6020B	25105
2616407003	**BRGWC-35S**	EPA 3005A	25068	EPA 6020B	25105
2616407004	**BRGWC-37S**	EPA 3005A	25068	EPA 6020B	25105
2616407005	**BRGWC-38S**	EPA 3005A	25068	EPA 6020B	25105
2616407006	**FB-2**	EPA 3005A	25068	EPA 6020B	25105
2616407001	**BRGWC-33S**	SM 2540C	25049		
2616407002	**BRGWC-34S**	SM 2540C	25049		
2616407003	**BRGWC-35S**	SM 2540C	25049		
2616407004	**BRGWC-37S**	SM 2540C	25049		
2616407005	**BRGWC-38S**	SM 2540C	25049		
2616407006	**FB-2**	SM 2540C	25049		
2616407001	**BRGWC-33S**	EPA 300.0	25013		
2616407002	**BRGWC-34S**	EPA 300.0	25013		
2616407003	**BRGWC-35S**	EPA 300.0	25013		
2616407004	**BRGWC-37S**	EPA 300.0	25013		
2616407005	**BRGWC-38S**	EPA 300.0	25013		
2616407006	**FB-2**	EPA 300.0	25289		

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Dawn Prell (Dawn_Prell@golder.com)

CC: rachel_kirkman@golder.com

REQUESTED COMPLETION DATE: Standard TAT

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Branch

PROJECT #: Pond E

ANALYSIS REQUESTED

					CONTAINER TYPE:		P	P
					PRESERVATION:		3&7	7
Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App III (Boron & Calcium) (EPA 6020)	Cl, F, SO4 & TDS (EPA 300.0 & SM 2540C)
03/20/19	0945	GW		X	BRGWC-33S	2	X	X
03/20/19	1045	GW		X	BRGWC-34S	2	X	X
03/20/19	1200	GW		X	BRGWC-35S	2	X	X
03/20/19	1550	GW		X	BRGWC-37S	2	X	X
03/20/19	1635	GW		X	BRGWC-38S	2	X	X
03/20/19	1545	W		X	FB-2	2	X	X

LAB ID NUMBER

CONTAINER TYPE
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

WO# : 2616407
2616407

SAMPLED BY AND TITLE: C. Tirell / K. Nukark — DATE/TIME: 3-20-19 | 17:30

RELINQUISHED BY: [signature] — DATE/TIME: 3-21-19 @ 10:35

RECEIVED BY: — DATE/TIME:

RELINQUISHED BY: — DATE/TIME:

RECEIVED BY LAB: [signature] — DATE/TIME: 3/21/19 1034

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT (circled) OTHER FS

pH checked: Yes (circled) No NA — Ice: Yes (circled) No NA — Temperature: Min: 5.3°C Max:

Custody Seal: Intact (circled) Broken Not Present — # of Coolers: — Cooler ID:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2616407

PM: BM Due Date: 03/28/19

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: Wet Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 5.3 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 3/21/19 MP

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

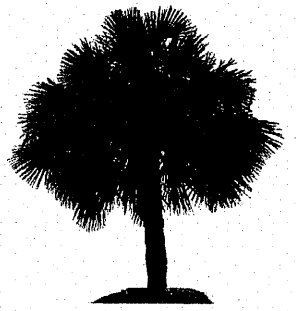
Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

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)



State of Florida

Department of Health, Bureau of Public Health Laboratories

This is to certify that

E87315

ANALYTICAL SERVICES, INC.
110 TECHNOLOGY PARKWAY
NORCROSS, GA 30092

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2015 Expiration Date: June 30, 2016

Carina Blackmore, DVM, PhD, Dipl. ACVPM, CPM
Chief, Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E87315-31-07/01/2015
Supersedes all previously issued certificates

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E87315

PACE ANALYTICAL SERVICES, INC. - ATLANTA
110 TECHNOLOGY PARKWAY
PEACHTREE CORNERS, GA 30092

has complied with Florida Administrative Code 64E-1,
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DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

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Date Issued: July 01, 2016 Expiration Date: June 30, 2017

Susanne Crowe, MHA
Acting Chief, Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E87315-33-07/01/2016
Supersedes all previously issued certificates

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E87315

PACE ANALYTICAL SERVICES, LLC- ATLANTA GA
110 TECHNOLOGY PARKWAY
PEACHTREE CORNERS, GA 30092

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

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Date Issued: July 01, 2017 Expiration Date: June 30, 2018

Susanne Crowe, MHA
Acting Chief, Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E87315-37-07/01/2017
Supersedes all previously issued certificates

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E87315

PACE ANALYTICAL SERVICES, LLC- ATLANTA GA
110 TECHNOLOGY PARKWAY
PEACHTREE CORNERS, GA 30092

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

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Date Issued: July 01, 2018 Expiration Date: June 30, 2019

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E87315-39-07/01/2018
Supersedes all previously issued certificates

APPENDIX A

Field Data Forms

FIELD DATA FORMS

August – September 2016

Product Name: Low-Flow System

Date: 2016-08-31 16:14:02

Project Information:		Pump Information:	
Operator Name	Chris	Pump Model/Type	PERIPUMP
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWA-2S	Tubing Length	47.0 ft
Latitude	33º 12' 21.48"		
Longitude	-83º -20' -17.63"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2110	Pump placement from TOC	42.5 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.2997809 L
Well Total Depth	47.60 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.2 in
Depth to Water	18.43 ft	Total Volume Pumped	5.25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1%	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	15:45:53	300.02	20.30	6.22	69.65	5.09	18.50	1.92	74.97
Last 5	15:50:53	600.02	19.94	6.21	68.87	3.65	18.50	1.45	73.50
Last 5	15:55:54	900.98	19.77	6.21	69.41	3.59	18.60	1.26	72.38
Last 5	16:00:54	1200.99	19.76	6.20	68.99	3.71	18.90	1.27	69.88
Last 5	16:05:54	1500.97	19.91	6.20	69.41	2.87	18.90	1.27	69.00
Variance 0			-0.16	-0.00	0.54			-0.20	-1.12
Variance 1			-0.01	-0.00	-0.41			0.01	-2.50
Variance 2			0.15	-0.00	0.42			0.00	-0.88

Notes

Sunny , 92 degrees ; collected at 16:10

Grab Samples

Product Name: Low-Flow System

Date: 2016-08-31 13:58:10

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	Atlantic Coast Consulting	Tubing Type	
Project Name	Plant Branch AP	Tubing Diameter	in
Site Name	Plant Branch	Tubing Length	ft
Latitude	33º 11' 51.67"		
Longitude	-83º -18' -56.32"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	67.50 ft	Calculated Sample Rate	300 sec
Screen Length	ft	Stabilization Drawdown	24 in
Depth to Water	18.23 ft	Total Volume Pumped	6.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	13:32:37	300.00	19.44	7.17	185.72	3.36	20.00	0.11	-25.77
Last 5	13:37:37	600.00	19.71	7.16	185.48	3.52	20.20	0.12	-26.07
Last 5	13:42:37	900.00	19.55	7.16	185.11	3.83	20.20	0.24	-24.47
Last 5	13:47:37	1199.99	19.52	7.16	186.74	3.49	20.20	0.23	-24.94
Last 5	13:52:37	1499.98	19.72	7.16	191.44	2.80	20.20	0.21	-24.95
Variance 0			-0.16	-0.00	-0.37			0.12	1.60
Variance 1			-0.04	-0.00	1.64			-0.01	-0.47
Variance 2			0.20	-0.01	4.70			-0.02	-0.01

Notes

FB-1-8-31-16 poured here

Grab Samples

Product Name: Low-Flow System

Date: 2016-08-31 10:46:53

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peri pump
Company Name	Atlantic Coast Consulting	Tubing Type	
Project Name	Plant Branch AP	Tubing Diameter	in
Site Name	Plant Branch	Tubing Length	ft
Latitude	33º 11' 51.67"		
Longitude	-83º -18' -56.32"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	43.30 ft	Calculated Sample Rate	300 sec
Screen Length	ft	Stabilization Drawdown	0.15 in
Depth to Water	12.55 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	10:20:58	600.02	20.64	6.35	141.53	3.85	12.70	2.33	86.24
Last 5	10:27:11	973.00	20.85	6.47	171.61	1.79	12.70	2.19	85.94
Last 5	10:32:11	1273.00	20.34	6.53	185.17	1.66	12.70	2.15	83.84
Last 5	10:37:11	1573.00	20.39	6.58	191.82	1.46	12.70	2.06	79.99
Last 5	10:42:11	1873.00	20.30	6.59	193.72	--	--	2.04	77.45
Variance 0			-0.51	0.06	13.56			-0.04	-2.10
Variance 1			0.05	0.04	6.66			-0.09	-3.84
Variance 2			-0.09	0.01	1.90			-0.02	-2.55

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-08-31 11:58:16

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	
Company Name	Atlantic Coast Consulting	Tubing Type	
Project Name	Plant Branch AP	Tubing Diameter	in
Site Name	Plant Branch	Tubing Length	ft
Latitude	33º 11' 51.67"		
Longitude	-83º -18' -56.32"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	64.30 ft	Calculated Sample Rate	300 sec
Screen Length	ft	Stabilization Drawdown	0.4 in
Depth to Water	12.5 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	11:39:58	300.05	21.41	6.52	170.28	4.91	12.80	4.29	90.87
Last 5	11:44:58	600.01	20.97	6.53	169.34	5.02	12.80	4.11	89.36
Last 5	11:49:58	900.01	20.84	6.53	169.89	3.86	12.90	3.96	87.80
Last 5	11:55:00	1202.01	20.48	6.53	168.93	0.00	12.90	3.92	86.73
Last 5 Variance 0			-0.44	0.00	-0.93			-0.19	-1.52
Variance 1			-0.13	-0.00	0.55			-0.14	-1.55
Variance 2			-0.35	0.00	-0.96			-0.05	-1.07

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-01 11:10:59

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWA-6S	Tubing Length	53 ft
Latitude	33º 12' 56.78"		
Longitude	-83º -19' -58.81"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	45 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.3265614 L
Well Total Depth	53.25 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.6 in
Depth to Water	25.21 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1%	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	10:15:06	600.02	21.36	6.50	57.54	5.48	25.80	6.75	97.55
Last 5	10:20:06	900.02	21.28	6.48	56.16	4.29	25.80	7.08	92.28
Last 5	10:25:06	1200.02	20.88	6.49	54.74	4.36	25.80	7.14	89.66
Last 5	10:30:06	1500.02	21.28	6.50	53.50	3.16	25.80	7.02	88.87
Last 5	10:35:07	1801.02	21.28	6.49	53.15	3.55	25.80	6.97	88.66
Variance 0			-0.40	0.00	-1.42			0.06	-2.62
Variance 1			0.40	0.01	-1.23			-0.11	-0.79
Variance 2			0.00	-0.01	-0.36			-0.05	-0.21

Notes

Collected at 10:40. Sunny 80s

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 15:15:48

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-17S	Tubing Length	10 ft
Latitude	33º 12' 13"		
Longitude	-83º -19' -22.09"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	7 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1346342 L
Well Total Depth	9.10 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	6 in
Depth to Water	5.97 ft	Total Volume Pumped	7.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	14:50:23	600.01	22.44	6.36	405.40	1.46	6.40	2.49	47.88
Last 5	14:55:23	900.00	22.49	6.36	404.59	0.93	6.50	1.57	44.56
Last 5	15:00:23	1200.01	22.92	6.36	403.51	0.82	6.50	1.53	45.42
Last 5	15:05:23	1500.00	22.98	6.36	400.34	0.89	6.50	1.55	46.44
Last 5	15:10:23	1800.00	23.07	6.36	398.64	0.47	6.50	1.55	46.64
Variance 0			0.44	-0.00	-1.08			-0.04	0.86
Variance 1			0.06	0.00	-3.17			0.02	1.02
Variance 2			0.09	-0.00	-1.70			-0.00	0.20

Notes

Collected at 15:15. Sunny 90s. 3 well volumes purged and stabilization.

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 13:53:27

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-33S	Tubing Length	30 ft
Latitude	33º 12' 30.13"		
Longitude	-83º -19' -29.43"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	23 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	28.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	8.15 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	13:30:49	300.02	23.12	4.98	535.44	4.61	8.20	0.16	78.50
Last 5	13:35:49	600.02	21.82	4.94	549.41	4.17	8.20	0.10	76.94
Last 5	13:40:49	900.02	21.81	4.95	544.71	2.61	8.20	0.08	73.87
Last 5	13:45:49	1200.02	21.55	4.93	545.79	1.61	8.20	0.07	74.31
Last 5	13:50:49	1500.02	21.55	4.92	545.38	0.92	8.20	0.06	74.10
Variance 0			-0.01	0.01	-4.70			-0.02	-3.07
Variance 1			-0.26	-0.02	1.08			-0.01	0.44
Variance 2			0.00	-0.01	-0.41			-0.01	-0.21

Notes

Collected at 13:55. Mostly sunny 90s

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-08 11:22:24

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-34S	Tubing Length	27 ft
Latitude	33º 12' 23.56"		
Longitude	-83º -19' -27.51"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	22 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.2105124 L
Well Total Depth	26.80 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	2.75 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	11:00:12	300.02	23.88	5.83	881.60	3.83	2.80	0.22	26.25
Last 5	11:05:12	600.02	23.65	5.83	880.86	1.19	2.80	0.15	25.99
Last 5	11:10:12	900.02	23.74	5.83	888.91	0.95	2.80	0.18	24.50
Last 5	11:15:12	1200.02	24.53	5.84	879.27	1.63	2.80	0.19	23.82
Last 5	11:20:12	1500.02	23.94	5.84	878.81	1.48	2.80	0.13	26.50
Variance 0			0.09	0.00	8.06			0.03	-1.49
Variance 1			0.79	0.00	-9.64			0.01	-0.68
Variance 2			-0.59	0.00	-0.47			-0.06	2.69

Notes

Collected at 11:25. Sunny 80s

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 12:47:41

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-35S	Tubing Length	30 ft
Latitude	33º 12' 15.98"		
Longitude	-83º -19' -24.79"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	275 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	29.70 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2 in
Depth to Water	2.15 ft	Total Volume Pumped	9.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	12:15:03	600.01	21.82	6.08	639.29	9.37	2.30	0.09	34.34
Last 5	12:20:03	900.01	21.78	6.09	624.78	7.75	2.30	0.10	31.35
Last 5	12:25:03	1200.01	21.64	6.09	618.47	7.36	2.30	0.10	28.33
Last 5	12:30:03	1500.01	21.55	6.09	603.93	4.54	2.30	0.08	27.66
Last 5	12:35:03	1800.01	21.55	6.10	646.37	4.04	2.30	0.31	27.68
Variance 0			-0.14	-0.00	-6.31			-0.00	-3.03
Variance 1			-0.09	0.00	-14.54			-0.02	-0.66
Variance 2			0.00	0.01	42.44			0.23	0.02

Notes

Collected at 12:35. Sunny 80s. DUP 2 here.

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 16:21:28

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-36S	Tubing Length	35 ft
Latitude	33º 12' 7.15"		
Longitude	-83º -19' -22.33"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	35.65 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	1.75 ft	Total Volume Pumped	10.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	15:55:06	600.02	24.32	5.61	678.78	1.39	2.00	2.22	80.88
Last 5	16:00:06	900.02	24.23	5.61	659.97	0.32	2.00	2.26	80.13
Last 5	16:05:06	1200.02	24.14	5.60	627.69	0.62	2.00	2.31	79.61
Last 5	16:10:06	1500.02	23.65	5.59	636.88	0.27	2.00	2.37	78.90
Last 5	16:15:06	1800.02	23.70	5.59	624.73	0.43	2.00	2.35	79.13
Variance 0			-0.08	-0.01	-32.28			0.05	-0.52
Variance 1			-0.49	-0.01	9.19			0.06	-0.71
Variance 2			0.05	-0.00	-12.15			-0.02	0.23

Notes

Collected at 16:20. Sunny 90s. Artesian well - 4 ft extension was added by Brad F. WL/WD/Vol measurements include the 4 ft extension.

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 11:21:24

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-38S	Tubing Length	41 ft
Latitude	33º 11' 53.76"		
Longitude	-83º -19' -18.67"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	36 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.2730004 L
Well Total Depth	41.00 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	10 in
Depth to Water	20.32 ft	Total Volume Pumped	4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	10:55:07	300.00	23.73	5.45	905.37	2.30	20.90	0.85	75.21
Last 5	11:00:07	600.01	22.85	5.48	904.39	3.17	21.00	0.49	74.87
Last 5	11:05:07	900.01	21.86	5.50	895.13	2.89	21.10	0.37	61.21
Last 5	11:10:07	1200.02	22.04	5.44	884.52	3.32	21.10	0.35	59.03
Last 5	11:15:07	1500.01	21.93	5.43	861.25	2.84	21.20	0.34	57.09
Variance 0			-0.99	0.02	-9.26			-0.12	-13.66
Variance 1			0.18	-0.06	-10.61			-0.02	-2.18
Variance 2			-0.11	-0.01	-23.27			-0.01	-1.93

Notes

Collected at 11:20. Sunny 80s

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-23 13:25:57

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	peri pump
Company Name	ACC	Tubing Type	poly
Project Name	Plant branch	Tubing Diameter	.17 in
Site Name	BRGWC-38S	Tubing Length	41 ft
Latitude	33º 11' 53.97"		
Longitude	-83º -19' -18.64"		
Sonde SN	466058		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	36 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.2730004 L
Well Total Depth	41.00 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	20.56 ft	Total Volume Pumped	0 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	13:00:02	900.02	22.65	5.95	872.92	3.68	21.40	0.14	39.08
Last 5	13:05:02	1200.01	23.30	5.76	874.21	2.08	21.40	0.23	80.94
Last 5	13:10:02	1500.02	22.90	5.57	868.67	1.93	21.40	0.36	83.18
Last 5	13:15:02	1800.02	23.26	5.49	857.79	2.73	21.40	0.45	100.33
Last 5	13:20:02	2100.02	22.92	5.46	844.24	1.76	21.40	0.46	87.62
Variance 0			-0.40	-0.18	-5.54			0.13	2.24
Variance 1			0.36	-0.08	-10.87			0.09	17.15
Variance 2			-0.34	-0.04	-13.55			0.02	-12.70

Notes

Grab Samples

FIELD DATA FORMS

November 2016

Product Name: Low-Flow System

Date: 2016-11-16 11:08:54

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	55 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.3354883 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.13 in
Depth to Water	20.17 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:46:37	300.10	18.05	6.26	65.44	5.75	20.32	0.28	77.88
Last 5	10:51:37	600.02	18.08	6.19	64.47	2.12	20.33	0.25	65.56
Last 5	10:56:37	900.02	18.41	6.15	63.97	1.08	20.33	0.26	61.35
Last 5	11:01:38	1200.16	18.46	6.13	63.27	0.82	20.31	0.29	57.23
Last 5	11:06:38	1500.16	18.48	6.12	63.27	0.79	20.30	0.30	53.15
Variance 0			0.33	-0.04	-0.49			0.01	-4.21
Variance 1			0.05	-0.02	-0.70			0.03	-4.12
Variance 2			0.02	-0.01	-0.00			0.01	-4.08

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-16 14:48:38

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	70 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4024396 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.2 in
Depth to Water	20.02 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:26:00	900.02	18.51	7.13	202.91	4.07	22.23	0.19	-131.81
Last 5	14:31:00	1200.03	18.40	7.08	194.12	4.69	22.26	0.19	-114.65
Last 5	14:36:00	1500.02	18.44	7.00	188.55	4.90	2.25	0.21	-101.65
Last 5	14:41:00	1800.03	18.45	6.98	187.41	4.89	22.23	0.24	-95.59
Last 5	14:46:00	2100.03	18.48	6.96	186.07	4.71	22.22	0.26	-90.88
Variance 0			0.05	-0.08	-5.58			0.02	13.00
Variance 1			0.00	-0.03	-1.14			0.03	6.06
Variance 2			0.03	-0.02	-1.34			0.03	4.70

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-15 15:28:41

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	42 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.01 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2774638 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.1 in
Depth to Water	13.48 ft	Total Volume Pumped	4.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:12:14	300.02	19.88	6.67	180.22	0.88	13.59	1.95	109.43
Last 5	15:17:14	600.02	19.67	6.67	181.69	0.29	13.60	1.90	104.07
Last 5	15:22:14	900.02	19.61	6.67	179.68	0.30	13.59	1.90	99.58
Last 5	15:27:14	1200.02	19.77	6.67	183.15	0.53	13.58	1.91	95.87
Last 5									
Variance 0			-0.21	0.01	1.47			-0.05	-5.37
Variance 1			-0.05	0.00	-2.01			0.00	-4.48
Variance 2			0.16	-0.00	3.47			0.01	-3.71

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-16 09:25:13

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump peristaltic
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	57 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.3801225 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.16 in
Depth to Water	13.46 ft	Total Volume Pumped	5.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:01:52	300.12	16.96	6.57	164.40	4.32	13.61	3.94	162.31
Last 5	09:06:52	600.03	17.41	6.45	161.67	4.35	13.59	3.72	144.09
Last 5	09:11:52	900.02	17.65	6.43	162.10	13.14	13.62	3.83	126.13
Last 5	09:17:01	1209.02	17.90	6.41	159.42	1.86	13.62	3.59	118.45
Last 5	09:22:01	1509.02	18.03	6.40	157.93	1.06	13.62	3.55	118.59
Variance 0			0.24	-0.03	0.43			0.11	-17.96
Variance 1			0.25	-0.02	-2.67			-0.24	-7.68
Variance 2			0.14	-0.01	-1.50			-0.04	0.14

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-15 11:37:30

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	55 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.3354883 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.35 in
Depth to Water	27.57 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:15:33	1800.05	21.28	6.61	50.10	3.22	27.91	7.24	240.39
Last 5	11:20:33	2100.05	21.15	6.60	50.54	5.66	27.92	7.17	280.99
Last 5	11:25:33	2400.05	21.24	6.60	50.88	2.28	27.93	7.11	326.78
Last 5	11:30:33	2700.05	21.37	6.60	50.63	3.16	27.93	7.01	360.52
Last 5	11:35:33	3000.05	21.29	6.59	50.88	--	--	6.91	381.39
Variance 0			0.09	0.00	0.34			-0.06	45.78
Variance 1			0.13	-0.00	-0.25			-0.10	33.75
Variance 2			-0.09	-0.01	0.25			-0.10	20.87

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-17 15:00:38

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	12 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	7 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	225 mL/min
Well diameter	2 in	Total System Volume	0.1435611 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.69 in
Depth to Water	5.96 ft	Total Volume Pumped	7.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:37:44	600.02	20.44	6.29	394.27	7.06	6.47	1.49	62.04
Last 5	14:42:44	900.02	20.48	6.29	395.31	3.45	6.50	1.49	55.21
Last 5	14:47:44	1200.02	20.57	6.29	393.88	0.91	6.61	1.40	56.61
Last 5	14:52:44	1500.02	20.81	6.28	393.01	0.84	6.62	1.45	57.35
Last 5	14:57:44	1800.02	20.87	6.28	392.23	0.85	6.65	1.41	57.63
Variance 0			0.09	-0.00	-1.43			-0.09	1.40
Variance 1			0.23	-0.00	-0.87			0.05	0.74
Variance 2			0.06	0.00	-0.78			-0.04	0.28

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-17 09:37:06

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	32 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2328295 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	7.86 ft	Total Volume Pumped	4.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:16:08	300.05	18.09	4.84	496.52	4.33	7.89	0.37	204.55
Last 5	09:21:08	600.02	18.34	4.82	496.29	4.57	7.88	0.27	196.64
Last 5	09:26:08	900.02	18.39	4.83	496.73	3.74	7.88	0.21	188.68
Last 5	09:31:08	1200.02	18.79	4.82	495.42	2.25	7.87	0.17	186.87
Last 5	09:36:08	1500.02	18.70	4.82	495.24	0.82	7.87	0.15	192.43
Variance 0			0.05	0.00	0.44			-0.05	-7.96
Variance 1			0.40	-0.01	-1.31			-0.04	-1.81
Variance 2			-0.09	-0.00	-0.17			-0.02	5.56

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-17 11:27:42

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	26 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	21 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.206049 L
Well Total Depth	26.61 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.03 in
Depth to Water	2.60 ft	Total Volume Pumped	7.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:03:38	900.02	21.02	5.80	839.41	6.48	2.63	0.27	32.16
Last 5	11:08:38	1200.02	21.46	5.80	835.94	5.74	2.64	0.26	29.90
Last 5	11:13:38	1500.02	21.73	5.80	838.14	3.53	2.63	0.24	28.02
Last 5	11:18:38	1800.02	21.87	5.82	834.00	4.42	2.63	0.25	16.37
Last 5	11:23:38	2100.02	21.93	5.81	834.68	4.28	2.63	0.19	17.38
Variance 0			0.27	-0.00	2.20			-0.02	-1.89
Variance 1			0.14	0.01	-4.15			0.00	-11.64
Variance 2			0.06	-0.00	0.68			-0.06	1.01

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-17 13:17:01

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	30 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	24 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	29.53 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.03 in
Depth to Water	2.18 ft	Total Volume Pumped	5.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:54:53	600.02	23.23	6.06	602.81	5.71	2.22	0.48	-8.01
Last 5	12:59:53	900.02	23.21	6.04	598.96	3.98	2.22	0.43	4.62
Last 5	13:04:53	1200.02	23.01	6.03	602.05	3.68	2.21	0.43	22.44
Last 5	13:09:53	1500.02	23.07	6.03	598.04	3.41	2.21	0.47	29.71
Last 5	13:14:53	1800.02	23.38	6.04	599.73	2.43	2.21	0.54	30.83
Variance 0			-0.20	-0.01	3.08			0.01	17.81
Variance 1			0.06	-0.00	-4.00			0.03	7.27
Variance 2			0.30	0.01	1.68			0.08	1.12

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-18 08:55:47

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	25 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.2015856 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.11 in
Depth to Water	1.99 ft	Total Volume Pumped	9.9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	08:33:59	600.03	14.99	5.73	646.84	4.08	2.11	2.29	166.40
Last 5	08:38:59	900.02	15.30	5.55	645.20	3.51	2.11	2.95	141.76
Last 5	08:43:59	1200.02	15.35	5.52	640.70	1.79	2.11	2.98	129.36
Last 5	08:48:59	1500.10	15.47	5.51	636.39	1.15	2.10	2.96	124.09
Last 5	08:53:59	1800.04	15.62	5.51	635.88	1.36	2.10	3.01	122.99
Variance 0			0.04	-0.03	-4.50			0.03	-12.40
Variance 1			0.13	-0.01	-4.31			-0.02	-5.27
Variance 2			0.14	-0.01	-0.51			0.05	-1.10

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-21 09:11:06

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.290854 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.7 in
Depth to Water	21.34 ft	Total Volume Pumped	8.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	08:48:38	1200.02	16.60	5.01	825.13	2.75	22.04	0.63	161.03
Last 5	08:53:38	1500.02	16.76	4.93	833.34	1.83	22.04	0.70	162.57
Last 5	08:58:38	1800.02	16.96	4.87	829.67	1.04	22.05	0.72	159.85
Last 5	09:03:38	2100.02	17.23	4.85	836.28	0.91	22.04	0.74	150.57
Last 5	09:08:38	2400.02	17.54	4.84	834.69	1.21	22.04	0.76	142.22
Variance 0			0.20	-0.06	-3.66			0.03	-2.72
Variance 1			0.27	-0.02	6.61			0.02	-9.28
Variance 2			0.31	-0.01	-1.60			0.02	-8.35

Notes

Grab Samples

FIELD DATA FORMS

February 2017

Product Name: Low-Flow System

Date: 2017-02-21 09:52:38

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	47.39 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42.39 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	260 mL/min
Well diameter	2 in	Total System Volume	0.6965216 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.15 in
Depth to Water	15.63 ft	Total Volume Pumped	10.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:30:31	1200.03	17.20	6.38	71.59	1.49	15.76	1.02	93.58
Last 5	09:35:31	1500.02	17.22	6.33	71.57	0.77	15.76	1.50	78.67
Last 5	09:40:31	1800.02	17.24	6.28	72.08	0.77	15.77	1.75	67.86
Last 5	09:45:31	2100.40	17.28	6.26	71.40	0.54	15.78	1.73	63.55
Last 5	09:50:31	2400.40	17.36	6.24	71.61	0.26	15.78	1.64	62.44
Variance 0			0.02	-0.04	0.51			0.26	-10.81
Variance 1			0.04	-0.02	-0.68			-0.02	-4.31
Variance 2			0.08	-0.02	0.21			-0.09	-1.11

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-21 11:15:31

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	66.96 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61.96 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	168 mL/min
Well diameter	2 in	Total System Volume	0.7838709 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.7 in
Depth to Water	15.69 ft	Total Volume Pumped	11.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:53:00	2400.02	17.72	7.32	242.10	5.74	17.44	1.06	-166.25
Last 5	10:58:00	2700.02	17.73	7.27	229.72	4.98	17.39	0.98	-155.46
Last 5	11:03:00	3000.12	17.68	7.22	221.51	4.62	17.39	0.91	-145.89
Last 5	11:08:00	3300.12	17.71	7.17	216.23	3.68	17.39	0.87	-136.79
Last 5	11:13:00	3600.12	17.71	7.15	212.92	3.61	17.39	0.83	-123.72
Variance 0			-0.04	-0.05	-8.20			-0.07	9.57
Variance 1			0.03	-0.04	-5.28			-0.03	9.10
Variance 2			-0.00	-0.03	-3.31			-0.04	13.06

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 15:22:45

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	Poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	38 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamont's 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6546101 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	11.78 ft	Total Volume Pumped	6.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:58:02	600.02	18.96	6.66	205.36	7.16	11.92	4.14	450.90
Last 5	15:03:02	900.02	18.92	6.66	205.60	6.52	11.89	3.22	438.52
Last 5	15:08:02	1200.02	19.14	6.65	204.78	4.86	11.87	3.10	424.65
Last 5	15:13:02	1500.02	19.26	6.65	203.65	4.60	11.92	3.06	415.40
Last 5	15:18:02	1800.02	19.23	6.65	203.13	4.23	11.93	3.00	408.85
Variance 0			0.22	-0.01	-0.82			-0.12	-13.87
Variance 1			0.12	0.00	-1.13			-0.04	-9.25
Variance 2			-0.03	-0.00	-0.52			-0.06	-6.54

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 15:19:21

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	63.82 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	190 mL/min
Well diameter	2 in	Total System Volume	0.7698557 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.18 in
Depth to Water	11.69 ft	Total Volume Pumped	5.13 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:57:21	300.03	19.44	6.60	180.64	2.21	11.84	3.51	119.12
Last 5	15:02:21	600.02	19.32	6.54	177.14	0.48	11.82	2.85	114.98
Last 5	15:07:21	900.02	19.22	6.49	173.81	1.26	11.89	2.93	112.76
Last 5	15:12:21	1200.29	19.11	6.45	172.52	1.50	11.83	3.06	111.32
Last 5	15:17:21	1500.28	19.31	6.44	170.77	1.02	11.87	3.05	110.50
Variance 0			-0.10	-0.05	-3.33			0.08	-2.22
Variance 1			-0.12	-0.03	-1.29			0.13	-1.44
Variance 2			0.21	-0.01	-1.75			-0.01	-0.82

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 14:01:23

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	52.90 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.7211151 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.9 in
Depth to Water	24.06 ft	Total Volume Pumped	8.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:38:59	900.03	19.49	6.88	57.86	2.95	24.98	6.42	116.39
Last 5	13:43:59	1200.02	19.43	6.77	58.52	4.44	24.97	6.32	116.29
Last 5	13:48:59	1500.02	19.32	6.70	59.34	4.74	24.97	6.23	115.96
Last 5	13:53:59	1800.02	19.44	6.64	59.83	4.41	24.96	6.08	116.18
Last 5	13:58:59	2100.02	19.32	6.61	60.50	4.48	24.96	6.05	116.52
Variance 0			-0.11	-0.07	0.81			-0.09	-0.33
Variance 1			0.13	-0.05	0.50			-0.15	0.22
Variance 2			-0.13	-0.04	0.67			-0.03	0.33

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 15:56:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	6 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamont's 2020we	Pump placement from TOC	6 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.5117806 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	9.88 ft	Stabilization Drawdown	0 in
Depth to Water	5.89 ft	Total Volume Pumped	9.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:30:07	600.53	17.05	6.41	345.38	1.02	6.09	2.40	180.77
Last 5	15:35:07	900.53	16.99	6.40	343.69	0.57	6.11	2.90	156.17
Last 5	15:40:07	1200.53	16.96	6.40	344.34	1.04	6.10	3.10	153.15
Last 5	15:45:07	1500.53	16.92	6.40	342.13	1.35	6.12	3.09	148.02
Last 5	15:50:07	1800.53	16.79	6.40	349.88	0.45	6.13	2.85	143.67
Variance 0			-0.03	-0.00	0.65			0.21	-3.02
Variance 1			-0.04	-0.00	-2.21			-0.01	-5.13
Variance 2			-0.12	-0.00	7.75			-0.24	-4.35

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 12:34:53

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.626312 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	6.86 ft	Total Volume Pumped	6.24 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:12:48	600.03	21.19	5.02	511.33	3.14	6.86	1.57	148.37
Last 5	12:17:48	900.02	21.05	4.92	510.98	3.64	6.86	1.08	149.54
Last 5	12:22:48	1200.02	21.00	4.88	511.52	2.32	6.86	0.73	150.73
Last 5	12:27:48	1500.02	21.07	4.87	510.43	1.94	6.86	0.58	151.64
Last 5	12:32:48	1800.02	21.14	4.86	508.85	1.26	6.86	0.49	151.45
Variance 0			-0.05	-0.04	0.54			-0.35	1.19
Variance 1			0.06	-0.02	-1.09			-0.15	0.91
Variance 2			0.08	-0.00	-1.57			-0.09	-0.19

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 14:30:47

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	52.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7199546 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	2.38 ft	Total Volume Pumped	11.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:08:35	1800.99	19.22	5.86	888.29	7.39	2.39	0.03	23.53
Last 5	14:13:35	2100.99	19.22	5.86	888.34	6.10	2.39	0.02	34.70
Last 5	14:18:35	2400.99	19.89	5.86	887.61	3.67	2.39	0.12	57.06
Last 5	14:23:35	2700.99	19.35	5.85	889.18	2.70	2.39	0.03	32.87
Last 5	14:28:35	3000.99	19.32	5.85	889.81	2.33	2.39	0.02	25.14
Variance 0			0.67	-0.01	-0.73			0.10	22.35
Variance 1			-0.54	-0.01	1.57			-0.09	-24.18
Variance 2			-0.03	0.00	0.63			-0.01	-7.73

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 15:58:32

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	35.34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	230 mL/min
Well diameter	2 in	Total System Volume	0.6427374 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9.03 in
Depth to Water	2.09 ft	Total Volume Pumped	9.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:36:07	1200.51	18.39	6.08	694.26	13.70	2.12	0.18	40.12
Last 5	15:41:07	1500.51	18.41	6.08	696.25	7.20	2.12	0.15	34.82
Last 5	15:46:07	1800.51	18.33	6.08	697.74	4.56	2.11	0.11	29.50
Last 5	15:51:07	2100.51	18.12	6.08	698.46	3.79	2.13	0.09	27.67
Last 5	15:56:07	2400.51	18.02	6.08	699.42	3.52	2.12	0.07	31.54
Variance 0			-0.09	-0.00	1.49			-0.04	-5.33
Variance 1			-0.21	-0.00	0.71			-0.02	-1.83
Variance 2			-0.10	0.00	0.97			-0.02	3.87

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 10:10:31

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	34.02 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29.02 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6368456 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.14 in
Depth to Water	1.78 ft	Total Volume Pumped	6.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:49:06	600.03	16.86	6.03	720.09	7.18	1.91	3.08	144.57
Last 5	09:54:06	900.02	16.96	5.82	718.33	3.06	1.92	3.02	136.81
Last 5	09:59:06	1200.02	17.09	5.73	715.91	3.36	1.92	3.02	130.60
Last 5	10:04:06	1500.02	17.18	5.68	712.71	2.86	1.92	2.95	126.15
Last 5	10:09:06	1800.02	17.35	5.65	710.02	1.12	1.92	2.89	122.99
Variance 0			0.13	-0.09	-2.42			-0.01	-6.21
Variance 1			0.09	-0.05	-3.20			-0.07	-4.45
Variance 2			0.17	-0.03	-2.69			-0.06	-3.16

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 12:21:39

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED dedicated bladder pump
Company Name	Golder Associates	Tubing Type	poly
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.779586 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	48.87 ft	Total Volume Pumped	9.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:00:03	300.02	20.50	5.59	53.67	2.37	49.60	7.09	178.56
Last 5	12:05:03	600.02	19.85	5.55	54.04	2.05	49.61	7.11	176.85
Last 5	12:10:03	900.02	20.75	5.55	53.91	2.36	49.59	6.89	165.88
Last 5	12:15:03	1200.03	20.70	5.55	53.78	2.22	49.65	6.88	171.62
Last 5	12:20:03	1500.03	22.76	5.57	53.47	1.65	49.67	6.57	173.08
Variance 0			0.90	0.00	-0.13			-0.23	-10.98
Variance 1			-0.05	0.00	-0.13			-0.00	5.75
Variance 2			2.06	0.02	-0.31			-0.32	1.46

Notes

Apple device overheated. Purged for 36 min before restarting at 1200

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 10:36:18

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED dedicated bladder pump
Company Name	Golder Associates	Tubing Type	poly
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	58 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7438785 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	18.88 ft	Total Volume Pumped	7.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:15:04	900.57	20.05	4.57	932.47	7.57	19.87	1.39	316.15
Last 5	10:20:04	1200.57	20.12	4.63	927.10	4.71	19.83	1.22	296.01
Last 5	10:25:04	1500.57	20.21	4.68	929.16	3.72	19.84	1.08	272.12
Last 5	10:30:04	1800.56	20.21	4.72	929.93	2.95	19.88	0.99	268.85
Last 5	10:35:04	2100.57	20.26	4.73	926.93	2.55	19.85	0.92	257.20
Variance 0			0.09	0.05	2.06			-0.15	-23.89
Variance 1			-0.00	0.03	0.78			-0.08	-3.27
Variance 2			0.05	0.02	-3.00			-0.07	-11.64

Notes

Grab Samples

FIELD DATA FORMS

April 2017

Product Name: Low-Flow System

Date: 2017-04-17 14:25:36

Project Information:		Pump Information:	
Operator Name	D. Herrera	Pump Model/Type	Sample Pro QED
Company Name	Golder Associates	Tubing Type	Poly
Project Name	1666254	Tubing Diameter	0.170 in
Site Name	SCS Plant Branch	Tubing Length	60 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364452		
Turbidity Make/Model	LaMotte	Pump placement from TOC	60 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.3578054 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	13.8 in
Depth to Water	49.05 ft	Total Volume Pumped	11 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	14:06:09	300.43	20.48	5.80	52.37	10.22	50.20	7.30	37.84
Last 5	14:11:09	600.35	20.36	5.79	53.11	5.57	50.20	7.30	38.40
Last 5	14:16:09	900.35	20.20	5.80	53.38	4.98	50.20	7.28	38.05
Last 5	14:21:09	1200.35	20.10	5.80	53.34	4.43	50.20	7.29	37.94
Last 5									
Variance 0			-0.12	-0.02	0.74			-0.00	0.56
Variance 1			-0.15	0.01	0.27			-0.02	-0.35
Variance 2			-0.10	0.00	-0.04			0.01	-0.11

Notes

Sampled BRGWC-37S on 4/17/2027 at 14:25. Sampled FD-1 on 4/17/2017 and FB-1 at 14:40. Sampled extra radium.

Grab Samples

FIELD DATA FORMS

May 2017

Product Name: Low-Flow System

Date: 2017-05-15 13:23:01

Project Information:		Pump Information:	
Operator Name	D.Herrera	Pump Model/Type	Sample Pro QED
Company Name	Golder Associates	Tubing Type	Poly
Project Name	SCS Plant Branch	Tubing Diameter	0.170 in
Site Name	SCS Plant Branch	Tubing Length	61 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	456959		
Turbidity Make/Model	LaMotte	Pump placement from TOC	61 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.3622688 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	6.24 in
Depth to Water	49.78 ft	Total Volume Pumped	8.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	12:51:27	300.11	22.65	5.74	56.45	4.75	50.20	7.52	75.67
Last 5	12:56:27	600.03	22.47	5.75	55.42	3.90	50.35	7.31	76.37
Last 5	13:06:27	1200.03	22.26	5.78	54.89	3.92	50.30	7.07	75.91
Last 5	13:11:27	1500.03	22.70	5.78	55.34	2.40	50.30	6.97	76.28
Last 5	13:16:27	1800.03	22.80	5.75	54.76	2.19	50.30	6.94	78.34
Variance 0			-0.21	0.04	-0.53			-0.24	-0.47
Variance 1			0.44	-0.00	0.45			-0.10	0.37
Variance 2			0.10	-0.03	-0.58			-0.03	2.06

Notes

Sampled BRGWC-37S and Dup-1 at 13:20 on 5/15/2017. Sampled FB-1 at 13:15 on 5/15/2017 and two extra radium samples at 13:25

Grab Samples

FIELD DATA FORMS

June 2017

Product Name: Low-Flow System

Date: 2017-06-13 09:36:47

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	48 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42.39 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.6542443 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.22 in
Depth to Water	14.84 ft	Total Volume Pumped	10.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:13:59	900.02	18.36	6.45	69.67	1.01	15.16	0.63	128.37
Last 5	09:18:59	1200.02	18.30	6.33	69.52	0.62	15.05	0.81	116.62
Last 5	09:23:59	1500.02	18.27	6.27	69.05	0.60	15.06	0.58	110.03
Last 5	09:28:59	1800.02	18.39	6.23	68.72	0.38	15.06	0.58	104.14
Last 5	09:34:00	2100.52	18.34	6.19	69.05	0.32	15.06	0.67	104.80
Variance 0			-0.02	-0.06	-0.48			-0.22	-6.59
Variance 1			0.11	-0.04	-0.32			-0.01	-5.89
Variance 2			-0.05	-0.04	0.33			0.09	0.66

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-12 16:04:39

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	67 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61.96 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7390493 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.5 in
Depth to Water	14.88 ft	Total Volume Pumped	7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:41:34	1500.00	20.80	7.06	238.92	1.70	16.42	0.97	-177.57
Last 5	15:46:34	1800.00	20.85	7.15	247.80	0.72	16.48	0.86	-181.35
Last 5	15:51:34	2100.00	20.58	7.23	252.38	1.37	16.44	0.81	-185.67
Last 5	15:56:34	2400.00	20.27	7.29	249.16	1.58	16.43	0.71	-177.67
Last 5	16:01:34	2700.00	20.14	7.31	241.05	1.77	16.38	0.63	-172.14
Variance 0			-0.27	0.08	4.58			-0.05	-4.32
Variance 1			-0.31	0.06	-3.21			-0.10	8.00
Variance 2			-0.13	0.02	-8.12			-0.07	5.53

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-12 12:37:03

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	44 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.01 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6363906 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.2 in
Depth to Water	12.34 ft	Total Volume Pumped	4.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:20:25	300.03	20.48	6.50	201.39	3.29	12.39	2.84	247.13
Last 5	12:25:25	600.02	20.24	6.58	206.73	3.29	12.46	2.43	245.07
Last 5	12:30:25	900.02	20.10	6.62	209.78	4.24	12.53	2.27	240.96
Last 5	12:35:25	1200.02	20.22	6.64	210.39	4.27	12.54	2.21	233.60
Last 5									
Variance 0			-0.24	0.07	5.34			-0.40	-2.06
Variance 1			-0.13	0.04	3.06			-0.16	-4.11
Variance 2			0.12	0.02	0.61			-0.06	-7.36

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-12 11:48:03

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7256591 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.12 in
Depth to Water	12.27 ft	Total Volume Pumped	4.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:24:26	300.10	21.30	6.47	170.48	0.55	12.39	2.37	169.53
Last 5	11:29:25	600.03	20.70	6.34	170.63	0.96	12.39	2.58	197.33
Last 5	11:34:26	900.77	20.53	6.37	169.18	0.64	12.39	2.80	220.01
Last 5	11:39:26	1200.77	20.38	6.39	167.96	0.44	12.39	3.00	225.53
Last 5	11:44:26	1500.77	20.21	6.40	167.62	0.46	12.39	3.11	230.22
Variance 0			-0.17	0.03	-1.45			0.22	22.68
Variance 1			-0.14	0.02	-1.22			0.21	5.52
Variance 2			-0.17	0.01	-0.34			0.10	4.68

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-12 14:33:00

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	50 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.6631712 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	25.68 ft	Total Volume Pumped	7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:10:39	600.62	21.81	6.41	59.44	6.47	26.28	6.61	194.87
Last 5	14:15:39	900.62	21.87	6.40	58.91	4.22	26.21	6.42	136.64
Last 5	14:20:39	1200.62	22.82	6.45	58.64	4.41	26.18	6.24	117.82
Last 5	14:25:39	1500.61	23.08	6.50	58.35	4.13	26.15	6.21	117.26
Last 5	14:30:39	1800.61	23.42	6.51	58.25	3.95	26.16	6.15	114.62
Variance 0			0.95	0.05	-0.27			-0.18	-18.82
Variance 1			0.26	0.04	-0.29			-0.03	-0.55
Variance 2			0.34	0.02	-0.10			-0.05	-2.64

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 10:11:00

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	10 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	7.33 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	230 mL/min
Well diameter	2 in	Total System Volume	0.4846342 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	0.29 in
Depth to Water	6.18 ft	Total Volume Pumped	7.36 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:50:14	600.03	19.43	6.43	409.13	0.15	6.45	1.62	127.69
Last 5	09:55:14	900.02	19.50	6.39	407.51	0.10	6.47	1.43	120.98
Last 5	10:00:14	1200.02	19.48	6.37	406.68	0.67	6.47	1.34	117.27
Last 5	10:05:14	1500.09	19.45	6.36	407.05	0.50	6.47	1.32	115.31
Last 5	10:10:14	1800.09	19.50	6.35	406.22	0.17	6.47	1.30	113.58
Variance 0			-0.01	-0.02	-0.82			-0.09	-3.72
Variance 1			-0.03	-0.01	0.37			-0.02	-1.96
Variance 2			0.05	-0.01	-0.83			-0.02	-1.73

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-14 14:37:51

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	29.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5716709 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	7.69 ft	Total Volume Pumped	6.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:11:17	300.02	24.68	4.89	468.01	1.26	7.74	2.20	174.66
Last 5	14:16:17	600.02	22.87	4.86	470.33	0.62	7.71	1.15	184.02
Last 5	14:21:17	900.02	22.21	4.87	473.80	1.23	7.73	0.48	134.14
Last 5	14:26:17	1200.02	22.25	4.87	473.91	1.31	7.70	0.38	125.70
Last 5	14:36:17	1800.02	21.95	4.86	474.52	1.01	7.69	0.29	120.52
Variance 0			-0.67	0.01	3.47			-0.67	-49.88
Variance 1			0.05	-0.00	0.11			-0.11	-8.43
Variance 2			-0.30	-0.02	0.61			-0.09	-5.18

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-14 15:34:17

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	50.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.6654028 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	2.66 ft	Total Volume Pumped	9.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:12:53	600.03	22.52	5.85	846.47	9.45	2.74	1.45	68.06
Last 5	15:17:53	900.03	22.28	5.87	848.30	6.50	2.71	1.66	93.85
Last 5	15:22:53	1200.02	22.00	5.87	849.24	3.97	2.74	1.70	71.04
Last 5	15:27:53	1500.02	21.99	5.85	848.52	2.32	2.69	1.66	86.48
Last 5	15:32:53	1800.02	22.12	5.87	848.51	2.04	2.69	1.50	97.46
Variance 0			-0.27	-0.01	0.95			0.04	-22.81
Variance 1			-0.01	-0.02	-0.73			-0.04	15.44
Variance 2			0.13	0.02	-0.01			-0.15	10.98

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 11:15:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	33.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5895247 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	2.14 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:58:36	300.03	23.62	5.98	654.31	1.33	2.21	2.72	59.29
Last 5	11:03:36	600.02	22.10	6.05	657.73	1.35	2.18	1.36	105.15
Last 5	11:08:36	900.02	21.43	6.06	662.64	1.97	2.15	0.95	74.95
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-1.52	0.06	3.43			-1.35	45.86
Variance 2			-0.67	0.01	4.90			-0.41	-30.19

Notes

iSitu finished prematurely. Purge data continued on a separate file

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 11:36:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	33.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5895247 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	2.14 ft	Total Volume Pumped	8.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:24:11	300.10	21.14	6.06	662.09	1.67	2.21	0.62	82.69
Last 5	11:29:11	600.02	20.94	6.06	662.67	1.50	2.18	0.56	72.82
Last 5	11:34:11	900.02	20.65	6.06	659.39	0.75	2.20	0.52	71.01
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.20	-0.00	0.57			-0.05	-9.87
Variance 2			-0.29	0.00	-3.28			-0.05	-1.81

Notes

This file is continued from previous purge data for BRGWC-35S due to application quitting. Purge started at 1053
Purge started at 1053. See additional file for previous purge data

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 12:39:06

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	peristaltic
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29.02 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.19 in
Depth to Water	2.14 ft	Total Volume Pumped	5.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:17:12	300.03	25.69	5.93	709.04	2.07	2.28	2.35	155.25
Last 5	12:22:12	600.02	25.01	5.67	702.17	1.62	2.29	2.43	149.08
Last 5	12:27:12	900.02	24.23	5.60	662.96	1.47	2.33	2.54	144.33
Last 5	12:32:12	1200.02	23.56	5.57	657.02	0.86	2.33	2.62	146.46
Last 5	12:37:12	1500.02	23.00	5.55	654.09	0.37	2.33	2.74	149.66
Variance 0			-0.77	-0.08	-39.22			0.11	-4.75
Variance 1			-0.67	-0.03	-5.94			0.08	2.13
Variance 2			-0.56	-0.01	-2.93			0.11	3.20

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 10:07:23

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	66.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63.55 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7368176 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	49.46 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:44:35	600.02	22.08	6.04	56.39	6.04	50.04	7.64	142.22
Last 5	09:49:35	900.02	22.01	5.93	55.76	1.83	50.05	7.42	135.54
Last 5	09:54:35	1200.02	22.08	5.86	56.15	3.30	50.00	7.43	163.50
Last 5	09:59:35	1500.00	21.90	5.82	55.65	1.06	50.02	7.37	172.77
Last 5	10:04:35	1800.00	22.01	5.80	55.28	--	--	7.30	131.06
Variance 0			0.08	-0.07	0.39			0.01	27.96
Variance 1			-0.18	-0.04	-0.50			-0.06	9.28
Variance 2			0.11	-0.02	-0.37			-0.08	-41.71

Notes

Final turbidity 0.90 NTU. Final DTW 50.02

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 13:51:36

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	43 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6319272 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.91 in
Depth to Water	20.23 ft	Total Volume Pumped	6.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:29:33	600.02	22.05	4.43	917.53	2.96	21.27	2.11	313.76
Last 5	13:34:33	900.28	22.04	4.41	920.29	3.33	21.27	1.91	324.44
Last 5	13:39:33	1200.28	22.09	4.40	921.89	1.31	21.18	1.79	317.56
Last 5	13:44:33	1500.28	22.07	4.38	924.81	0.37	21.13	1.61	325.08
Last 5	13:49:33	1800.29	22.08	4.35	935.43	0.49	21.14	1.64	311.64
Variance 0			0.05	-0.01	1.60			-0.12	-6.88
Variance 1			-0.01	-0.02	2.93			-0.18	7.52
Variance 2			0.01	-0.03	10.62			0.03	-13.44

Notes

Grab Samples

FIELD DATA FORMS

September 2017

Product Name: Low-Flow System

Date: 2017-02-21 09:52:38

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	47.39 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42.39 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	260 mL/min
Well diameter	2 in	Total System Volume	0.6965216 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.15 in
Depth to Water	15.63 ft	Total Volume Pumped	10.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:30:31	1200.03	17.20	6.38	71.59	1.49	15.76	1.02	93.58
Last 5	09:35:31	1500.02	17.22	6.33	71.57	0.77	15.76	1.50	78.67
Last 5	09:40:31	1800.02	17.24	6.28	72.08	0.77	15.77	1.75	67.86
Last 5	09:45:31	2100.40	17.28	6.26	71.40	0.54	15.78	1.73	63.55
Last 5	09:50:31	2400.40	17.36	6.24	71.61	0.26	15.78	1.64	62.44
Variance 0			0.02	-0.04	0.51			0.26	-10.81
Variance 1			0.04	-0.02	-0.68			-0.02	-4.31
Variance 2			0.08	-0.02	0.21			-0.09	-1.11

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-21 11:15:31

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	66.96 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61.96 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	168 mL/min
Well diameter	2 in	Total System Volume	0.7838709 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.7 in
Depth to Water	15.69 ft	Total Volume Pumped	11.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:53:00	2400.02	17.72	7.32	242.10	5.74	17.44	1.06	-166.25
Last 5	10:58:00	2700.02	17.73	7.27	229.72	4.98	17.39	0.98	-155.46
Last 5	11:03:00	3000.12	17.68	7.22	221.51	4.62	17.39	0.91	-145.89
Last 5	11:08:00	3300.12	17.71	7.17	216.23	3.68	17.39	0.87	-136.79
Last 5	11:13:00	3600.12	17.71	7.15	212.92	3.61	17.39	0.83	-123.72
Variance 0			-0.04	-0.05	-8.20			-0.07	9.57
Variance 1			0.03	-0.04	-5.28			-0.03	9.10
Variance 2			-0.00	-0.03	-3.31			-0.04	13.06

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 15:22:45

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	Poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	38 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamont's 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6546101 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	11.78 ft	Total Volume Pumped	6.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:58:02	600.02	18.96	6.66	205.36	7.16	11.92	4.14	450.90
Last 5	15:03:02	900.02	18.92	6.66	205.60	6.52	11.89	3.22	438.52
Last 5	15:08:02	1200.02	19.14	6.65	204.78	4.86	11.87	3.10	424.65
Last 5	15:13:02	1500.02	19.26	6.65	203.65	4.60	11.92	3.06	415.40
Last 5	15:18:02	1800.02	19.23	6.65	203.13	4.23	11.93	3.00	408.85
Variance 0			0.22	-0.01	-0.82			-0.12	-13.87
Variance 1			0.12	0.00	-1.13			-0.04	-9.25
Variance 2			-0.03	-0.00	-0.52			-0.06	-6.54

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 15:19:21

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	63.82 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	190 mL/min
Well diameter	2 in	Total System Volume	0.7698557 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.18 in
Depth to Water	11.69 ft	Total Volume Pumped	5.13 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:57:21	300.03	19.44	6.60	180.64	2.21	11.84	3.51	119.12
Last 5	15:02:21	600.02	19.32	6.54	177.14	0.48	11.82	2.85	114.98
Last 5	15:07:21	900.02	19.22	6.49	173.81	1.26	11.89	2.93	112.76
Last 5	15:12:21	1200.29	19.11	6.45	172.52	1.50	11.83	3.06	111.32
Last 5	15:17:21	1500.28	19.31	6.44	170.77	1.02	11.87	3.05	110.50
Variance 0			-0.10	-0.05	-3.33			0.08	-2.22
Variance 1			-0.12	-0.03	-1.29			0.13	-1.44
Variance 2			0.21	-0.01	-1.75			-0.01	-0.82

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 14:01:23

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	52.90 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.7211151 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.9 in
Depth to Water	24.06 ft	Total Volume Pumped	8.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:38:59	900.03	19.49	6.88	57.86	2.95	24.98	6.42	116.39
Last 5	13:43:59	1200.02	19.43	6.77	58.52	4.44	24.97	6.32	116.29
Last 5	13:48:59	1500.02	19.32	6.70	59.34	4.74	24.97	6.23	115.96
Last 5	13:53:59	1800.02	19.44	6.64	59.83	4.41	24.96	6.08	116.18
Last 5	13:58:59	2100.02	19.32	6.61	60.50	4.48	24.96	6.05	116.52
Variance 0			-0.11	-0.07	0.81			-0.09	-0.33
Variance 1			0.13	-0.05	0.50			-0.15	0.22
Variance 2			-0.13	-0.04	0.67			-0.03	0.33

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 15:56:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	6 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamont's 2020we	Pump placement from TOC	6 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.5117806 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	9.88 ft	Stabilization Drawdown	0 in
Depth to Water	5.89 ft	Total Volume Pumped	9.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:30:07	600.53	17.05	6.41	345.38	1.02	6.09	2.40	180.77
Last 5	15:35:07	900.53	16.99	6.40	343.69	0.57	6.11	2.90	156.17
Last 5	15:40:07	1200.53	16.96	6.40	344.34	1.04	6.10	3.10	153.15
Last 5	15:45:07	1500.53	16.92	6.40	342.13	1.35	6.12	3.09	148.02
Last 5	15:50:07	1800.53	16.79	6.40	349.88	0.45	6.13	2.85	143.67
Variance 0			-0.03	-0.00	0.65			0.21	-3.02
Variance 1			-0.04	-0.00	-2.21			-0.01	-5.13
Variance 2			-0.12	-0.00	7.75			-0.24	-4.35

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 12:34:53

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.626312 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	6.86 ft	Total Volume Pumped	6.24 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:12:48	600.03	21.19	5.02	511.33	3.14	6.86	1.57	148.37
Last 5	12:17:48	900.02	21.05	4.92	510.98	3.64	6.86	1.08	149.54
Last 5	12:22:48	1200.02	21.00	4.88	511.52	2.32	6.86	0.73	150.73
Last 5	12:27:48	1500.02	21.07	4.87	510.43	1.94	6.86	0.58	151.64
Last 5	12:32:48	1800.02	21.14	4.86	508.85	1.26	6.86	0.49	151.45
Variance 0			-0.05	-0.04	0.54			-0.35	1.19
Variance 1			0.06	-0.02	-1.09			-0.15	0.91
Variance 2			0.08	-0.00	-1.57			-0.09	-0.19

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 14:30:47

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	52.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7199546 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	2.38 ft	Total Volume Pumped	11.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:08:35	1800.99	19.22	5.86	888.29	7.39	2.39	0.03	23.53
Last 5	14:13:35	2100.99	19.22	5.86	888.34	6.10	2.39	0.02	34.70
Last 5	14:18:35	2400.99	19.89	5.86	887.61	3.67	2.39	0.12	57.06
Last 5	14:23:35	2700.99	19.35	5.85	889.18	2.70	2.39	0.03	32.87
Last 5	14:28:35	3000.99	19.32	5.85	889.81	2.33	2.39	0.02	25.14
Variance 0			0.67	-0.01	-0.73			0.10	22.35
Variance 1			-0.54	-0.01	1.57			-0.09	-24.18
Variance 2			-0.03	0.00	0.63			-0.01	-7.73

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 15:58:32

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	35.34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	230 mL/min
Well diameter	2 in	Total System Volume	0.6427374 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9.03 in
Depth to Water	2.09 ft	Total Volume Pumped	9.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:36:07	1200.51	18.39	6.08	694.26	13.70	2.12	0.18	40.12
Last 5	15:41:07	1500.51	18.41	6.08	696.25	7.20	2.12	0.15	34.82
Last 5	15:46:07	1800.51	18.33	6.08	697.74	4.56	2.11	0.11	29.50
Last 5	15:51:07	2100.51	18.12	6.08	698.46	3.79	2.13	0.09	27.67
Last 5	15:56:07	2400.51	18.02	6.08	699.42	3.52	2.12	0.07	31.54
Variance 0			-0.09	-0.00	1.49			-0.04	-5.33
Variance 1			-0.21	-0.00	0.71			-0.02	-1.83
Variance 2			-0.10	0.00	0.97			-0.02	3.87

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 10:10:31

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	34.02 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29.02 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6368456 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.14 in
Depth to Water	1.78 ft	Total Volume Pumped	6.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:49:06	600.03	16.86	6.03	720.09	7.18	1.91	3.08	144.57
Last 5	09:54:06	900.02	16.96	5.82	718.33	3.06	1.92	3.02	136.81
Last 5	09:59:06	1200.02	17.09	5.73	715.91	3.36	1.92	3.02	130.60
Last 5	10:04:06	1500.02	17.18	5.68	712.71	2.86	1.92	2.95	126.15
Last 5	10:09:06	1800.02	17.35	5.65	710.02	1.12	1.92	2.89	122.99
Variance 0			0.13	-0.09	-2.42			-0.01	-6.21
Variance 1			0.09	-0.05	-3.20			-0.07	-4.45
Variance 2			0.17	-0.03	-2.69			-0.06	-3.16

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 12:21:39

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED dedicated bladder pump
Company Name	Golder Associates	Tubing Type	poly
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.779586 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	48.87 ft	Total Volume Pumped	9.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:00:03	300.02	20.50	5.59	53.67	2.37	49.60	7.09	178.56
Last 5	12:05:03	600.02	19.85	5.55	54.04	2.05	49.61	7.11	176.85
Last 5	12:10:03	900.02	20.75	5.55	53.91	2.36	49.59	6.89	165.88
Last 5	12:15:03	1200.03	20.70	5.55	53.78	2.22	49.65	6.88	171.62
Last 5	12:20:03	1500.03	22.76	5.57	53.47	1.65	49.67	6.57	173.08
Variance 0			0.90	0.00	-0.13			-0.23	-10.98
Variance 1			-0.05	0.00	-0.13			-0.00	5.75
Variance 2			2.06	0.02	-0.31			-0.32	1.46

Notes

Apple device overheated. Purged for 36 min before restarting at 1200

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 10:36:18

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED dedicated bladder pump
Company Name	Golder Associates	Tubing Type	poly
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	58 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7438785 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	18.88 ft	Total Volume Pumped	7.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:15:04	900.57	20.05	4.57	932.47	7.57	19.87	1.39	316.15
Last 5	10:20:04	1200.57	20.12	4.63	927.10	4.71	19.83	1.22	296.01
Last 5	10:25:04	1500.57	20.21	4.68	929.16	3.72	19.84	1.08	272.12
Last 5	10:30:04	1800.56	20.21	4.72	929.93	2.95	19.88	0.99	268.85
Last 5	10:35:04	2100.57	20.26	4.73	926.93	2.55	19.85	0.92	257.20
Variance 0			0.09	0.05	2.06			-0.15	-23.89
Variance 1			-0.00	0.03	0.78			-0.08	-3.27
Variance 2			0.05	0.02	-3.00			-0.07	-11.64

Notes

Grab Samples

FIELD DATA FORMS

February 2018

Product Name: Low-Flow System

Date: 2018-02-13 15:22:50

Project Information:		Pump Information:	
Operator Name	Chris Gargan	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	33 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	33 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.7585402 L
Well Total Depth	38.36 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.72 in
Depth to Water	14.19 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:59:50	1799.97	15.92	6.14	64.09	3.25	14.25	0.70	203.79
Last 5	15:04:50	2099.97	15.89	6.16	63.53	3.13	14.25	0.79	193.82
Last 5	15:09:50	2399.97	15.94	6.18	63.54	3.09	14.25	0.62	179.91
Last 5	15:14:50	2699.97	15.95	6.18	63.94	3.20	14.25	0.55	170.31
Last 5	15:19:50	2999.97	16.18	6.18	64.07	3.11	14.25	0.56	158.34
Variance 0			0.05	0.02	0.01			-0.16	-13.91
Variance 1			0.01	0.00	0.40			-0.07	-9.60
Variance 2			0.22	0.00	0.13			0.01	-11.97

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-13 16:52:32

Project Information:		Pump Information:	
Operator Name	Chris Gargan	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	62 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	1.067428 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	24 in
Depth to Water	14.22 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	16:23:49	1200.02	16.59	7.27	263.32	0.78	15.98	0.09	-105.18
Last 5	16:28:49	1500.49	16.65	7.33	261.55	0.57	16.06	0.08	-104.60
Last 5	16:33:49	1800.49	16.63	7.40	259.61	0.76	16.14	0.07	-102.42
Last 5	16:38:49	2100.49	16.50	7.46	252.14	0.64	16.16	0.07	-99.54
Last 5	16:43:53	2404.49	16.59	7.44	236.33	0.48	16.22	0.07	-89.83
Variance 0			-0.02	0.07	-1.95			-0.01	2.17
Variance 1			-0.13	0.06	-7.47			-0.00	2.89
Variance 2			0.09	-0.02	-15.81			0.00	9.70

Notes

Sample at 1643

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-13 13:35:06

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.8711092 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.32 in
Depth to Water	12.66 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:11:46	900.02	16.73	6.62	157.72	1.16	12.74	2.55	96.83
Last 5	13:16:46	1200.02	16.74	6.67	162.07	1.37	12.74	2.33	95.37
Last 5	13:21:46	1500.02	16.76	6.70	167.12	1.19	12.71	2.18	93.64
Last 5	13:26:46	1800.02	16.78	6.71	169.61	1.10	12.73	2.06	93.05
Last 5	13:31:46	2100.02	16.78	6.72	171.83	--	--	2.03	91.99
Variance 0			0.02	0.03	5.05			-0.16	-1.73
Variance 1			0.02	0.02	2.50			-0.11	-0.59
Variance 2			0.00	0.01	2.22			-0.03	-1.07

Notes

Sample at 1532

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-13 12:35:12

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	60 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	59 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.064164 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	12.56 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:13:33	300.10	15.38	6.26	146.38	1.52	12.70	2.81	-2.91
Last 5	12:18:33	600.02	16.15	6.40	171.29	0.98	12.60	1.39	81.09
Last 5	12:23:33	900.02	16.02	6.55	176.67	0.71	12.66	1.01	91.61
Last 5	12:28:33	1200.02	15.97	6.61	177.67	0.65	12.72	0.94	85.15
Last 5	12:33:33	1500.02	16.15	6.62	174.16	0.54	1.67	0.98	83.06
Variance 0			-0.13	0.15	5.38			-0.38	10.52
Variance 1			-0.05	0.07	1.00			-0.07	-6.46
Variance 2			0.18	0.01	-3.51			0.04	-2.09

Notes

Sample at 1433

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-13 11:36:29

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	50 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.9676365 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	25.99 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:13:51	600.02	17.36	6.22	47.26	4.62	26.58	7.91	139.54
Last 5	11:18:52	900.25	17.39	6.39	47.00	3.86	26.57	8.60	130.01
Last 5	11:23:52	1200.24	17.40	6.49	47.08	367.00	26.61	7.64	125.53
Last 5	11:28:52	1500.24	17.41	6.52	47.34	2.77	26.64	7.46	123.48
Last 5	11:33:55	1803.24	17.39	6.54	47.80	2.71	26.63	7.99	121.62
Variance 0			0.01	0.09	0.08			-0.97	-4.48
Variance 1			0.01	0.04	0.26			-0.18	-2.05
Variance 2			-0.02	0.01	0.47			0.54	-1.86

Notes

Sample at 1333

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 11:51:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	7 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	6 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.5525691 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	4.08 in
Depth to Water	5.98 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:29:33	600.02	16.69	6.36	331.91	0.44	6.18	1.32	146.67
Last 5	11:34:33	900.02	16.74	6.35	333.25	0.24	6.24	1.18	153.64
Last 5	11:39:33	1200.02	16.73	6.35	333.39	0.15	6.22	1.07	163.73
Last 5	11:44:33	1500.02	16.78	6.34	333.72	0.14	6.26	0.98	173.87
Last 5	11:49:33	1800.02	16.70	6.35	334.23	0.13	6.32	0.89	181.81
Variance 0			-0.01	-0.00	0.14			-0.11	10.09
Variance 1			0.05	-0.01	0.33			-0.09	10.14
Variance 2			-0.08	0.01	0.51			-0.09	7.94

Notes

Sample at 1150

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 09:32:25

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7906055 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.04 in
Depth to Water	7.51 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:11:21	600.04	19.37	4.80	465.18	0.64	7.55	1.72	338.12
Last 5	09:16:21	900.02	19.42	4.83	462.95	1.05	7.55	1.42	352.45
Last 5	09:21:21	1200.02	19.48	4.84	462.64	1.04	7.55	1.04	367.57
Last 5	09:26:21	1500.02	19.51	4.84	462.51	0.45	7.55	0.88	384.22
Last 5	09:31:21	1800.02	19.57	4.84	463.10	0.47	7.55	0.85	397.48
Variance 0			0.07	0.01	-0.31			-0.37	15.12
Variance 1			0.03	0.00	-0.13			-0.16	16.65
Variance 2			0.06	0.00	0.59			-0.03	13.26

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 10:32:54

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	52.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	196 mL/min
Well diameter	2 in	Total System Volume	0.9931198 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.06 in
Depth to Water	2.36 ft	Total Volume Pumped	6.272 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:10:37	600.02	18.31	5.92	778.50	8.37	2.40	0.33	236.18
Last 5	10:15:37	900.02	18.38	5.93	778.10	6.92	2.40	0.21	236.71
Last 5	10:20:37	1200.02	18.41	5.93	777.35	3.18	2.41	0.15	230.80
Last 5	10:25:37	1500.02	18.46	5.93	777.31	2.32	2.42	0.12	225.13
Last 5	10:30:37	1800.03	18.46	5.93	777.56	1.98	2.42	0.09	227.10
Variance 0			0.04	-0.00	-0.75			-0.06	-5.91
Variance 1			0.04	0.00	-0.04			-0.03	-5.66
Variance 2			0.01	0.00	0.26			-0.03	1.97

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 09:31:28

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	32 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7938874 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.36 in
Depth to Water	2.00 ft	Total Volume Pumped	6.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:07:57	300.17	17.01	5.97	547.71	2.11	2.06	1.54	37.04
Last 5	09:12:57	600.02	17.27	6.00	546.99	1.16	2.08	0.64	102.57
Last 5	09:17:57	900.03	17.52	6.02	548.81	2.51	2.03	0.23	111.47
Last 5	09:22:57	1200.02	17.56	6.02	549.98	1.97	2.07	0.16	112.10
Last 5	09:27:57	1500.02	17.58	6.02	553.51	1.38	2.03	0.12	112.33
Variance 0			0.25	0.02	1.82			-0.42	8.90
Variance 1			0.05	0.00	1.16			-0.07	0.63
Variance 2			0.02	0.00	3.54			-0.03	0.23

Notes

Begin at 0903

Change pump rate to 300ml/min at 0907. Sample at 0927

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 11:46:02

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	0.17 in
Site Name	Plant Branch	Tubing Length	35.72 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.72 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2494335 L
Well Total Depth	35.72 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.17 in
Depth to Water	2.38 ft	Total Volume Pumped	4.62 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:29:47	300.02	17.62	5.67	647.72	1.20	2.55	2.71	405.10
Last 5	11:34:47	600.02	17.51	5.66	640.60	1.02	2.55	2.69	407.57
Last 5	11:39:47	900.02	17.61	5.66	637.00	0.76	2.55	2.70	399.68
Last 5	11:44:47	1200.02	17.79	5.66	633.12	0.53	2.55	2.68	393.01
Last 5									
Variance 0			-0.11	-0.01	-7.12			-0.02	2.48
Variance 1			0.10	-0.00	-3.60			0.01	-7.90
Variance 2			0.18	-0.00	-3.88			-0.02	-6.67

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 14:12:33

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	68.73 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63.73 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	160 mL/min
Well diameter	2 in	Total System Volume	1.148432 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.67 in
Depth to Water	51.10 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:50:20	300.02	22.25	5.86	54.78	0.41	51.72	7.67	472.66
Last 5	13:55:20	600.02	21.61	5.84	54.99	0.41	51.74	7.76	498.89
Last 5	14:00:20	900.02	21.40	5.92	54.69	0.14	51.77	7.87	512.53
Last 5	14:05:20	1200.02	20.82	5.95	53.98	0.44	51.77	7.84	513.80
Last 5	14:10:20	1500.02	21.05	5.95	53.88	0.00	51.77	7.83	504.98
Variance 0			-0.21	0.08	-0.30			0.11	13.64
Variance 1			-0.58	0.03	-0.71			-0.03	1.27
Variance 2			0.23	0.00	-0.10			-0.01	-8.82

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 13:01:46

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWV-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.8711092 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	12.6 in
Depth to Water	20.51 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:40:03	600.49	20.75	4.28	770.29	1.47	21.49	2.32	317.31
Last 5	12:45:03	900.49	20.61	4.29	765.86	0.60	21.42	1.87	322.63
Last 5	12:50:03	1200.49	20.41	4.29	764.52	0.50	21.54	1.63	319.70
Last 5	12:55:03	1500.49	20.66	4.29	764.30	0.38	21.59	1.68	308.39
Last 5	13:00:03	1800.49	22.89	4.30	761.01	0.10	21.56	1.56	306.09
Variance 0			-0.20	0.01	-1.33			-0.24	-2.94
Variance 1			0.24	-0.00	-0.22			0.05	-11.31
Variance 2			2.23	0.00	-3.29			-0.13	-2.30

Notes

Begin at 1230
Sample at 1300

Grab Samples

FIELD DATA FORMS

June 2018

Product Name: Low-Flow System

Date: 2018-06-26 11:53:58

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.9193729 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.13 in
Depth to Water	15.22 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:30:18	599.90	20.21	6.16	64.19	0.97	15.34	1.93	165.58
Last 5	11:35:18	899.90	20.05	6.07	64.00	0.95	15.33	1.49	151.83
Last 5	11:40:18	1199.90	19.80	6.09	63.40	0.80	15.35	1.16	140.42
Last 5	11:45:18	1499.90	19.77	6.06	63.14	0.47	15.36	1.04	137.14
Last 5	11:50:18	1799.90	19.79	6.05	62.77	1.08	15.35	1.05	135.10
Variance 0			-0.25	0.02	-0.60			-0.33	-11.40
Variance 1			-0.03	-0.03	-0.25			-0.11	-3.28
Variance 2			0.02	-0.00	-0.38			0.00	-2.04

Notes

Begin purge at 1120. Sample at 1150.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-26 12:53:09

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.112427 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.35 in
Depth to Water	15.10 ft	Total Volume Pumped	4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:30:46	1199.90	21.82	6.68	278.00	0.64	16.46	0.74	-47.19
Last 5	12:35:46	1499.90	22.04	6.79	281.30	1.12	16.48	0.75	-70.16
Last 5	12:40:46	1799.90	21.87	6.90	282.17	0.52	16.44	0.66	-80.19
Last 5	12:45:46	2099.90	22.37	6.90	283.03	0.13	16.41	0.68	-79.86
Last 5	12:50:46	2399.89	22.66	6.93	282.88	0.22	16.45	0.67	-84.39
Variance 0			-0.17	0.11	0.88			-0.08	-10.03
Variance 1			0.50	0.00	0.85			0.02	0.33
Variance 2			0.30	0.03	-0.15			-0.01	-4.53

Notes

Begin purge at 1210. Change flow rate to 109 ml/min at 1215. Sample at 1250

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-26 09:42:21

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.8711092 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.68 in
Depth to Water	12.19 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:24:22	300.12	22.16	6.66	192.38	0.57	12.26	2.77	182.65
Last 5	09:29:22	600.00	20.49	6.44	191.83	0.46	12.32	2.55	161.70
Last 5	09:34:22	900.00	20.57	6.45	195.77	1.72	12.33	2.39	148.85
Last 5	09:39:22	1200.00	20.55	6.43	197.74	1.41	12.33	2.41	145.45
Last 5									
Variance 0			-1.68	-0.23	-0.55			-0.22	-20.95
Variance 1			0.09	0.01	3.94			-0.16	-12.85
Variance 2			-0.02	-0.02	1.97			0.02	-3.39

Notes

Start purge at 0919

Sample at 0939

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-26 10:45:20

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	59 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.112427 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.9 in
Depth to Water	12.13 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:20:41	900.02	21.40	6.27	164.72	0.33	12.23	2.37	145.00
Last 5	10:25:41	1200.02	21.01	6.29	162.36	0.34	12.23	2.65	144.55
Last 5	10:30:41	1499.90	20.93	6.31	160.55	0.35	12.25	3.07	145.87
Last 5	10:35:41	1799.91	20.89	6.28	159.59	0.14	12.24	3.31	149.37
Last 5	10:40:41	2099.91	20.97	6.29	158.68	0.09	12.22	3.42	148.92
Variance 0			-0.08	0.02	-1.81			0.41	1.32
Variance 1			-0.04	-0.02	-0.96			0.24	3.49
Variance 2			0.09	0.01	-0.91			0.11	-0.44

Notes

Begin purging at 1005. Sample at 1040

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-26 09:47:59

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	52.90 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.9956295 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.6 in
Depth to Water	25.59 ft	Total Volume Pumped	3.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:30:07	300.14	21.32	6.40	56.07	3.25	26.07	7.05	267.93
Last 5	09:35:06	600.03	21.10	6.17	55.81	3.62	26.12	7.04	260.30
Last 5	09:40:06	900.02	20.83	6.19	55.30	3.85	26.20	6.95	267.84
Last 5	09:45:06	1200.02	20.85	6.23	55.80	3.85	26.19	7.00	287.53
Last 5									
Variance 0			-0.22	-0.23	-0.26			-0.01	-7.63
Variance 1			-0.27	0.02	-0.51			-0.09	7.54
Variance 2			0.02	0.04	0.50			0.05	19.69

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-27 15:57:35

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	pine
Company Name	Golder Associates	Tubing Type	LDPE
Project Name	Plant Branch	Tubing Diameter	0.17 in
Site Name	Plant Branch	Tubing Length	10.0 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	7.88 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	135 mL/min
Well diameter	2 in	Total System Volume	0.1346342 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	0.69 in
Depth to Water	6.49 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:34:02	2100.81	22.85	6.39	425.65	5.04	7.04	5.93	226.23
Last 5	15:39:02	2400.81	22.36	6.37	408.66	4.99	7.08	2.28	220.83
Last 5	15:44:02	2700.81	22.08	6.35	412.39	1.85	7.12	0.80	215.68
Last 5	15:49:03	3001.81	21.95	6.35	413.23	0.83	7.16	0.70	209.74
Last 5	15:54:03	3301.81	21.82	6.35	415.06	0.72	7.18	0.72	205.54
Variance 0			-0.28	-0.02	3.73			-1.48	-5.16
Variance 1			-0.13	0.00	0.84			-0.09	-5.94
Variance 2			-0.13	-0.00	1.83			0.02	-4.20

Notes

Purged 3x well volumes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-27 11:39:45

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	268 mL/min
Well diameter	2 in	Total System Volume	0.7906055 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.06 in
Depth to Water	7.52 ft	Total Volume Pumped	5.36 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:23:04	300.13	21.41	4.64	471.93	0.38	7.58	0.29	324.37
Last 5	11:28:04	600.02	21.37	4.71	470.76	0.86	7.58	0.19	332.83
Last 5	11:33:04	900.02	21.41	4.72	472.11	0.25	7.58	0.18	335.56
Last 5	11:38:04	1200.02	21.50	4.73	471.40	0.12	7.58	0.15	333.89
Last 5									
Variance 0			-0.04	0.08	-1.17			-0.10	8.47
Variance 1			0.04	0.01	1.35			-0.02	2.73
Variance 2			0.09	0.01	-0.71			-0.03	-1.67

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-27 12:55:58

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	52.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	340 mL/min
Well diameter	2 in	Total System Volume	0.9931198 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	2.61 ft	Total Volume Pumped	11.9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:35:20	900.02	21.77	5.45	732.79	0.25	2.61	0.17	193.59
Last 5	12:40:20	1200.07	21.90	5.55	732.20	0.26	2.61	0.12	196.13
Last 5	12:45:20	1500.39	21.73	5.61	730.77	0.30	2.61	0.09	199.03
Last 5	12:50:20	1800.37	21.74	5.65	732.02	0.46	2.61	0.10	200.76
Last 5	12:55:20	2100.37	21.73	5.68	729.78	0.26	2.61	0.08	202.17
Variance 0			-0.17	0.07	-1.43			-0.03	2.91
Variance 1			0.02	0.03	1.25			0.01	1.72
Variance 2			-0.01	0.03	-2.24			-0.02	1.41

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-27 13:47:49

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	35.34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.8261276 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.02 in
Depth to Water	2.15 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:31:22	300.03	22.56	5.91	660.75	3.23	2.17	1.09	73.07
Last 5	13:36:22	600.02	22.35	5.97	660.09	2.01	2.16	0.37	108.13
Last 5	13:41:22	900.02	22.41	5.99	663.12	1.84	2.16	0.23	124.96
Last 5	13:46:22	1200.02	22.53	6.01	664.14	1.93	2.16	0.18	135.01
Last 5									
Variance 0			-0.22	0.06	-0.65			-0.72	35.06
Variance 1			0.06	0.02	3.02			-0.14	16.82
Variance 2			0.12	0.02	1.03			-0.05	10.05

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-28 09:26:00

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	Pine
Company Name	Golder Associates	Tubing Type	LDPE
Project Name	Plant Branch	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	34.00 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29.04 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2417564 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.18 in
Depth to Water	2.67 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:09:03	300.05	21.14	5.77	645.88	2.13	2.82	2.64	231.54
Last 5	09:14:03	600.02	21.15	5.60	637.31	1.57	2.84	2.57	227.65
Last 5	09:19:03	900.03	21.37	5.58	631.76	1.20	2.85	2.48	223.17
Last 5	09:24:03	1200.02	21.29	5.57	631.72	0.88	2.85	2.44	223.62
Last 5 Variance 0			0.00	-0.17	-8.57			-0.08	-3.88
Variance 1			0.22	-0.02	-5.54			-0.09	-4.48
Variance 2			-0.08	-0.01	-0.05			-0.04	0.45

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-28 10:55:40

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	68 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.141386 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.65 in
Depth to Water	51.34 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:38:16	300.10	20.90	5.69	54.20	1.97	51.90	7.74	121.89
Last 5	10:43:16	600.02	20.57	5.76	53.34	0.99	51.98	7.90	117.12
Last 5	10:48:16	900.02	20.66	5.74	52.86	0.07	52.04	7.90	119.34
Last 5	10:53:17	1200.69	20.75	5.78	52.69	0.01	52.01	7.88	118.58
Last 5									
Variance 0			-0.33	0.07	-0.85			0.16	-4.78
Variance 1			0.09	-0.02	-0.48			0.00	2.23
Variance 2			0.09	0.04	-0.17			-0.02	-0.77

Notes

Begin purge at 1030
Sample at 1053

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-28 13:22:06

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	43.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38s	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.9064382 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.8 in
Depth to Water	20.24 ft	Total Volume Pumped	3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:05:54	300.68	21.44	4.18	886.17	0.31	20.98	2.02	398.84
Last 5	13:10:54	600.68	21.01	4.16	894.42	0.19	20.99	1.95	398.98
Last 5	13:15:54	900.68	20.92	4.16	893.25	0.40	21.01	1.83	398.50
Last 5	13:20:54	1200.68	20.92	4.16	893.73	0.28	21.04	1.82	391.71
Last 5									
Variance 0			-0.43	-0.01	8.25			-0.07	0.13
Variance 1			-0.08	-0.00	-1.17			-0.12	-0.48
Variance 2			-0.00	0.01	0.48			-0.01	-6.79

Notes

Grab Samples

FIELD DATA FORMS

December 2018

Product Name: Low-Flow System

Date: 2018-12-18 11:21:05

Project Information:		Pump Information:	
Operator Name	Chris Tidwell	Pump Model/Type	QED Well Wizard
Company Name	Golder Associates	Tubing Type	polyethelene
Project Name	1666254	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	44.6 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	553835		
Turbidity Make/Model	LaMotte	Pump placement from TOC	39.6 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	175 mL/min
Well diameter	2 in	Total System Volume	0.6840687 L
Well Total Depth	44.6 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.92 in
Depth to Water	14.13 ft	Total Volume Pumped	8.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:58:08	1800.02	16.02	6.02	64.81	0.96	14.30	1.29	30.40
Last 5	11:03:08	2099.93	16.11	5.98	65.08	1.05	14.29	1.79	33.53
Last 5	11:08:08	2399.93	16.07	5.94	64.61	0.84	14.29	1.20	33.86
Last 5	11:13:08	2699.93	16.07	5.97	64.68	0.52	14.29	1.17	35.24
Last 5	11:18:08	2999.93	16.15	5.92	64.57	0.62	14.29	1.25	37.24
Variance 0			-0.04	-0.04	-0.47			-0.59	0.33
Variance 1			0.00	0.03	0.06			-0.03	1.38
Variance 2			0.08	-0.05	-0.11			0.07	2.00

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 10:07:58

Project Information:		Pump Information:	
Operator Name	Chris Tidwell	Pump Model/Type	QED Well Wizard
Company Name	Golder Associates	Tubing Type	polyethelene
Project Name	1666254	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	64.3 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	553835		
Turbidity Make/Model	LaMotte	Pump placement from TOC	59.3 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	170 mL/min
Well diameter	2 in	Total System Volume	0.7719981 L
Well Total Depth	64.3 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	27.24 in
Depth to Water	14.24 ft	Total Volume Pumped	10.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:45:06	2400.02	15.03	6.87	225.44	0.67	16.47	0.13	78.53
Last 5	09:50:06	2700.02	14.98	6.84	214.60	0.71	16.49	0.13	73.99
Last 5	09:55:06	3000.02	14.96	6.82	202.86	0.65	16.50	0.13	71.44
Last 5	10:00:06	3300.36	14.95	6.74	197.56	0.67	16.51	0.14	68.25
Last 5	10:05:12	3606.36	15.03	6.76	192.08	0.69	16.51	0.14	61.37
Variance 0			-0.02	-0.02	-11.74			0.00	-2.55
Variance 1			-0.01	-0.08	-5.30			0.01	-3.19
Variance 2			0.08	0.02	-5.48			0.00	-6.87

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 12:14:33

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	43.01 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.01 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	190 mL/min
Well diameter	2 in	Total System Volume	0.6769718 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**0.96** in
Depth to Water	12.11 ft	Total Volume Pumped	5.89 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:52:41	600.48	18.27	6.63	168.04	3.21	12.21	4.86	154.95
Last 5	11:57:41	900.48	18.34	6.66	171.18	2.42	12.23	4.60	186.23
Last 5	12:02:41	1200.48	18.34	6.68	175.15	2.19	12.21	4.36	230.63
Last 5	12:07:41	1500.48	18.52	6.69	178.50	2.26	12.20	4.17	280.21
Last 5	12:12:41	1800.48	18.59	6.70	180.43	2.81	12.19	3.97	348.37
Variance 0			-0.01	0.02	3.96			-0.24	44.39
Variance 1			0.18	0.01	3.35			-0.18	49.59
Variance 2			0.07	0.00	1.93			-0.20	68.16

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 11:19:36

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	63.82 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7698557 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.8 in
Depth to Water	12.01 ft	Total Volume Pumped	10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:58:05	1800.60	17.49	6.61	190.32	0.73	12.17	1.87	167.08
Last 5	11:03:05	2100.60	17.53	6.60	187.71	0.71	12.17	2.04	165.63
Last 5	11:08:05	2400.60	17.45	6.59	186.56	0.69	12.16	2.19	162.47
Last 5	11:13:05	2700.60	17.46	6.58	184.69	0.64	12.16	2.32	157.90
Last 5	11:18:05	3000.60	17.46	6.57	183.56	0.66	12.16	2.40	154.68
Variance 0			-0.09	-0.01	-1.15			0.16	-3.16
Variance 1			0.01	-0.01	-1.87			0.13	-4.57
Variance 2			0.00	-0.01	-1.13			0.08	-3.22

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 09:46:19

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	52.90 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7211151 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**5.16** in
Depth to Water	24.89 ft	Total Volume Pumped	**5.25** L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:25:03	300.03	16.91	7.05	57.17	1.52	25.34	7.68	161.90
Last 5	09:30:03	600.03	16.73	6.86	56.74	2.08	25.39	7.49	146.84
Last 5	09:35:03	900.02	16.78	6.78	56.82	0.90	25.35	7.44	144.10
Last 5	09:40:03	1200.02	16.78	6.74	56.90	1.38	25.32	7.36	151.63
Last 5	09:45:03	1500.02	17.24	6.71	56.93	1.20	25.32	7.21	166.80
Variance 0			0.04	-0.08	0.09			-0.06	-2.73
Variance 1			0.00	-0.04	0.07			-0.08	7.53
Variance 2			0.46	-0.03	0.03			-0.15	15.17

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-19 09:51:46

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	7.40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	6.40 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	155 mL/min
Well diameter	2 in	Total System Volume	0.1230293 L
Well Total Depth	7.40 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	**2.16** in
Depth to Water	5.80 ft	Total Volume Pumped	4.65 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:30:20	600.02	14.50	6.96	419.75	2.30	5.92	1.16	111.24
Last 5	09:35:20	900.02	14.58	6.72	420.36	0.92	5.92	1.11	102.26
Last 5	09:40:20	1200.02	14.58	6.62	418.76	0.81	5.94	1.05	96.87
Last 5	09:45:26	1506.02	14.69	6.58	421.16	0.65	5.96	1.02	93.04
Last 5	09:50:26	1806.02	14.68	6.56	422.99	0.56	5.98	1.05	90.42
Variance 0			-0.00	-0.09	-1.60			-0.06	-5.39
Variance 1			0.11	-0.04	2.41			-0.03	-3.84
Variance 2			-0.01	-0.02	1.83			0.03	-2.62

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 14:05:52

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	230 mL/min
Well diameter	2 in	Total System Volume	0.7906055 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.36 in
Depth to Water	6.52 ft	Total Volume Pumped	11.96 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:44:28	1800.02	20.48	4.86	490.30	0.79	6.53	0.29	316.64
Last 5	13:49:28	2100.02	20.58	4.85	489.53	0.47	6.55	0.53	320.95
Last 5	13:54:28	2400.02	20.65	4.84	489.54	0.49	6.55	0.18	322.64
Last 5	13:59:28	2700.02	20.69	4.83	489.03	0.49	6.55	0.13	322.03
Last 5	14:04:28	3000.02	20.38	4.84	489.81	0.59	6.55	0.28	322.02
Variance 0			0.07	-0.01	0.02			-0.35	1.69
Variance 1			0.04	-0.01	-0.51			-0.05	-0.61
Variance 2			-0.31	0.01	0.78			0.15	-0.02

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 15:10:26

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.250 in
Site Name	Plant Branch	Tubing Length	54.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	49.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	320 mL/min
Well diameter	2 in	Total System Volume	1.012425 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.12 in
Depth to Water	2.29 ft	Total Volume Pumped	7.68 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:54:20	300.33	19.76	5.97	720.41	0.56	2.30	0.16	186.33
Last 5	14:59:20	600.33	19.90	5.97	718.47	0.77	2.30	0.11	216.41
Last 5	15:04:20	900.33	19.72	5.97	718.85	0.47	2.30	0.08	231.85
Last 5	15:09:20	1200.33	19.79	5.97	717.93	0.62	2.30	0.07	239.59
Last 5									
Variance 0			0.13	0.01	-1.94			-0.05	30.08
Variance 1			-0.17	-0.00	0.39			-0.03	15.44
Variance 2			0.07	-0.00	-0.93			-0.02	7.74

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-19 11:52:43

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.250 in
Site Name	Plant Branch	Tubing Length	35.34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	220 mL/min
Well diameter	2 in	Total System Volume	0.8261276 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**0.24** in
Depth to Water	1.78 ft	Total Volume Pumped	6.16 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:31:12	300.10	17.01	6.20	650.27	3.23	1.87	2.47	63.51
Last 5	11:36:12	600.03	17.21	6.21	652.00	2.81	1.78	1.84	80.40
Last 5	11:41:12	900.02	17.38	6.21	652.61	2.06	1.80	1.61	84.90
Last 5	11:46:12	1200.02	17.63	6.22	653.60	1.51	1.80	1.54	87.54
Last 5	11:51:12	1500.02	17.52	6.22	659.33	1.17	1.80	1.41	89.41
Variance 0			0.17	0.00	0.61			-0.23	4.49
Variance 1			0.25	0.00	0.99			-0.07	2.64
Variance 2			-0.11	-0.00	5.74			-0.13	1.86

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-19 14:19:30

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	peristaltic
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	34.02 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.02 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2418457 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**1.68** in
Depth to Water	2.31 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:02:15	300.03	16.19	5.89	702.77	1.43	2.40	2.25	130.12
Last 5	14:07:15	600.02	16.20	5.79	698.60	2.00	2.42	2.22	128.24
Last 5	14:12:15	900.62	16.19	5.77	689.32	2.28	2.43	2.22	125.96
Last 5	14:17:15	1200.62	16.02	5.76	686.57	1.46	2.45	2.28	124.22
Last 5									
Variance 0			0.00	-0.09	-4.17			-0.03	-1.88
Variance 1			-0.01	-0.02	-9.28			-0.01	-2.28
Variance 2			-0.17	-0.02	-2.74			0.06	-1.74

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-19 10:46:38

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.250 in
Site Name	Plant Branch	Tubing Length	68.73 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63.73 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.148432 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9.96 in
Depth to Water	51.92 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:30:15	300.12	17.09	6.36	55.54	0.68	52.65	8.27	164.77
Last 5	10:35:15	600.02	17.12	6.12	54.95	0.54	52.65	8.29	159.13
Last 5	10:40:16	900.64	17.49	6.09	54.86	0.59	52.79	8.32	154.58
Last 5	10:45:16	1200.64	17.49	6.07	54.53	0.51	52.75	8.28	153.80
Last 5									
Variance 0			0.03	-0.24	-0.59			0.02	-5.64
Variance 1			0.37	-0.03	-0.09			0.03	-4.55
Variance 2			-0.00	-0.03	-0.33			-0.04	-0.78

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-20 08:59:14

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.250 in
Site Name	Plant Branch	Tubing Length	43.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	155 mL/min
Well diameter	2 in	Total System Volume	0.9064382 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**11.28** in
Depth to Water	19.67 ft	Total Volume Pumped	4.65 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	08:36:54	600.02	16.12	4.24	866.06	0.94	20.58	1.96	360.62
Last 5	08:41:54	900.03	16.14	4.22	864.31	0.58	20.60	1.70	355.19
Last 5	08:46:54	1200.02	16.22	4.22	863.21	0.51	20.54	1.60	348.04
Last 5	08:51:55	1500.59	16.27	4.21	861.90	0.52	20.54	1.49	343.99
Last 5	08:56:55	1800.59	16.33	4.21	861.75	0.58	20.61	1.41	335.18
Variance 0			0.08	-0.01	-1.10			-0.10	-7.16
Variance 1			0.05	-0.00	-1.31			-0.11	-4.04
Variance 2			0.06	0.00	-0.15			-0.08	-8.81

Notes

Grab Samples

FIELD DATA FORMS

March 2019

Product Name: Low-Flow System

Date: 2019-03-19 10:14:08

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	39.6 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	39.6 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.6617516 L
Well Total Depth	44.6 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.28 in
Depth to Water	12.95 ft	Total Volume Pumped	7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:51:24	600.02	15.34	6.37	65.88	0.87	13.14	1.21	-60.06
Last 5	09:56:24	900.01	15.59	6.28	64.74	0.70	13.14	0.70	-61.69
Last 5	10:01:24	1200.01	15.45	6.22	63.45	0.82	13.14	1.20	-62.77
Last 5	10:06:25	1501.01	15.39	6.19	64.11	0.79	13.14	1.20	-63.20
Last 5	10:11:25	1801.01	15.29	6.18	64.22	0.95	13.14	1.03	-63.38
Variance 0			-0.13	-0.06	-1.29			0.50	-1.08
Variance 1			-0.06	-0.03	0.66			-0.01	-0.43
Variance 2			-0.10	-0.02	0.11			-0.16	-0.17

Notes

Sampled BRGWA-2S at 1010. FB-1 here

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 11:27:37

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	59.3 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	59.3 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.7496811 L
Well Total Depth	64.3 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	46.92 in
Depth to Water	12.94 ft	Total Volume Pumped	16.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:05:17	2100.01	15.92	6.96	201.17	0.46	16.75	0.13	-87.04
Last 5	11:10:20	2403.00	16.04	6.92	191.99	0.50	16.80	0.15	-81.34
Last 5	11:15:20	2703.00	16.06	6.89	184.30	0.41	16.85	0.19	-78.69
Last 5	11:20:21	3003.99	16.06	6.87	182.31	0.36	16.85	0.19	-78.39
Last 5	11:25:21	3303.99	16.01	6.87	181.00	0.38	16.85	0.21	-77.53
Variance 0			0.01	-0.03	-7.69			0.03	2.65
Variance 1			0.00	-0.02	-1.99			0.01	0.30
Variance 2			-0.05	0.00	-1.31			0.01	0.86

Notes

Sampled BRGWA-2I at 1125. DUP-1 here

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 12:18:32

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	38.01 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	38.01 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.6546547 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.8 in
Depth to Water	10.33 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:01:29	300.03	17.45	6.50	180.30	2.06	10.48	2.00	-69.14
Last 5	12:06:29	600.02	17.54	6.55	186.44	2.02	10.48	1.76	-68.87
Last 5	12:11:29	900.02	17.68	6.60	189.53	3.09	10.48	1.72	-68.59
Last 5	12:16:29	1200.02	17.49	6.63	190.28	2.68	10.48	1.76	-68.57
Last 5									
Variance 0			0.08	0.05	6.13			-0.24	0.26
Variance 1			0.14	0.05	3.09			-0.04	0.29
Variance 2			-0.19	0.03	0.75			0.04	0.02

Notes

Sampled BRGWA-5S at 1215

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 12:52:04

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	58.82 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.7475385 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.12 in
Depth to Water	10.24 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:35:19	300.03	17.98	6.33	163.40	0.51	10.45	3.70	-69.73
Last 5	12:40:19	600.02	17.98	6.40	160.12	0.64	10.50	4.14	-66.70
Last 5	12:45:19	900.02	18.15	6.43	159.89	0.76	10.50	4.23	-66.19
Last 5	12:50:19	1200.02	17.81	6.45	159.95	0.85	10.50	4.27	-65.23
Last 5									
Variance 0			0.00	0.08	-3.28			0.43	3.03
Variance 1			0.17	0.03	-0.23			0.10	0.51
Variance 2			-0.34	0.02	0.06			0.04	0.97

Notes

Sampled BRGWA-5I at 1250

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 10:23:22

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	QED well wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Default Site	Tubing Length	47.90 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model		Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	165 mL/min
Well diameter	2 in	Total System Volume	0.698798 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.8 in
Depth to Water	22.02 ft	Total Volume Pumped	4.95 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:58:23	600.01	14.66	5.83	57.20	0.95	22.11	6.05	58.21
Last 5	10:03:23	900.00	13.89	6.01	57.52	1.16	22.09	6.16	58.33
Last 5	10:08:23	1199.98	13.75	6.11	58.26	0.96	22.09	6.59	61.54
Last 5	10:13:23	1499.97	13.80	6.12	58.73	0.92	22.09	6.78	64.41
Last 5	10:18:23	1799.97	14.12	6.18	59.26	0.98	22.09	7.05	64.20
Variance 0			-0.14	0.09	0.74			0.44	3.21
Variance 1			0.06	0.01	0.47			0.19	2.88
Variance 2			0.32	0.07	0.52			0.27	-0.21

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 15:27:12

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	7 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	7 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	0 mL/min
Well diameter	2 in	Total System Volume	0.121244 L
Well Total Depth	9.15 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	0 in
Depth to Water	6.1 ft	Total Volume Pumped	0 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:15:19	300.03	16.86	6.48	407.65	14.10	6.21	1.44	-76.63
Last 5									
Last 5									
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.00	0.00	0.00			0.00	0.00
Variance 2			0.00	0.00	0.00			0.00	0.00

Notes

Two readings skipped,smartroll frozen. Restarting low flow. 3.75L purged

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 15:52:11

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	7 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	7 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.121244 L
Well Total Depth	9.15 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	2.52 in
Depth to Water	6.10 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:33:30	300.03	16.65	6.44	285.79	5.10	6.31	2.43	-68.76
Last 5	15:38:30	600.02	16.64	6.44	408.50	4.48	6.31	2.51	-68.61
Last 5	15:43:30	900.02	16.66	6.43	410.78	2.76	6.31	2.85	-66.36
Last 5	15:48:30	1200.02	16.42	6.43	407.06	2.19	6.31	1.52	-68.26
Last 5									
Variance 0			-0.01	-0.00	122.70			0.08	0.15
Variance 1			0.03	-0.01	2.28			0.34	2.25
Variance 2			-0.25	0.00	-3.72			-1.34	-1.90

Notes

Purged previously 3.75L, smartroll froze - additional file created. Refer to field form for NTU/DTW data skipped. WL in screen, three volume method. 3.75L + 5L = 8.75L. Sampled at 1550

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 09:42:08

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	QED well wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Default Site	Tubing Length	26.66 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model		Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWc-33S	Final Pumping Rate	190 mL/min
Well diameter	2 in	Total System Volume	0.6039948 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.1 in
Depth to Water	6.42 ft	Total Volume Pumped	4.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:16:08	300.09	15.63	4.53	486.29	0.44	6.50	0.84	123.02
Last 5	09:21:08	600.01	16.77	4.73	497.81	0.22	6.49	0.89	114.53
Last 5	09:26:08	900.00	16.83	4.76	471.29	0.20	6.50	1.03	110.50
Last 5	09:31:08	1199.99	16.87	4.74	471.08	0.57	6.51	1.07	110.10
Last 5	09:36:08	1499.98	16.90	4.77	471.25	0.55	6.51	1.12	107.76
Variance 0			0.06	0.03	-26.52			0.14	-4.03
Variance 1			0.03	-0.02	-0.21			0.04	-0.40
Variance 2			0.03	0.03	0.17			0.05	-2.34

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 10:41:23

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	QED well wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Default Site	Tubing Length	47.64 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6976374 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.2 in
Depth to Water	2.33 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:18:40	300.03	16.27	5.79	688.68	0.61	2.35	0.58	87.12
Last 5	10:23:40	600.01	15.92	5.82	695.61	0.12	2.35	0.43	86.42
Last 5	10:28:40	900.00	16.32	5.83	688.55	0.08	2.35	0.27	86.18
Last 5	10:33:40	1199.99	16.55	5.84	685.11	0.11	2.35	0.24	86.28
Last 5	10:38:40	1499.98	16.55	5.84	686.26	--	--	0.24	86.21
Variance 0			0.39	0.01	-7.07			-0.16	-0.24
Variance 1			0.23	0.00	-3.44			-0.03	0.10
Variance 2			0.00	0.00	1.16			0.00	-0.07

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 11:57:22

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	QED well wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Default Site	Tubing Length	30 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6189027 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.1 in
Depth to Water	1.82 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:33:43	900.00	15.12	6.06	635.06	0.34	1.90	1.56	82.66
Last 5	11:38:43	1199.99	15.25	6.06	639.10	0.15	1.91	1.42	83.21
Last 5	11:43:43	1499.98	15.34	6.06	640.14	0.18	1.91	1.62	83.49
Last 5	11:48:43	1799.98	15.39	6.05	641.44	0.35	1.91	1.65	82.95
Last 5	11:53:43	2099.97	15.48	6.06	643.11	0.18	1.92	1.57	83.14
Variance 0			0.09	-0.00	1.04			0.19	0.28
Variance 1			0.05	-0.01	1.30			0.04	-0.53
Variance 2			0.08	0.01	1.67			-0.08	0.18

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 14:23:47

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	30 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.8 in
Depth to Water	2.35 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:06:37	300.03	16.91	5.90	660.11	0.46	2.48	2.08	-68.12
Last 5	14:11:37	600.02	16.91	5.77	645.98	1.65	2.49	2.12	-67.01
Last 5	14:16:37	900.02	17.00	5.74	633.86	1.52	2.49	2.17	-67.91
Last 5	14:21:37	1200.02	17.10	5.72	624.92	2.22	2.50	2.19	-68.16
Last 5 Variance 0			-0.00	-0.14	-14.13			0.03	1.11
Variance 1			0.09	-0.03	-12.12			0.06	-0.90
Variance 2			0.09	-0.02	-8.94			0.01	-0.25

Notes

Sampled BRGWC-36S at 1420

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 15:53:28

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	63.73 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	63.73 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.769454 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	10.44 in
Depth to Water	50.09 ft	Total Volume Pumped	3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:41:46	300.03	20.30	5.99	56.10	1.09	50.80	7.83	-88.58
Last 5	15:46:46	600.02	19.59	5.90	55.84	0.54	50.93	8.28	-81.17
Last 5	15:51:46	900.02	19.47	5.93	55.46	0.31	50.96	8.25	-79.03
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.72	-0.08	-0.26			0.44	7.42
Variance 2			-0.11	0.03	-0.37			-0.02	2.13

Notes

Sampled BRGWC-37S at 1550. FB-2 here

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 16:38:58

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	38.66 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	38.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6575559 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	12.6 in
Depth to Water	18.35 ft	Total Volume Pumped	3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:25:50	300.06	20.74	4.37	859.21	2.02	19.24	2.27	-70.51
Last 5	16:30:50	600.02	20.48	4.35	848.68	1.34	19.37	2.11	-67.66
Last 5	16:35:50	900.02	20.21	4.34	849.29	0.84	19.40	2.07	-67.15
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.26	-0.02	-10.53			-0.16	2.85
Variance 2			-0.27	-0.01	0.62			-0.04	0.51

Notes

Sampled BRGWC-38S at 1635

Grab Samples

APPENDIX A

FIELD DATA FORMS

APPENDIX A

Field Data Forms

FIELD DATA FORMS

August – September 2016

Product Name: Low-Flow System

Date: 2016-08-31 16:14:02

Project Information:		Pump Information:	
Operator Name	Chris	Pump Model/Type	PERIPUMP
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWA-2S	Tubing Length	47.0 ft
Latitude	33º 12' 21.48"		
Longitude	-83º -20' -17.63"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2110	Pump placement from TOC	42.5 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.2997809 L
Well Total Depth	47.60 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.2 in
Depth to Water	18.43 ft	Total Volume Pumped	5.25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1%	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	15:45:53	300.02	20.30	6.22	69.65	5.09	18.50	1.92	74.97
Last 5	15:50:53	600.02	19.94	6.21	68.87	3.65	18.50	1.45	73.50
Last 5	15:55:54	900.98	19.77	6.21	69.41	3.59	18.60	1.26	72.38
Last 5	16:00:54	1200.99	19.76	6.20	68.99	3.71	18.90	1.27	69.88
Last 5	16:05:54	1500.97	19.91	6.20	69.41	2.87	18.90	1.27	69.00
Variance 0			-0.16	-0.00	0.54			-0.20	-1.12
Variance 1			-0.01	-0.00	-0.41			0.01	-2.50
Variance 2			0.15	-0.00	0.42			0.00	-0.88

Notes

Sunny , 92 degrees ; collected at 16:10

Grab Samples

Product Name: Low-Flow System

Date: 2016-08-31 13:58:10

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	Atlantic Coast Consulting	Tubing Type	
Project Name	Plant Branch AP	Tubing Diameter	in
Site Name	Plant Branch	Tubing Length	ft
Latitude	33º 11' 51.67"		
Longitude	-83º -18' -56.32"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	67.50 ft	Calculated Sample Rate	300 sec
Screen Length	ft	Stabilization Drawdown	24 in
Depth to Water	18.23 ft	Total Volume Pumped	6.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	13:32:37	300.00	19.44	7.17	185.72	3.36	20.00	0.11	-25.77
Last 5	13:37:37	600.00	19.71	7.16	185.48	3.52	20.20	0.12	-26.07
Last 5	13:42:37	900.00	19.55	7.16	185.11	3.83	20.20	0.24	-24.47
Last 5	13:47:37	1199.99	19.52	7.16	186.74	3.49	20.20	0.23	-24.94
Last 5	13:52:37	1499.98	19.72	7.16	191.44	2.80	20.20	0.21	-24.95
Variance 0			-0.16	-0.00	-0.37			0.12	1.60
Variance 1			-0.04	-0.00	1.64			-0.01	-0.47
Variance 2			0.20	-0.01	4.70			-0.02	-0.01

Notes

FB-1-8-31-16 poured here

Grab Samples

Product Name: Low-Flow System

Date: 2016-08-31 10:46:53

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peri pump
Company Name	Atlantic Coast Consulting	Tubing Type	
Project Name	Plant Branch AP	Tubing Diameter	in
Site Name	Plant Branch	Tubing Length	ft
Latitude	33º 11' 51.67"		
Longitude	-83º -18' -56.32"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	43.30 ft	Calculated Sample Rate	300 sec
Screen Length	ft	Stabilization Drawdown	0.15 in
Depth to Water	12.55 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	10:20:58	600.02	20.64	6.35	141.53	3.85	12.70	2.33	86.24
Last 5	10:27:11	973.00	20.85	6.47	171.61	1.79	12.70	2.19	85.94
Last 5	10:32:11	1273.00	20.34	6.53	185.17	1.66	12.70	2.15	83.84
Last 5	10:37:11	1573.00	20.39	6.58	191.82	1.46	12.70	2.06	79.99
Last 5	10:42:11	1873.00	20.30	6.59	193.72	--	--	2.04	77.45
Variance 0			-0.51	0.06	13.56			-0.04	-2.10
Variance 1			0.05	0.04	6.66			-0.09	-3.84
Variance 2			-0.09	0.01	1.90			-0.02	-2.55

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-08-31 11:58:16

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	
Company Name	Atlantic Coast Consulting	Tubing Type	
Project Name	Plant Branch AP	Tubing Diameter	in
Site Name	Plant Branch	Tubing Length	ft
Latitude	33º 11' 51.67"		
Longitude	-83º -18' -56.32"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	64.30 ft	Calculated Sample Rate	300 sec
Screen Length	ft	Stabilization Drawdown	0.4 in
Depth to Water	12.5 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	11:39:58	300.05	21.41	6.52	170.28	4.91	12.80	4.29	90.87
Last 5	11:44:58	600.01	20.97	6.53	169.34	5.02	12.80	4.11	89.36
Last 5	11:49:58	900.01	20.84	6.53	169.89	3.86	12.90	3.96	87.80
Last 5	11:55:00	1202.01	20.48	6.53	168.93	0.00	12.90	3.92	86.73
Last 5 Variance 0			-0.44	0.00	-0.93			-0.19	-1.52
Variance 1			-0.13	-0.00	0.55			-0.14	-1.55
Variance 2			-0.35	0.00	-0.96			-0.05	-1.07

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-01 11:10:59

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWA-6S	Tubing Length	53 ft
Latitude	33º 12' 56.78"		
Longitude	-83º -19' -58.81"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	45 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.3265614 L
Well Total Depth	53.25 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.6 in
Depth to Water	25.21 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1%	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	10:15:06	600.02	21.36	6.50	57.54	5.48	25.80	6.75	97.55
Last 5	10:20:06	900.02	21.28	6.48	56.16	4.29	25.80	7.08	92.28
Last 5	10:25:06	1200.02	20.88	6.49	54.74	4.36	25.80	7.14	89.66
Last 5	10:30:06	1500.02	21.28	6.50	53.50	3.16	25.80	7.02	88.87
Last 5	10:35:07	1801.02	21.28	6.49	53.15	3.55	25.80	6.97	88.66
Variance 0			-0.40	0.00	-1.42			0.06	-2.62
Variance 1			0.40	0.01	-1.23			-0.11	-0.79
Variance 2			0.00	-0.01	-0.36			-0.05	-0.21

Notes

Collected at 10:40. Sunny 80s

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 15:15:48

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-17S	Tubing Length	10 ft
Latitude	33º 12' 13"		
Longitude	-83º -19' -22.09"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	7 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1346342 L
Well Total Depth	9.10 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	6 in
Depth to Water	5.97 ft	Total Volume Pumped	7.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	14:50:23	600.01	22.44	6.36	405.40	1.46	6.40	2.49	47.88
Last 5	14:55:23	900.00	22.49	6.36	404.59	0.93	6.50	1.57	44.56
Last 5	15:00:23	1200.01	22.92	6.36	403.51	0.82	6.50	1.53	45.42
Last 5	15:05:23	1500.00	22.98	6.36	400.34	0.89	6.50	1.55	46.44
Last 5	15:10:23	1800.00	23.07	6.36	398.64	0.47	6.50	1.55	46.64
Variance 0			0.44	-0.00	-1.08			-0.04	0.86
Variance 1			0.06	0.00	-3.17			0.02	1.02
Variance 2			0.09	-0.00	-1.70			-0.00	0.20

Notes

Collected at 15:15. Sunny 90s. 3 well volumes purged and stabilization.

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 13:53:27

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-33S	Tubing Length	30 ft
Latitude	33º 12' 30.13"		
Longitude	-83º -19' -29.43"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	23 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	28.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	8.15 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	13:30:49	300.02	23.12	4.98	535.44	4.61	8.20	0.16	78.50
Last 5	13:35:49	600.02	21.82	4.94	549.41	4.17	8.20	0.10	76.94
Last 5	13:40:49	900.02	21.81	4.95	544.71	2.61	8.20	0.08	73.87
Last 5	13:45:49	1200.02	21.55	4.93	545.79	1.61	8.20	0.07	74.31
Last 5	13:50:49	1500.02	21.55	4.92	545.38	0.92	8.20	0.06	74.10
Variance 0			-0.01	0.01	-4.70			-0.02	-3.07
Variance 1			-0.26	-0.02	1.08			-0.01	0.44
Variance 2			0.00	-0.01	-0.41			-0.01	-0.21

Notes

Collected at 13:55. Mostly sunny 90s

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-08 11:22:24

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-34S	Tubing Length	27 ft
Latitude	33º 12' 23.56"		
Longitude	-83º -19' -27.51"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	22 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.2105124 L
Well Total Depth	26.80 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	2.75 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	11:00:12	300.02	23.88	5.83	881.60	3.83	2.80	0.22	26.25
Last 5	11:05:12	600.02	23.65	5.83	880.86	1.19	2.80	0.15	25.99
Last 5	11:10:12	900.02	23.74	5.83	888.91	0.95	2.80	0.18	24.50
Last 5	11:15:12	1200.02	24.53	5.84	879.27	1.63	2.80	0.19	23.82
Last 5	11:20:12	1500.02	23.94	5.84	878.81	1.48	2.80	0.13	26.50
Variance 0			0.09	0.00	8.06			0.03	-1.49
Variance 1			0.79	0.00	-9.64			0.01	-0.68
Variance 2			-0.59	0.00	-0.47			-0.06	2.69

Notes

Collected at 11:25. Sunny 80s

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 12:47:41

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-35S	Tubing Length	30 ft
Latitude	33º 12' 15.98"		
Longitude	-83º -19' -24.79"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	275 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	29.70 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2 in
Depth to Water	2.15 ft	Total Volume Pumped	9.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	12:15:03	600.01	21.82	6.08	639.29	9.37	2.30	0.09	34.34
Last 5	12:20:03	900.01	21.78	6.09	624.78	7.75	2.30	0.10	31.35
Last 5	12:25:03	1200.01	21.64	6.09	618.47	7.36	2.30	0.10	28.33
Last 5	12:30:03	1500.01	21.55	6.09	603.93	4.54	2.30	0.08	27.66
Last 5	12:35:03	1800.01	21.55	6.10	646.37	4.04	2.30	0.31	27.68
Variance 0			-0.14	-0.00	-6.31			-0.00	-3.03
Variance 1			-0.09	0.00	-14.54			-0.02	-0.66
Variance 2			0.00	0.01	42.44			0.23	0.02

Notes

Collected at 12:35. Sunny 80s. DUP 2 here.

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 16:21:28

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-36S	Tubing Length	35 ft
Latitude	33º 12' 7.15"		
Longitude	-83º -19' -22.33"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	35.65 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	1.75 ft	Total Volume Pumped	10.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	15:55:06	600.02	24.32	5.61	678.78	1.39	2.00	2.22	80.88
Last 5	16:00:06	900.02	24.23	5.61	659.97	0.32	2.00	2.26	80.13
Last 5	16:05:06	1200.02	24.14	5.60	627.69	0.62	2.00	2.31	79.61
Last 5	16:10:06	1500.02	23.65	5.59	636.88	0.27	2.00	2.37	78.90
Last 5	16:15:06	1800.02	23.70	5.59	624.73	0.43	2.00	2.35	79.13
Variance 0			-0.08	-0.01	-32.28			0.05	-0.52
Variance 1			-0.49	-0.01	9.19			0.06	-0.71
Variance 2			0.05	-0.00	-12.15			-0.02	0.23

Notes

Collected at 16:20. Sunny 90s. Artesian well - 4 ft extension was added by Brad F. WL/WD/Vol measurements include the 4 ft extension.

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-07 11:21:24

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	Peripump
Company Name	ACC	Tubing Type	poly
Project Name	Plant Branch AP	Tubing Diameter	.17 in
Site Name	BRGWC-38S	Tubing Length	41 ft
Latitude	33º 11' 53.76"		
Longitude	-83º -19' -18.67"		
Sonde SN	466086		
Turbidity Make/Model	Hach 2100 Q	Pump placement from TOC	36 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.2730004 L
Well Total Depth	41.00 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	10 in
Depth to Water	20.32 ft	Total Volume Pumped	4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 0.2	+/- 0
Last 5	10:55:07	300.00	23.73	5.45	905.37	2.30	20.90	0.85	75.21
Last 5	11:00:07	600.01	22.85	5.48	904.39	3.17	21.00	0.49	74.87
Last 5	11:05:07	900.01	21.86	5.50	895.13	2.89	21.10	0.37	61.21
Last 5	11:10:07	1200.02	22.04	5.44	884.52	3.32	21.10	0.35	59.03
Last 5	11:15:07	1500.01	21.93	5.43	861.25	2.84	21.20	0.34	57.09
Variance 0			-0.99	0.02	-9.26			-0.12	-13.66
Variance 1			0.18	-0.06	-10.61			-0.02	-2.18
Variance 2			-0.11	-0.01	-23.27			-0.01	-1.93

Notes

Collected at 11:20. Sunny 80s

Grab Samples

Product Name: Low-Flow System

Date: 2016-09-23 13:25:57

Project Information:		Pump Information:	
Operator Name	Chris Parker	Pump Model/Type	peri pump
Company Name	ACC	Tubing Type	poly
Project Name	Plant branch	Tubing Diameter	.17 in
Site Name	BRGWC-38S	Tubing Length	41 ft
Latitude	33º 11' 53.97"		
Longitude	-83º -19' -18.64"		
Sonde SN	466058		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	36 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.2730004 L
Well Total Depth	41.00 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	20.56 ft	Total Volume Pumped	0 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	13:00:02	900.02	22.65	5.95	872.92	3.68	21.40	0.14	39.08
Last 5	13:05:02	1200.01	23.30	5.76	874.21	2.08	21.40	0.23	80.94
Last 5	13:10:02	1500.02	22.90	5.57	868.67	1.93	21.40	0.36	83.18
Last 5	13:15:02	1800.02	23.26	5.49	857.79	2.73	21.40	0.45	100.33
Last 5	13:20:02	2100.02	22.92	5.46	844.24	1.76	21.40	0.46	87.62
Variance 0			-0.40	-0.18	-5.54			0.13	2.24
Variance 1			0.36	-0.08	-10.87			0.09	17.15
Variance 2			-0.34	-0.04	-13.55			0.02	-12.70

Notes

Grab Samples

FIELD DATA FORMS

November 2016

Product Name: Low-Flow System

Date: 2016-11-16 11:08:54

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	55 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.3354883 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.13 in
Depth to Water	20.17 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:46:37	300.10	18.05	6.26	65.44	5.75	20.32	0.28	77.88
Last 5	10:51:37	600.02	18.08	6.19	64.47	2.12	20.33	0.25	65.56
Last 5	10:56:37	900.02	18.41	6.15	63.97	1.08	20.33	0.26	61.35
Last 5	11:01:38	1200.16	18.46	6.13	63.27	0.82	20.31	0.29	57.23
Last 5	11:06:38	1500.16	18.48	6.12	63.27	0.79	20.30	0.30	53.15
Variance 0			0.33	-0.04	-0.49			0.01	-4.21
Variance 1			0.05	-0.02	-0.70			0.03	-4.12
Variance 2			0.02	-0.01	-0.00			0.01	-4.08

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-16 14:48:38

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	70 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4024396 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.2 in
Depth to Water	20.02 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:26:00	900.02	18.51	7.13	202.91	4.07	22.23	0.19	-131.81
Last 5	14:31:00	1200.03	18.40	7.08	194.12	4.69	22.26	0.19	-114.65
Last 5	14:36:00	1500.02	18.44	7.00	188.55	4.90	2.25	0.21	-101.65
Last 5	14:41:00	1800.03	18.45	6.98	187.41	4.89	22.23	0.24	-95.59
Last 5	14:46:00	2100.03	18.48	6.96	186.07	4.71	22.22	0.26	-90.88
Variance 0			0.05	-0.08	-5.58			0.02	13.00
Variance 1			0.00	-0.03	-1.14			0.03	6.06
Variance 2			0.03	-0.02	-1.34			0.03	4.70

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-15 15:28:41

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	42 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.01 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2774638 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.1 in
Depth to Water	13.48 ft	Total Volume Pumped	4.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:12:14	300.02	19.88	6.67	180.22	0.88	13.59	1.95	109.43
Last 5	15:17:14	600.02	19.67	6.67	181.69	0.29	13.60	1.90	104.07
Last 5	15:22:14	900.02	19.61	6.67	179.68	0.30	13.59	1.90	99.58
Last 5	15:27:14	1200.02	19.77	6.67	183.15	0.53	13.58	1.91	95.87
Last 5									
Variance 0			-0.21	0.01	1.47			-0.05	-5.37
Variance 1			-0.05	0.00	-2.01			0.00	-4.48
Variance 2			0.16	-0.00	3.47			0.01	-3.71

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-16 09:25:13

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump peristaltic
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	57 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.3801225 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.16 in
Depth to Water	13.46 ft	Total Volume Pumped	5.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:01:52	300.12	16.96	6.57	164.40	4.32	13.61	3.94	162.31
Last 5	09:06:52	600.03	17.41	6.45	161.67	4.35	13.59	3.72	144.09
Last 5	09:11:52	900.02	17.65	6.43	162.10	13.14	13.62	3.83	126.13
Last 5	09:17:01	1209.02	17.90	6.41	159.42	1.86	13.62	3.59	118.45
Last 5	09:22:01	1509.02	18.03	6.40	157.93	1.06	13.62	3.55	118.59
Variance 0			0.24	-0.03	0.43			0.11	-17.96
Variance 1			0.25	-0.02	-2.67			-0.24	-7.68
Variance 2			0.14	-0.01	-1.50			-0.04	0.14

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-15 11:37:30

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	55 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.3354883 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.35 in
Depth to Water	27.57 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:15:33	1800.05	21.28	6.61	50.10	3.22	27.91	7.24	240.39
Last 5	11:20:33	2100.05	21.15	6.60	50.54	5.66	27.92	7.17	280.99
Last 5	11:25:33	2400.05	21.24	6.60	50.88	2.28	27.93	7.11	326.78
Last 5	11:30:33	2700.05	21.37	6.60	50.63	3.16	27.93	7.01	360.52
Last 5	11:35:33	3000.05	21.29	6.59	50.88	--	--	6.91	381.39
Variance 0			0.09	0.00	0.34			-0.06	45.78
Variance 1			0.13	-0.00	-0.25			-0.10	33.75
Variance 2			-0.09	-0.01	0.25			-0.10	20.87

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-17 15:00:38

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	12 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	7 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	225 mL/min
Well diameter	2 in	Total System Volume	0.1435611 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.69 in
Depth to Water	5.96 ft	Total Volume Pumped	7.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:37:44	600.02	20.44	6.29	394.27	7.06	6.47	1.49	62.04
Last 5	14:42:44	900.02	20.48	6.29	395.31	3.45	6.50	1.49	55.21
Last 5	14:47:44	1200.02	20.57	6.29	393.88	0.91	6.61	1.40	56.61
Last 5	14:52:44	1500.02	20.81	6.28	393.01	0.84	6.62	1.45	57.35
Last 5	14:57:44	1800.02	20.87	6.28	392.23	0.85	6.65	1.41	57.63
Variance 0			0.09	-0.00	-1.43			-0.09	1.40
Variance 1			0.23	-0.00	-0.87			0.05	0.74
Variance 2			0.06	0.00	-0.78			-0.04	0.28

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-17 09:37:06

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	32 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2328295 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	7.86 ft	Total Volume Pumped	4.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:16:08	300.05	18.09	4.84	496.52	4.33	7.89	0.37	204.55
Last 5	09:21:08	600.02	18.34	4.82	496.29	4.57	7.88	0.27	196.64
Last 5	09:26:08	900.02	18.39	4.83	496.73	3.74	7.88	0.21	188.68
Last 5	09:31:08	1200.02	18.79	4.82	495.42	2.25	7.87	0.17	186.87
Last 5	09:36:08	1500.02	18.70	4.82	495.24	0.82	7.87	0.15	192.43
Variance 0			0.05	0.00	0.44			-0.05	-7.96
Variance 1			0.40	-0.01	-1.31			-0.04	-1.81
Variance 2			-0.09	-0.00	-0.17			-0.02	5.56

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-17 11:27:42

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	26 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	21 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.206049 L
Well Total Depth	26.61 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.03 in
Depth to Water	2.60 ft	Total Volume Pumped	7.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:03:38	900.02	21.02	5.80	839.41	6.48	2.63	0.27	32.16
Last 5	11:08:38	1200.02	21.46	5.80	835.94	5.74	2.64	0.26	29.90
Last 5	11:13:38	1500.02	21.73	5.80	838.14	3.53	2.63	0.24	28.02
Last 5	11:18:38	1800.02	21.87	5.82	834.00	4.42	2.63	0.25	16.37
Last 5	11:23:38	2100.02	21.93	5.81	834.68	4.28	2.63	0.19	17.38
Variance 0			0.27	-0.00	2.20			-0.02	-1.89
Variance 1			0.14	0.01	-4.15			0.00	-11.64
Variance 2			0.06	-0.00	0.68			-0.06	1.01

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-17 13:17:01

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	30 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	24 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	29.53 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.03 in
Depth to Water	2.18 ft	Total Volume Pumped	5.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:54:53	600.02	23.23	6.06	602.81	5.71	2.22	0.48	-8.01
Last 5	12:59:53	900.02	23.21	6.04	598.96	3.98	2.22	0.43	4.62
Last 5	13:04:53	1200.02	23.01	6.03	602.05	3.68	2.21	0.43	22.44
Last 5	13:09:53	1500.02	23.07	6.03	598.04	3.41	2.21	0.47	29.71
Last 5	13:14:53	1800.02	23.38	6.04	599.73	2.43	2.21	0.54	30.83
Variance 0			-0.20	-0.01	3.08			0.01	17.81
Variance 1			0.06	-0.00	-4.00			0.03	7.27
Variance 2			0.30	0.01	1.68			0.08	1.12

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-18 08:55:47

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	25 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.2015856 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.11 in
Depth to Water	1.99 ft	Total Volume Pumped	9.9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	08:33:59	600.03	14.99	5.73	646.84	4.08	2.11	2.29	166.40
Last 5	08:38:59	900.02	15.30	5.55	645.20	3.51	2.11	2.95	141.76
Last 5	08:43:59	1200.02	15.35	5.52	640.70	1.79	2.11	2.98	129.36
Last 5	08:48:59	1500.10	15.47	5.51	636.39	1.15	2.10	2.96	124.09
Last 5	08:53:59	1800.04	15.62	5.51	635.88	1.36	2.10	3.01	122.99
Variance 0			0.04	-0.03	-4.50			0.03	-12.40
Variance 1			0.13	-0.01	-4.31			-0.02	-5.27
Variance 2			0.14	-0.01	-0.51			0.05	-1.10

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2016-11-21 09:11:06

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	geopump
Company Name	Golder Associates	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417070		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.290854 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.7 in
Depth to Water	21.34 ft	Total Volume Pumped	8.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	08:48:38	1200.02	16.60	5.01	825.13	2.75	22.04	0.63	161.03
Last 5	08:53:38	1500.02	16.76	4.93	833.34	1.83	22.04	0.70	162.57
Last 5	08:58:38	1800.02	16.96	4.87	829.67	1.04	22.05	0.72	159.85
Last 5	09:03:38	2100.02	17.23	4.85	836.28	0.91	22.04	0.74	150.57
Last 5	09:08:38	2400.02	17.54	4.84	834.69	1.21	22.04	0.76	142.22
Variance 0			0.20	-0.06	-3.66			0.03	-2.72
Variance 1			0.27	-0.02	6.61			0.02	-9.28
Variance 2			0.31	-0.01	-1.60			0.02	-8.35

Notes

Grab Samples

FIELD DATA FORMS

February 2017

Product Name: Low-Flow System

Date: 2017-02-21 09:52:38

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	47.39 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42.39 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	260 mL/min
Well diameter	2 in	Total System Volume	0.6965216 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.15 in
Depth to Water	15.63 ft	Total Volume Pumped	10.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:30:31	1200.03	17.20	6.38	71.59	1.49	15.76	1.02	93.58
Last 5	09:35:31	1500.02	17.22	6.33	71.57	0.77	15.76	1.50	78.67
Last 5	09:40:31	1800.02	17.24	6.28	72.08	0.77	15.77	1.75	67.86
Last 5	09:45:31	2100.40	17.28	6.26	71.40	0.54	15.78	1.73	63.55
Last 5	09:50:31	2400.40	17.36	6.24	71.61	0.26	15.78	1.64	62.44
Variance 0			0.02	-0.04	0.51			0.26	-10.81
Variance 1			0.04	-0.02	-0.68			-0.02	-4.31
Variance 2			0.08	-0.02	0.21			-0.09	-1.11

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-21 11:15:31

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	66.96 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61.96 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	168 mL/min
Well diameter	2 in	Total System Volume	0.7838709 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.7 in
Depth to Water	15.69 ft	Total Volume Pumped	11.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:53:00	2400.02	17.72	7.32	242.10	5.74	17.44	1.06	-166.25
Last 5	10:58:00	2700.02	17.73	7.27	229.72	4.98	17.39	0.98	-155.46
Last 5	11:03:00	3000.12	17.68	7.22	221.51	4.62	17.39	0.91	-145.89
Last 5	11:08:00	3300.12	17.71	7.17	216.23	3.68	17.39	0.87	-136.79
Last 5	11:13:00	3600.12	17.71	7.15	212.92	3.61	17.39	0.83	-123.72
Variance 0			-0.04	-0.05	-8.20			-0.07	9.57
Variance 1			0.03	-0.04	-5.28			-0.03	9.10
Variance 2			-0.00	-0.03	-3.31			-0.04	13.06

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 15:22:45

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	Poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	38 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamont's 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6546101 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	11.78 ft	Total Volume Pumped	6.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:58:02	600.02	18.96	6.66	205.36	7.16	11.92	4.14	450.90
Last 5	15:03:02	900.02	18.92	6.66	205.60	6.52	11.89	3.22	438.52
Last 5	15:08:02	1200.02	19.14	6.65	204.78	4.86	11.87	3.10	424.65
Last 5	15:13:02	1500.02	19.26	6.65	203.65	4.60	11.92	3.06	415.40
Last 5	15:18:02	1800.02	19.23	6.65	203.13	4.23	11.93	3.00	408.85
Variance 0			0.22	-0.01	-0.82			-0.12	-13.87
Variance 1			0.12	0.00	-1.13			-0.04	-9.25
Variance 2			-0.03	-0.00	-0.52			-0.06	-6.54

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 15:19:21

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	63.82 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	190 mL/min
Well diameter	2 in	Total System Volume	0.7698557 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.18 in
Depth to Water	11.69 ft	Total Volume Pumped	5.13 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:57:21	300.03	19.44	6.60	180.64	2.21	11.84	3.51	119.12
Last 5	15:02:21	600.02	19.32	6.54	177.14	0.48	11.82	2.85	114.98
Last 5	15:07:21	900.02	19.22	6.49	173.81	1.26	11.89	2.93	112.76
Last 5	15:12:21	1200.29	19.11	6.45	172.52	1.50	11.83	3.06	111.32
Last 5	15:17:21	1500.28	19.31	6.44	170.77	1.02	11.87	3.05	110.50
Variance 0			-0.10	-0.05	-3.33			0.08	-2.22
Variance 1			-0.12	-0.03	-1.29			0.13	-1.44
Variance 2			0.21	-0.01	-1.75			-0.01	-0.82

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 14:01:23

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	52.90 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.7211151 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.9 in
Depth to Water	24.06 ft	Total Volume Pumped	8.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:38:59	900.03	19.49	6.88	57.86	2.95	24.98	6.42	116.39
Last 5	13:43:59	1200.02	19.43	6.77	58.52	4.44	24.97	6.32	116.29
Last 5	13:48:59	1500.02	19.32	6.70	59.34	4.74	24.97	6.23	115.96
Last 5	13:53:59	1800.02	19.44	6.64	59.83	4.41	24.96	6.08	116.18
Last 5	13:58:59	2100.02	19.32	6.61	60.50	4.48	24.96	6.05	116.52
Variance 0			-0.11	-0.07	0.81			-0.09	-0.33
Variance 1			0.13	-0.05	0.50			-0.15	0.22
Variance 2			-0.13	-0.04	0.67			-0.03	0.33

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 15:56:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	6 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamont's 2020we	Pump placement from TOC	6 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.5117806 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	9.88 ft	Stabilization Drawdown	0 in
Depth to Water	5.89 ft	Total Volume Pumped	9.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:30:07	600.53	17.05	6.41	345.38	1.02	6.09	2.40	180.77
Last 5	15:35:07	900.53	16.99	6.40	343.69	0.57	6.11	2.90	156.17
Last 5	15:40:07	1200.53	16.96	6.40	344.34	1.04	6.10	3.10	153.15
Last 5	15:45:07	1500.53	16.92	6.40	342.13	1.35	6.12	3.09	148.02
Last 5	15:50:07	1800.53	16.79	6.40	349.88	0.45	6.13	2.85	143.67
Variance 0			-0.03	-0.00	0.65			0.21	-3.02
Variance 1			-0.04	-0.00	-2.21			-0.01	-5.13
Variance 2			-0.12	-0.00	7.75			-0.24	-4.35

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 12:34:53

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.626312 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	6.86 ft	Total Volume Pumped	6.24 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:12:48	600.03	21.19	5.02	511.33	3.14	6.86	1.57	148.37
Last 5	12:17:48	900.02	21.05	4.92	510.98	3.64	6.86	1.08	149.54
Last 5	12:22:48	1200.02	21.00	4.88	511.52	2.32	6.86	0.73	150.73
Last 5	12:27:48	1500.02	21.07	4.87	510.43	1.94	6.86	0.58	151.64
Last 5	12:32:48	1800.02	21.14	4.86	508.85	1.26	6.86	0.49	151.45
Variance 0			-0.05	-0.04	0.54			-0.35	1.19
Variance 1			0.06	-0.02	-1.09			-0.15	0.91
Variance 2			0.08	-0.00	-1.57			-0.09	-0.19

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 14:30:47

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	52.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7199546 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	2.38 ft	Total Volume Pumped	11.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:08:35	1800.99	19.22	5.86	888.29	7.39	2.39	0.03	23.53
Last 5	14:13:35	2100.99	19.22	5.86	888.34	6.10	2.39	0.02	34.70
Last 5	14:18:35	2400.99	19.89	5.86	887.61	3.67	2.39	0.12	57.06
Last 5	14:23:35	2700.99	19.35	5.85	889.18	2.70	2.39	0.03	32.87
Last 5	14:28:35	3000.99	19.32	5.85	889.81	2.33	2.39	0.02	25.14
Variance 0			0.67	-0.01	-0.73			0.10	22.35
Variance 1			-0.54	-0.01	1.57			-0.09	-24.18
Variance 2			-0.03	0.00	0.63			-0.01	-7.73

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 15:58:32

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	35.34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	230 mL/min
Well diameter	2 in	Total System Volume	0.6427374 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9.03 in
Depth to Water	2.09 ft	Total Volume Pumped	9.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:36:07	1200.51	18.39	6.08	694.26	13.70	2.12	0.18	40.12
Last 5	15:41:07	1500.51	18.41	6.08	696.25	7.20	2.12	0.15	34.82
Last 5	15:46:07	1800.51	18.33	6.08	697.74	4.56	2.11	0.11	29.50
Last 5	15:51:07	2100.51	18.12	6.08	698.46	3.79	2.13	0.09	27.67
Last 5	15:56:07	2400.51	18.02	6.08	699.42	3.52	2.12	0.07	31.54
Variance 0			-0.09	-0.00	1.49			-0.04	-5.33
Variance 1			-0.21	-0.00	0.71			-0.02	-1.83
Variance 2			-0.10	0.00	0.97			-0.02	3.87

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 10:10:31

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	34.02 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29.02 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6368456 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.14 in
Depth to Water	1.78 ft	Total Volume Pumped	6.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:49:06	600.03	16.86	6.03	720.09	7.18	1.91	3.08	144.57
Last 5	09:54:06	900.02	16.96	5.82	718.33	3.06	1.92	3.02	136.81
Last 5	09:59:06	1200.02	17.09	5.73	715.91	3.36	1.92	3.02	130.60
Last 5	10:04:06	1500.02	17.18	5.68	712.71	2.86	1.92	2.95	126.15
Last 5	10:09:06	1800.02	17.35	5.65	710.02	1.12	1.92	2.89	122.99
Variance 0			0.13	-0.09	-2.42			-0.01	-6.21
Variance 1			0.09	-0.05	-3.20			-0.07	-4.45
Variance 2			0.17	-0.03	-2.69			-0.06	-3.16

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 12:21:39

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED dedicated bladder pump
Company Name	Golder Associates	Tubing Type	poly
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.779586 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	48.87 ft	Total Volume Pumped	9.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:00:03	300.02	20.50	5.59	53.67	2.37	49.60	7.09	178.56
Last 5	12:05:03	600.02	19.85	5.55	54.04	2.05	49.61	7.11	176.85
Last 5	12:10:03	900.02	20.75	5.55	53.91	2.36	49.59	6.89	165.88
Last 5	12:15:03	1200.03	20.70	5.55	53.78	2.22	49.65	6.88	171.62
Last 5	12:20:03	1500.03	22.76	5.57	53.47	1.65	49.67	6.57	173.08
Variance 0			0.90	0.00	-0.13			-0.23	-10.98
Variance 1			-0.05	0.00	-0.13			-0.00	5.75
Variance 2			2.06	0.02	-0.31			-0.32	1.46

Notes

Apple device overheated. Purged for 36 min before restarting at 1200

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 10:36:18

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED dedicated bladder pump
Company Name	Golder Associates	Tubing Type	poly
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	58 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7438785 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	18.88 ft	Total Volume Pumped	7.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:15:04	900.57	20.05	4.57	932.47	7.57	19.87	1.39	316.15
Last 5	10:20:04	1200.57	20.12	4.63	927.10	4.71	19.83	1.22	296.01
Last 5	10:25:04	1500.57	20.21	4.68	929.16	3.72	19.84	1.08	272.12
Last 5	10:30:04	1800.56	20.21	4.72	929.93	2.95	19.88	0.99	268.85
Last 5	10:35:04	2100.57	20.26	4.73	926.93	2.55	19.85	0.92	257.20
Variance 0			0.09	0.05	2.06			-0.15	-23.89
Variance 1			-0.00	0.03	0.78			-0.08	-3.27
Variance 2			0.05	0.02	-3.00			-0.07	-11.64

Notes

Grab Samples

FIELD DATA FORMS

April 2017

Product Name: Low-Flow System

Date: 2017-04-17 14:25:36

Project Information:		Pump Information:	
Operator Name	D. Herrera	Pump Model/Type	Sample Pro QED
Company Name	Golder Associates	Tubing Type	Poly
Project Name	1666254	Tubing Diameter	0.170 in
Site Name	SCS Plant Branch	Tubing Length	60 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364452		
Turbidity Make/Model	LaMotte	Pump placement from TOC	60 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.3578054 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	13.8 in
Depth to Water	49.05 ft	Total Volume Pumped	11 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	14:06:09	300.43	20.48	5.80	52.37	10.22	50.20	7.30	37.84
Last 5	14:11:09	600.35	20.36	5.79	53.11	5.57	50.20	7.30	38.40
Last 5	14:16:09	900.35	20.20	5.80	53.38	4.98	50.20	7.28	38.05
Last 5	14:21:09	1200.35	20.10	5.80	53.34	4.43	50.20	7.29	37.94
Last 5									
Variance 0			-0.12	-0.02	0.74			-0.00	0.56
Variance 1			-0.15	0.01	0.27			-0.02	-0.35
Variance 2			-0.10	0.00	-0.04			0.01	-0.11

Notes

Sampled BRGWC-37S on 4/17/2027 at 14:25. Sampled FD-1 on 4/17/2017 and FB-1 at 14:40. Sampled extra radium.

Grab Samples

FIELD DATA FORMS

May 2017

Product Name: Low-Flow System

Date: 2017-05-15 13:23:01

Project Information:		Pump Information:	
Operator Name	D.Herrera	Pump Model/Type	Sample Pro QED
Company Name	Golder Associates	Tubing Type	Poly
Project Name	SCS Plant Branch	Tubing Diameter	0.170 in
Site Name	SCS Plant Branch	Tubing Length	61 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	456959		
Turbidity Make/Model	LaMotte	Pump placement from TOC	61 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.3622688 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	6.24 in
Depth to Water	49.78 ft	Total Volume Pumped	8.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	12:51:27	300.11	22.65	5.74	56.45	4.75	50.20	7.52	75.67
Last 5	12:56:27	600.03	22.47	5.75	55.42	3.90	50.35	7.31	76.37
Last 5	13:06:27	1200.03	22.26	5.78	54.89	3.92	50.30	7.07	75.91
Last 5	13:11:27	1500.03	22.70	5.78	55.34	2.40	50.30	6.97	76.28
Last 5	13:16:27	1800.03	22.80	5.75	54.76	2.19	50.30	6.94	78.34
Variance 0			-0.21	0.04	-0.53			-0.24	-0.47
Variance 1			0.44	-0.00	0.45			-0.10	0.37
Variance 2			0.10	-0.03	-0.58			-0.03	2.06

Notes

Sampled BRGWC-37S and Dup-1 at 13:20 on 5/15/2017. Sampled FB-1 at 13:15 on 5/15/2017 and two extra radium samples at 13:25

Grab Samples

FIELD DATA FORMS

June 2017

Product Name: Low-Flow System

Date: 2017-06-13 09:36:47

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	48 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42.39 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.6542443 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.22 in
Depth to Water	14.84 ft	Total Volume Pumped	10.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:13:59	900.02	18.36	6.45	69.67	1.01	15.16	0.63	128.37
Last 5	09:18:59	1200.02	18.30	6.33	69.52	0.62	15.05	0.81	116.62
Last 5	09:23:59	1500.02	18.27	6.27	69.05	0.60	15.06	0.58	110.03
Last 5	09:28:59	1800.02	18.39	6.23	68.72	0.38	15.06	0.58	104.14
Last 5	09:34:00	2100.52	18.34	6.19	69.05	0.32	15.06	0.67	104.80
Variance 0			-0.02	-0.06	-0.48			-0.22	-6.59
Variance 1			0.11	-0.04	-0.32			-0.01	-5.89
Variance 2			-0.05	-0.04	0.33			0.09	0.66

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-12 16:04:39

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	67 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61.96 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7390493 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.5 in
Depth to Water	14.88 ft	Total Volume Pumped	7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:41:34	1500.00	20.80	7.06	238.92	1.70	16.42	0.97	-177.57
Last 5	15:46:34	1800.00	20.85	7.15	247.80	0.72	16.48	0.86	-181.35
Last 5	15:51:34	2100.00	20.58	7.23	252.38	1.37	16.44	0.81	-185.67
Last 5	15:56:34	2400.00	20.27	7.29	249.16	1.58	16.43	0.71	-177.67
Last 5	16:01:34	2700.00	20.14	7.31	241.05	1.77	16.38	0.63	-172.14
Variance 0			-0.27	0.08	4.58			-0.05	-4.32
Variance 1			-0.31	0.06	-3.21			-0.10	8.00
Variance 2			-0.13	0.02	-8.12			-0.07	5.53

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-12 12:37:03

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	44 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.01 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6363906 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.2 in
Depth to Water	12.34 ft	Total Volume Pumped	4.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:20:25	300.03	20.48	6.50	201.39	3.29	12.39	2.84	247.13
Last 5	12:25:25	600.02	20.24	6.58	206.73	3.29	12.46	2.43	245.07
Last 5	12:30:25	900.02	20.10	6.62	209.78	4.24	12.53	2.27	240.96
Last 5	12:35:25	1200.02	20.22	6.64	210.39	4.27	12.54	2.21	233.60
Last 5									
Variance 0			-0.24	0.07	5.34			-0.40	-2.06
Variance 1			-0.13	0.04	3.06			-0.16	-4.11
Variance 2			0.12	0.02	0.61			-0.06	-7.36

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-12 11:48:03

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7256591 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.12 in
Depth to Water	12.27 ft	Total Volume Pumped	4.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:24:26	300.10	21.30	6.47	170.48	0.55	12.39	2.37	169.53
Last 5	11:29:25	600.03	20.70	6.34	170.63	0.96	12.39	2.58	197.33
Last 5	11:34:26	900.77	20.53	6.37	169.18	0.64	12.39	2.80	220.01
Last 5	11:39:26	1200.77	20.38	6.39	167.96	0.44	12.39	3.00	225.53
Last 5	11:44:26	1500.77	20.21	6.40	167.62	0.46	12.39	3.11	230.22
Variance 0			-0.17	0.03	-1.45			0.22	22.68
Variance 1			-0.14	0.02	-1.22			0.21	5.52
Variance 2			-0.17	0.01	-0.34			0.10	4.68

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-12 14:33:00

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	50 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.6631712 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	25.68 ft	Total Volume Pumped	7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:10:39	600.62	21.81	6.41	59.44	6.47	26.28	6.61	194.87
Last 5	14:15:39	900.62	21.87	6.40	58.91	4.22	26.21	6.42	136.64
Last 5	14:20:39	1200.62	22.82	6.45	58.64	4.41	26.18	6.24	117.82
Last 5	14:25:39	1500.61	23.08	6.50	58.35	4.13	26.15	6.21	117.26
Last 5	14:30:39	1800.61	23.42	6.51	58.25	3.95	26.16	6.15	114.62
Variance 0			0.95	0.05	-0.27			-0.18	-18.82
Variance 1			0.26	0.04	-0.29			-0.03	-0.55
Variance 2			0.34	0.02	-0.10			-0.05	-2.64

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 10:11:00

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	10 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	7.33 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	230 mL/min
Well diameter	2 in	Total System Volume	0.4846342 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	0.29 in
Depth to Water	6.18 ft	Total Volume Pumped	7.36 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:50:14	600.03	19.43	6.43	409.13	0.15	6.45	1.62	127.69
Last 5	09:55:14	900.02	19.50	6.39	407.51	0.10	6.47	1.43	120.98
Last 5	10:00:14	1200.02	19.48	6.37	406.68	0.67	6.47	1.34	117.27
Last 5	10:05:14	1500.09	19.45	6.36	407.05	0.50	6.47	1.32	115.31
Last 5	10:10:14	1800.09	19.50	6.35	406.22	0.17	6.47	1.30	113.58
Variance 0			-0.01	-0.02	-0.82			-0.09	-3.72
Variance 1			-0.03	-0.01	0.37			-0.02	-1.96
Variance 2			0.05	-0.01	-0.83			-0.02	-1.73

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-14 14:37:51

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	29.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5716709 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	7.69 ft	Total Volume Pumped	6.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:11:17	300.02	24.68	4.89	468.01	1.26	7.74	2.20	174.66
Last 5	14:16:17	600.02	22.87	4.86	470.33	0.62	7.71	1.15	184.02
Last 5	14:21:17	900.02	22.21	4.87	473.80	1.23	7.73	0.48	134.14
Last 5	14:26:17	1200.02	22.25	4.87	473.91	1.31	7.70	0.38	125.70
Last 5	14:36:17	1800.02	21.95	4.86	474.52	1.01	7.69	0.29	120.52
Variance 0			-0.67	0.01	3.47			-0.67	-49.88
Variance 1			0.05	-0.00	0.11			-0.11	-8.43
Variance 2			-0.30	-0.02	0.61			-0.09	-5.18

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-14 15:34:17

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	50.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.6654028 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	2.66 ft	Total Volume Pumped	9.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:12:53	600.03	22.52	5.85	846.47	9.45	2.74	1.45	68.06
Last 5	15:17:53	900.03	22.28	5.87	848.30	6.50	2.71	1.66	93.85
Last 5	15:22:53	1200.02	22.00	5.87	849.24	3.97	2.74	1.70	71.04
Last 5	15:27:53	1500.02	21.99	5.85	848.52	2.32	2.69	1.66	86.48
Last 5	15:32:53	1800.02	22.12	5.87	848.51	2.04	2.69	1.50	97.46
Variance 0			-0.27	-0.01	0.95			0.04	-22.81
Variance 1			-0.01	-0.02	-0.73			-0.04	15.44
Variance 2			0.13	0.02	-0.01			-0.15	10.98

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 11:15:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	33.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5895247 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	2.14 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:58:36	300.03	23.62	5.98	654.31	1.33	2.21	2.72	59.29
Last 5	11:03:36	600.02	22.10	6.05	657.73	1.35	2.18	1.36	105.15
Last 5	11:08:36	900.02	21.43	6.06	662.64	1.97	2.15	0.95	74.95
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-1.52	0.06	3.43			-1.35	45.86
Variance 2			-0.67	0.01	4.90			-0.41	-30.19

Notes

iSitu finished prematurely. Purge data continued on a separate file

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 11:36:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	33.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5895247 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	2.14 ft	Total Volume Pumped	8.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:24:11	300.10	21.14	6.06	662.09	1.67	2.21	0.62	82.69
Last 5	11:29:11	600.02	20.94	6.06	662.67	1.50	2.18	0.56	72.82
Last 5	11:34:11	900.02	20.65	6.06	659.39	0.75	2.20	0.52	71.01
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.20	-0.00	0.57			-0.05	-9.87
Variance 2			-0.29	0.00	-3.28			-0.05	-1.81

Notes

This file is continued from previous purge data for BRGWC-35S due to application quitting. Purge started at 1053
Purge started at 1053. See additional file for previous purge data

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 12:39:06

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	peristaltic
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29.02 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.19 in
Depth to Water	2.14 ft	Total Volume Pumped	5.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:17:12	300.03	25.69	5.93	709.04	2.07	2.28	2.35	155.25
Last 5	12:22:12	600.02	25.01	5.67	702.17	1.62	2.29	2.43	149.08
Last 5	12:27:12	900.02	24.23	5.60	662.96	1.47	2.33	2.54	144.33
Last 5	12:32:12	1200.02	23.56	5.57	657.02	0.86	2.33	2.62	146.46
Last 5	12:37:12	1500.02	23.00	5.55	654.09	0.37	2.33	2.74	149.66
Variance 0			-0.77	-0.08	-39.22			0.11	-4.75
Variance 1			-0.67	-0.03	-5.94			0.08	2.13
Variance 2			-0.56	-0.01	-2.93			0.11	3.20

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 10:07:23

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	0.170 in
Site Name	Default Site	Tubing Length	66.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63.55 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7368176 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	49.46 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:44:35	600.02	22.08	6.04	56.39	6.04	50.04	7.64	142.22
Last 5	09:49:35	900.02	22.01	5.93	55.76	1.83	50.05	7.42	135.54
Last 5	09:54:35	1200.02	22.08	5.86	56.15	3.30	50.00	7.43	163.50
Last 5	09:59:35	1500.00	21.90	5.82	55.65	1.06	50.02	7.37	172.77
Last 5	10:04:35	1800.00	22.01	5.80	55.28	--	--	7.30	131.06
Variance 0			0.08	-0.07	0.39			0.01	27.96
Variance 1			-0.18	-0.04	-0.50			-0.06	9.28
Variance 2			0.11	-0.02	-0.37			-0.08	-41.71

Notes

Final turbidity 0.90 NTU. Final DTW 50.02

Grab Samples

Product Name: Low-Flow System

Date: 2017-06-15 13:51:36

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Teflon
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	43 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6319272 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.91 in
Depth to Water	20.23 ft	Total Volume Pumped	6.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:29:33	600.02	22.05	4.43	917.53	2.96	21.27	2.11	313.76
Last 5	13:34:33	900.28	22.04	4.41	920.29	3.33	21.27	1.91	324.44
Last 5	13:39:33	1200.28	22.09	4.40	921.89	1.31	21.18	1.79	317.56
Last 5	13:44:33	1500.28	22.07	4.38	924.81	0.37	21.13	1.61	325.08
Last 5	13:49:33	1800.29	22.08	4.35	935.43	0.49	21.14	1.64	311.64
Variance 0			0.05	-0.01	1.60			-0.12	-6.88
Variance 1			-0.01	-0.02	2.93			-0.18	7.52
Variance 2			0.01	-0.03	10.62			0.03	-13.44

Notes

Grab Samples

FIELD DATA FORMS

September 2017

Product Name: Low-Flow System

Date: 2017-02-21 09:52:38

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	47.39 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42.39 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	260 mL/min
Well diameter	2 in	Total System Volume	0.6965216 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.15 in
Depth to Water	15.63 ft	Total Volume Pumped	10.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:30:31	1200.03	17.20	6.38	71.59	1.49	15.76	1.02	93.58
Last 5	09:35:31	1500.02	17.22	6.33	71.57	0.77	15.76	1.50	78.67
Last 5	09:40:31	1800.02	17.24	6.28	72.08	0.77	15.77	1.75	67.86
Last 5	09:45:31	2100.40	17.28	6.26	71.40	0.54	15.78	1.73	63.55
Last 5	09:50:31	2400.40	17.36	6.24	71.61	0.26	15.78	1.64	62.44
Variance 0			0.02	-0.04	0.51			0.26	-10.81
Variance 1			0.04	-0.02	-0.68			-0.02	-4.31
Variance 2			0.08	-0.02	0.21			-0.09	-1.11

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-21 11:15:31

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	66.96 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61.96 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	168 mL/min
Well diameter	2 in	Total System Volume	0.7838709 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.7 in
Depth to Water	15.69 ft	Total Volume Pumped	11.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:53:00	2400.02	17.72	7.32	242.10	5.74	17.44	1.06	-166.25
Last 5	10:58:00	2700.02	17.73	7.27	229.72	4.98	17.39	0.98	-155.46
Last 5	11:03:00	3000.12	17.68	7.22	221.51	4.62	17.39	0.91	-145.89
Last 5	11:08:00	3300.12	17.71	7.17	216.23	3.68	17.39	0.87	-136.79
Last 5	11:13:00	3600.12	17.71	7.15	212.92	3.61	17.39	0.83	-123.72
Variance 0			-0.04	-0.05	-8.20			-0.07	9.57
Variance 1			0.03	-0.04	-5.28			-0.03	9.10
Variance 2			-0.00	-0.03	-3.31			-0.04	13.06

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 15:22:45

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	Poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	38 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamont's 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6546101 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	11.78 ft	Total Volume Pumped	6.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:58:02	600.02	18.96	6.66	205.36	7.16	11.92	4.14	450.90
Last 5	15:03:02	900.02	18.92	6.66	205.60	6.52	11.89	3.22	438.52
Last 5	15:08:02	1200.02	19.14	6.65	204.78	4.86	11.87	3.10	424.65
Last 5	15:13:02	1500.02	19.26	6.65	203.65	4.60	11.92	3.06	415.40
Last 5	15:18:02	1800.02	19.23	6.65	203.13	4.23	11.93	3.00	408.85
Variance 0			0.22	-0.01	-0.82			-0.12	-13.87
Variance 1			0.12	0.00	-1.13			-0.04	-9.25
Variance 2			-0.03	-0.00	-0.52			-0.06	-6.54

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 15:19:21

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	63.82 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	190 mL/min
Well diameter	2 in	Total System Volume	0.7698557 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.18 in
Depth to Water	11.69 ft	Total Volume Pumped	5.13 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:57:21	300.03	19.44	6.60	180.64	2.21	11.84	3.51	119.12
Last 5	15:02:21	600.02	19.32	6.54	177.14	0.48	11.82	2.85	114.98
Last 5	15:07:21	900.02	19.22	6.49	173.81	1.26	11.89	2.93	112.76
Last 5	15:12:21	1200.29	19.11	6.45	172.52	1.50	11.83	3.06	111.32
Last 5	15:17:21	1500.28	19.31	6.44	170.77	1.02	11.87	3.05	110.50
Variance 0			-0.10	-0.05	-3.33			0.08	-2.22
Variance 1			-0.12	-0.03	-1.29			0.13	-1.44
Variance 2			0.21	-0.01	-1.75			-0.01	-0.82

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-20 14:01:23

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	52.90 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.7211151 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.9 in
Depth to Water	24.06 ft	Total Volume Pumped	8.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:38:59	900.03	19.49	6.88	57.86	2.95	24.98	6.42	116.39
Last 5	13:43:59	1200.02	19.43	6.77	58.52	4.44	24.97	6.32	116.29
Last 5	13:48:59	1500.02	19.32	6.70	59.34	4.74	24.97	6.23	115.96
Last 5	13:53:59	1800.02	19.44	6.64	59.83	4.41	24.96	6.08	116.18
Last 5	13:58:59	2100.02	19.32	6.61	60.50	4.48	24.96	6.05	116.52
Variance 0			-0.11	-0.07	0.81			-0.09	-0.33
Variance 1			0.13	-0.05	0.50			-0.15	0.22
Variance 2			-0.13	-0.04	0.67			-0.03	0.33

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 15:56:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	6 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamont's 2020we	Pump placement from TOC	6 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.5117806 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	9.88 ft	Stabilization Drawdown	0 in
Depth to Water	5.89 ft	Total Volume Pumped	9.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:30:07	600.53	17.05	6.41	345.38	1.02	6.09	2.40	180.77
Last 5	15:35:07	900.53	16.99	6.40	343.69	0.57	6.11	2.90	156.17
Last 5	15:40:07	1200.53	16.96	6.40	344.34	1.04	6.10	3.10	153.15
Last 5	15:45:07	1500.53	16.92	6.40	342.13	1.35	6.12	3.09	148.02
Last 5	15:50:07	1800.53	16.79	6.40	349.88	0.45	6.13	2.85	143.67
Variance 0			-0.03	-0.00	0.65			0.21	-3.02
Variance 1			-0.04	-0.00	-2.21			-0.01	-5.13
Variance 2			-0.12	-0.00	7.75			-0.24	-4.35

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 12:34:53

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.626312 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	6.86 ft	Total Volume Pumped	6.24 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:12:48	600.03	21.19	5.02	511.33	3.14	6.86	1.57	148.37
Last 5	12:17:48	900.02	21.05	4.92	510.98	3.64	6.86	1.08	149.54
Last 5	12:22:48	1200.02	21.00	4.88	511.52	2.32	6.86	0.73	150.73
Last 5	12:27:48	1500.02	21.07	4.87	510.43	1.94	6.86	0.58	151.64
Last 5	12:32:48	1800.02	21.14	4.86	508.85	1.26	6.86	0.49	151.45
Variance 0			-0.05	-0.04	0.54			-0.35	1.19
Variance 1			0.06	-0.02	-1.09			-0.15	0.91
Variance 2			0.08	-0.00	-1.57			-0.09	-0.19

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 14:30:47

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	52.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7199546 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	2.38 ft	Total Volume Pumped	11.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:08:35	1800.99	19.22	5.86	888.29	7.39	2.39	0.03	23.53
Last 5	14:13:35	2100.99	19.22	5.86	888.34	6.10	2.39	0.02	34.70
Last 5	14:18:35	2400.99	19.89	5.86	887.61	3.67	2.39	0.12	57.06
Last 5	14:23:35	2700.99	19.35	5.85	889.18	2.70	2.39	0.03	32.87
Last 5	14:28:35	3000.99	19.32	5.85	889.81	2.33	2.39	0.02	25.14
Variance 0			0.67	-0.01	-0.73			0.10	22.35
Variance 1			-0.54	-0.01	1.57			-0.09	-24.18
Variance 2			-0.03	0.00	0.63			-0.01	-7.73

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-22 15:58:32

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	35.34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	230 mL/min
Well diameter	2 in	Total System Volume	0.6427374 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9.03 in
Depth to Water	2.09 ft	Total Volume Pumped	9.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:36:07	1200.51	18.39	6.08	694.26	13.70	2.12	0.18	40.12
Last 5	15:41:07	1500.51	18.41	6.08	696.25	7.20	2.12	0.15	34.82
Last 5	15:46:07	1800.51	18.33	6.08	697.74	4.56	2.11	0.11	29.50
Last 5	15:51:07	2100.51	18.12	6.08	698.46	3.79	2.13	0.09	27.67
Last 5	15:56:07	2400.51	18.02	6.08	699.42	3.52	2.12	0.07	31.54
Variance 0			-0.09	-0.00	1.49			-0.04	-5.33
Variance 1			-0.21	-0.00	0.71			-0.02	-1.83
Variance 2			-0.10	0.00	0.97			-0.02	3.87

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 10:10:31

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Folder Associates	Tubing Type	poly
Project Name	Plant Branch Groundwater	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	34.02 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	378563		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29.02 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6368456 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.14 in
Depth to Water	1.78 ft	Total Volume Pumped	6.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:49:06	600.03	16.86	6.03	720.09	7.18	1.91	3.08	144.57
Last 5	09:54:06	900.02	16.96	5.82	718.33	3.06	1.92	3.02	136.81
Last 5	09:59:06	1200.02	17.09	5.73	715.91	3.36	1.92	3.02	130.60
Last 5	10:04:06	1500.02	17.18	5.68	712.71	2.86	1.92	2.95	126.15
Last 5	10:09:06	1800.02	17.35	5.65	710.02	1.12	1.92	2.89	122.99
Variance 0			0.13	-0.09	-2.42			-0.01	-6.21
Variance 1			0.09	-0.05	-3.20			-0.07	-4.45
Variance 2			0.17	-0.03	-2.69			-0.06	-3.16

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 12:21:39

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED dedicated bladder pump
Company Name	Golder Associates	Tubing Type	poly
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.779586 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	48.87 ft	Total Volume Pumped	9.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:00:03	300.02	20.50	5.59	53.67	2.37	49.60	7.09	178.56
Last 5	12:05:03	600.02	19.85	5.55	54.04	2.05	49.61	7.11	176.85
Last 5	12:10:03	900.02	20.75	5.55	53.91	2.36	49.59	6.89	165.88
Last 5	12:15:03	1200.03	20.70	5.55	53.78	2.22	49.65	6.88	171.62
Last 5	12:20:03	1500.03	22.76	5.57	53.47	1.65	49.67	6.57	173.08
Variance 0			0.90	0.00	-0.13			-0.23	-10.98
Variance 1			-0.05	0.00	-0.13			-0.00	5.75
Variance 2			2.06	0.02	-0.31			-0.32	1.46

Notes

Apple device overheated. Purged for 36 min before restarting at 1200

Grab Samples

Product Name: Low-Flow System

Date: 2017-02-23 10:36:18

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED dedicated bladder pump
Company Name	Golder Associates	Tubing Type	poly
Project Name	Plant Branch	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	58 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339100		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7438785 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	18.88 ft	Total Volume Pumped	7.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:15:04	900.57	20.05	4.57	932.47	7.57	19.87	1.39	316.15
Last 5	10:20:04	1200.57	20.12	4.63	927.10	4.71	19.83	1.22	296.01
Last 5	10:25:04	1500.57	20.21	4.68	929.16	3.72	19.84	1.08	272.12
Last 5	10:30:04	1800.56	20.21	4.72	929.93	2.95	19.88	0.99	268.85
Last 5	10:35:04	2100.57	20.26	4.73	926.93	2.55	19.85	0.92	257.20
Variance 0			0.09	0.05	2.06			-0.15	-23.89
Variance 1			-0.00	0.03	0.78			-0.08	-3.27
Variance 2			0.05	0.02	-3.00			-0.07	-11.64

Notes

Grab Samples

FIELD DATA FORMS

February 2018

Product Name: Low-Flow System

Date: 2018-02-13 15:22:50

Project Information:		Pump Information:	
Operator Name	Chris Gargan	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	33 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	33 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.7585402 L
Well Total Depth	38.36 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.72 in
Depth to Water	14.19 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:59:50	1799.97	15.92	6.14	64.09	3.25	14.25	0.70	203.79
Last 5	15:04:50	2099.97	15.89	6.16	63.53	3.13	14.25	0.79	193.82
Last 5	15:09:50	2399.97	15.94	6.18	63.54	3.09	14.25	0.62	179.91
Last 5	15:14:50	2699.97	15.95	6.18	63.94	3.20	14.25	0.55	170.31
Last 5	15:19:50	2999.97	16.18	6.18	64.07	3.11	14.25	0.56	158.34
Variance 0			0.05	0.02	0.01			-0.16	-13.91
Variance 1			0.01	0.00	0.40			-0.07	-9.60
Variance 2			0.22	0.00	0.13			0.01	-11.97

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-13 16:52:32

Project Information:		Pump Information:	
Operator Name	Chris Gargan	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	62 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	1.067428 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	24 in
Depth to Water	14.22 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	16:23:49	1200.02	16.59	7.27	263.32	0.78	15.98	0.09	-105.18
Last 5	16:28:49	1500.49	16.65	7.33	261.55	0.57	16.06	0.08	-104.60
Last 5	16:33:49	1800.49	16.63	7.40	259.61	0.76	16.14	0.07	-102.42
Last 5	16:38:49	2100.49	16.50	7.46	252.14	0.64	16.16	0.07	-99.54
Last 5	16:43:53	2404.49	16.59	7.44	236.33	0.48	16.22	0.07	-89.83
Variance 0			-0.02	0.07	-1.95			-0.01	2.17
Variance 1			-0.13	0.06	-7.47			-0.00	2.89
Variance 2			0.09	-0.02	-15.81			0.00	9.70

Notes

Sample at 1643

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-13 13:35:06

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.8711092 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.32 in
Depth to Water	12.66 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:11:46	900.02	16.73	6.62	157.72	1.16	12.74	2.55	96.83
Last 5	13:16:46	1200.02	16.74	6.67	162.07	1.37	12.74	2.33	95.37
Last 5	13:21:46	1500.02	16.76	6.70	167.12	1.19	12.71	2.18	93.64
Last 5	13:26:46	1800.02	16.78	6.71	169.61	1.10	12.73	2.06	93.05
Last 5	13:31:46	2100.02	16.78	6.72	171.83	--	--	2.03	91.99
Variance 0			0.02	0.03	5.05			-0.16	-1.73
Variance 1			0.02	0.02	2.50			-0.11	-0.59
Variance 2			0.00	0.01	2.22			-0.03	-1.07

Notes

Sample at 1532

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-13 12:35:12

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	60 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	59 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.064164 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	12.56 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:13:33	300.10	15.38	6.26	146.38	1.52	12.70	2.81	-2.91
Last 5	12:18:33	600.02	16.15	6.40	171.29	0.98	12.60	1.39	81.09
Last 5	12:23:33	900.02	16.02	6.55	176.67	0.71	12.66	1.01	91.61
Last 5	12:28:33	1200.02	15.97	6.61	177.67	0.65	12.72	0.94	85.15
Last 5	12:33:33	1500.02	16.15	6.62	174.16	0.54	1.67	0.98	83.06
Variance 0			-0.13	0.15	5.38			-0.38	10.52
Variance 1			-0.05	0.07	1.00			-0.07	-6.46
Variance 2			0.18	0.01	-3.51			0.04	-2.09

Notes

Sample at 1433

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-13 11:36:29

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	50 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.9676365 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	25.99 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:13:51	600.02	17.36	6.22	47.26	4.62	26.58	7.91	139.54
Last 5	11:18:52	900.25	17.39	6.39	47.00	3.86	26.57	8.60	130.01
Last 5	11:23:52	1200.24	17.40	6.49	47.08	367.00	26.61	7.64	125.53
Last 5	11:28:52	1500.24	17.41	6.52	47.34	2.77	26.64	7.46	123.48
Last 5	11:33:55	1803.24	17.39	6.54	47.80	2.71	26.63	7.99	121.62
Variance 0			0.01	0.09	0.08			-0.97	-4.48
Variance 1			0.01	0.04	0.26			-0.18	-2.05
Variance 2			-0.02	0.01	0.47			0.54	-1.86

Notes

Sample at 1333

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 11:51:03

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	7 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	6 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.5525691 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	4.08 in
Depth to Water	5.98 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:29:33	600.02	16.69	6.36	331.91	0.44	6.18	1.32	146.67
Last 5	11:34:33	900.02	16.74	6.35	333.25	0.24	6.24	1.18	153.64
Last 5	11:39:33	1200.02	16.73	6.35	333.39	0.15	6.22	1.07	163.73
Last 5	11:44:33	1500.02	16.78	6.34	333.72	0.14	6.26	0.98	173.87
Last 5	11:49:33	1800.02	16.70	6.35	334.23	0.13	6.32	0.89	181.81
Variance 0			-0.01	-0.00	0.14			-0.11	10.09
Variance 1			0.05	-0.01	0.33			-0.09	10.14
Variance 2			-0.08	0.01	0.51			-0.09	7.94

Notes

Sample at 1150

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 09:32:25

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7906055 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.04 in
Depth to Water	7.51 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:11:21	600.04	19.37	4.80	465.18	0.64	7.55	1.72	338.12
Last 5	09:16:21	900.02	19.42	4.83	462.95	1.05	7.55	1.42	352.45
Last 5	09:21:21	1200.02	19.48	4.84	462.64	1.04	7.55	1.04	367.57
Last 5	09:26:21	1500.02	19.51	4.84	462.51	0.45	7.55	0.88	384.22
Last 5	09:31:21	1800.02	19.57	4.84	463.10	0.47	7.55	0.85	397.48
Variance 0			0.07	0.01	-0.31			-0.37	15.12
Variance 1			0.03	0.00	-0.13			-0.16	16.65
Variance 2			0.06	0.00	0.59			-0.03	13.26

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 10:32:54

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	52.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	196 mL/min
Well diameter	2 in	Total System Volume	0.9931198 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.06 in
Depth to Water	2.36 ft	Total Volume Pumped	6.272 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:10:37	600.02	18.31	5.92	778.50	8.37	2.40	0.33	236.18
Last 5	10:15:37	900.02	18.38	5.93	778.10	6.92	2.40	0.21	236.71
Last 5	10:20:37	1200.02	18.41	5.93	777.35	3.18	2.41	0.15	230.80
Last 5	10:25:37	1500.02	18.46	5.93	777.31	2.32	2.42	0.12	225.13
Last 5	10:30:37	1800.03	18.46	5.93	777.56	1.98	2.42	0.09	227.10
Variance 0			0.04	-0.00	-0.75			-0.06	-5.91
Variance 1			0.04	0.00	-0.04			-0.03	-5.66
Variance 2			0.01	0.00	0.26			-0.03	1.97

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 09:31:28

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	32 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7938874 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.36 in
Depth to Water	2.00 ft	Total Volume Pumped	6.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:07:57	300.17	17.01	5.97	547.71	2.11	2.06	1.54	37.04
Last 5	09:12:57	600.02	17.27	6.00	546.99	1.16	2.08	0.64	102.57
Last 5	09:17:57	900.03	17.52	6.02	548.81	2.51	2.03	0.23	111.47
Last 5	09:22:57	1200.02	17.56	6.02	549.98	1.97	2.07	0.16	112.10
Last 5	09:27:57	1500.02	17.58	6.02	553.51	1.38	2.03	0.12	112.33
Variance 0			0.25	0.02	1.82			-0.42	8.90
Variance 1			0.05	0.00	1.16			-0.07	0.63
Variance 2			0.02	0.00	3.54			-0.03	0.23

Notes

Begin at 0903

Change pump rate to 300ml/min at 0907. Sample at 0927

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 11:46:02

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder	Tubing Type	peristaltic
Project Name	Plant Branch	Tubing Diameter	0.17 in
Site Name	Plant Branch	Tubing Length	35.72 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.72 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2494335 L
Well Total Depth	35.72 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.17 in
Depth to Water	2.38 ft	Total Volume Pumped	4.62 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:29:47	300.02	17.62	5.67	647.72	1.20	2.55	2.71	405.10
Last 5	11:34:47	600.02	17.51	5.66	640.60	1.02	2.55	2.69	407.57
Last 5	11:39:47	900.02	17.61	5.66	637.00	0.76	2.55	2.70	399.68
Last 5	11:44:47	1200.02	17.79	5.66	633.12	0.53	2.55	2.68	393.01
Last 5									
Variance 0			-0.11	-0.01	-7.12			-0.02	2.48
Variance 1			0.10	-0.00	-3.60			0.01	-7.90
Variance 2			0.18	-0.00	-3.88			-0.02	-6.67

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 14:12:33

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder	Tubing Type	bonded
Project Name	Plant Branch	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	68.73 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63.73 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	160 mL/min
Well diameter	2 in	Total System Volume	1.148432 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.67 in
Depth to Water	51.10 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:50:20	300.02	22.25	5.86	54.78	0.41	51.72	7.67	472.66
Last 5	13:55:20	600.02	21.61	5.84	54.99	0.41	51.74	7.76	498.89
Last 5	14:00:20	900.02	21.40	5.92	54.69	0.14	51.77	7.87	512.53
Last 5	14:05:20	1200.02	20.82	5.95	53.98	0.44	51.77	7.84	513.80
Last 5	14:10:20	1500.02	21.05	5.95	53.88	0.00	51.77	7.83	504.98
Variance 0			-0.21	0.08	-0.30			0.11	13.64
Variance 1			-0.58	0.03	-0.71			-0.03	1.27
Variance 2			0.23	0.00	-0.10			-0.01	-8.82

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-02-15 13:01:46

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Polyethylene Bonded
Project Name	1666254	Tubing Diameter	0.25 in
Site Name	Plant Branch	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	540534		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWV-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.8711092 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	12.6 in
Depth to Water	20.51 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:40:03	600.49	20.75	4.28	770.29	1.47	21.49	2.32	317.31
Last 5	12:45:03	900.49	20.61	4.29	765.86	0.60	21.42	1.87	322.63
Last 5	12:50:03	1200.49	20.41	4.29	764.52	0.50	21.54	1.63	319.70
Last 5	12:55:03	1500.49	20.66	4.29	764.30	0.38	21.59	1.68	308.39
Last 5	13:00:03	1800.49	22.89	4.30	761.01	0.10	21.56	1.56	306.09
Variance 0			-0.20	0.01	-1.33			-0.24	-2.94
Variance 1			0.24	-0.00	-0.22			0.05	-11.31
Variance 2			2.23	0.00	-3.29			-0.13	-2.30

Notes

Begin at 1230
Sample at 1300

Grab Samples

FIELD DATA FORMS

June 2018

Product Name: Low-Flow System

Date: 2018-06-26 11:53:58

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.9193729 L
Well Total Depth	47.39 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.13 in
Depth to Water	15.22 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:30:18	599.90	20.21	6.16	64.19	0.97	15.34	1.93	165.58
Last 5	11:35:18	899.90	20.05	6.07	64.00	0.95	15.33	1.49	151.83
Last 5	11:40:18	1199.90	19.80	6.09	63.40	0.80	15.35	1.16	140.42
Last 5	11:45:18	1499.90	19.77	6.06	63.14	0.47	15.36	1.04	137.14
Last 5	11:50:18	1799.90	19.79	6.05	62.77	1.08	15.35	1.05	135.10
Variance 0			-0.25	0.02	-0.60			-0.33	-11.40
Variance 1			-0.03	-0.03	-0.25			-0.11	-3.28
Variance 2			0.02	-0.00	-0.38			0.00	-2.04

Notes

Begin purge at 1120. Sample at 1150.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-26 12:53:09

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	61 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.112427 L
Well Total Depth	66.96 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.35 in
Depth to Water	15.10 ft	Total Volume Pumped	4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:30:46	1199.90	21.82	6.68	278.00	0.64	16.46	0.74	-47.19
Last 5	12:35:46	1499.90	22.04	6.79	281.30	1.12	16.48	0.75	-70.16
Last 5	12:40:46	1799.90	21.87	6.90	282.17	0.52	16.44	0.66	-80.19
Last 5	12:45:46	2099.90	22.37	6.90	283.03	0.13	16.41	0.68	-79.86
Last 5	12:50:46	2399.89	22.66	6.93	282.88	0.22	16.45	0.67	-84.39
Variance 0			-0.17	0.11	0.88			-0.08	-10.03
Variance 1			0.50	0.00	0.85			0.02	0.33
Variance 2			0.30	0.03	-0.15			-0.01	-4.53

Notes

Begin purge at 1210. Change flow rate to 109 ml/min at 1215. Sample at 1250

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-26 09:42:21

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.8711092 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.68 in
Depth to Water	12.19 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:24:22	300.12	22.16	6.66	192.38	0.57	12.26	2.77	182.65
Last 5	09:29:22	600.00	20.49	6.44	191.83	0.46	12.32	2.55	161.70
Last 5	09:34:22	900.00	20.57	6.45	195.77	1.72	12.33	2.39	148.85
Last 5	09:39:22	1200.00	20.55	6.43	197.74	1.41	12.33	2.41	145.45
Last 5									
Variance 0			-1.68	-0.23	-0.55			-0.22	-20.95
Variance 1			0.09	0.01	3.94			-0.16	-12.85
Variance 2			-0.02	-0.02	1.97			0.02	-3.39

Notes

Start purge at 0919

Sample at 0939

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-26 10:45:20

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	59 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.112427 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.9 in
Depth to Water	12.13 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:20:41	900.02	21.40	6.27	164.72	0.33	12.23	2.37	145.00
Last 5	10:25:41	1200.02	21.01	6.29	162.36	0.34	12.23	2.65	144.55
Last 5	10:30:41	1499.90	20.93	6.31	160.55	0.35	12.25	3.07	145.87
Last 5	10:35:41	1799.91	20.89	6.28	159.59	0.14	12.24	3.31	149.37
Last 5	10:40:41	2099.91	20.97	6.29	158.68	0.09	12.22	3.42	148.92
Variance 0			-0.08	0.02	-1.81			0.41	1.32
Variance 1			-0.04	-0.02	-0.96			0.24	3.49
Variance 2			0.09	0.01	-0.91			0.11	-0.44

Notes

Begin purging at 1005. Sample at 1040

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-26 09:47:59

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	52.90 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.9956295 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.6 in
Depth to Water	25.59 ft	Total Volume Pumped	3.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:30:07	300.14	21.32	6.40	56.07	3.25	26.07	7.05	267.93
Last 5	09:35:06	600.03	21.10	6.17	55.81	3.62	26.12	7.04	260.30
Last 5	09:40:06	900.02	20.83	6.19	55.30	3.85	26.20	6.95	267.84
Last 5	09:45:06	1200.02	20.85	6.23	55.80	3.85	26.19	7.00	287.53
Last 5									
Variance 0			-0.22	-0.23	-0.26			-0.01	-7.63
Variance 1			-0.27	0.02	-0.51			-0.09	7.54
Variance 2			0.02	0.04	0.50			0.05	19.69

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-27 15:57:35

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	pine
Company Name	Golder Associates	Tubing Type	LDPE
Project Name	Plant Branch	Tubing Diameter	0.17 in
Site Name	Plant Branch	Tubing Length	10.0 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	7.88 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	135 mL/min
Well diameter	2 in	Total System Volume	0.1346342 L
Well Total Depth	9.88 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	0.69 in
Depth to Water	6.49 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	15:34:02	2100.81	22.85	6.39	425.65	5.04	7.04	5.93	226.23
Last 5	15:39:02	2400.81	22.36	6.37	408.66	4.99	7.08	2.28	220.83
Last 5	15:44:02	2700.81	22.08	6.35	412.39	1.85	7.12	0.80	215.68
Last 5	15:49:03	3001.81	21.95	6.35	413.23	0.83	7.16	0.70	209.74
Last 5	15:54:03	3301.81	21.82	6.35	415.06	0.72	7.18	0.72	205.54
Variance 0			-0.28	-0.02	3.73			-1.48	-5.16
Variance 1			-0.13	0.00	0.84			-0.09	-5.94
Variance 2			-0.13	-0.00	1.83			0.02	-4.20

Notes

Purged 3x well volumes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-27 11:39:45

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	268 mL/min
Well diameter	2 in	Total System Volume	0.7906055 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.06 in
Depth to Water	7.52 ft	Total Volume Pumped	5.36 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:23:04	300.13	21.41	4.64	471.93	0.38	7.58	0.29	324.37
Last 5	11:28:04	600.02	21.37	4.71	470.76	0.86	7.58	0.19	332.83
Last 5	11:33:04	900.02	21.41	4.72	472.11	0.25	7.58	0.18	335.56
Last 5	11:38:04	1200.02	21.50	4.73	471.40	0.12	7.58	0.15	333.89
Last 5									
Variance 0			-0.04	0.08	-1.17			-0.10	8.47
Variance 1			0.04	0.01	1.35			-0.02	2.73
Variance 2			0.09	0.01	-0.71			-0.03	-1.67

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-27 12:55:58

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	52.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	340 mL/min
Well diameter	2 in	Total System Volume	0.9931198 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	2.61 ft	Total Volume Pumped	11.9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	12:35:20	900.02	21.77	5.45	732.79	0.25	2.61	0.17	193.59
Last 5	12:40:20	1200.07	21.90	5.55	732.20	0.26	2.61	0.12	196.13
Last 5	12:45:20	1500.39	21.73	5.61	730.77	0.30	2.61	0.09	199.03
Last 5	12:50:20	1800.37	21.74	5.65	732.02	0.46	2.61	0.10	200.76
Last 5	12:55:20	2100.37	21.73	5.68	729.78	0.26	2.61	0.08	202.17
Variance 0			-0.17	0.07	-1.43			-0.03	2.91
Variance 1			0.02	0.03	1.25			0.01	1.72
Variance 2			-0.01	0.03	-2.24			-0.02	1.41

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-27 13:47:49

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	35.34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.8261276 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.02 in
Depth to Water	2.15 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:31:22	300.03	22.56	5.91	660.75	3.23	2.17	1.09	73.07
Last 5	13:36:22	600.02	22.35	5.97	660.09	2.01	2.16	0.37	108.13
Last 5	13:41:22	900.02	22.41	5.99	663.12	1.84	2.16	0.23	124.96
Last 5	13:46:22	1200.02	22.53	6.01	664.14	1.93	2.16	0.18	135.01
Last 5									
Variance 0			-0.22	0.06	-0.65			-0.72	35.06
Variance 1			0.06	0.02	3.02			-0.14	16.82
Variance 2			0.12	0.02	1.03			-0.05	10.05

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-28 09:26:00

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	Pine
Company Name	Golder Associates	Tubing Type	LDPE
Project Name	Plant Branch	Tubing Diameter	.17 in
Site Name	Plant Branch	Tubing Length	34.00 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	29.04 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2417564 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.18 in
Depth to Water	2.67 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:09:03	300.05	21.14	5.77	645.88	2.13	2.82	2.64	231.54
Last 5	09:14:03	600.02	21.15	5.60	637.31	1.57	2.84	2.57	227.65
Last 5	09:19:03	900.03	21.37	5.58	631.76	1.20	2.85	2.48	223.17
Last 5	09:24:03	1200.02	21.29	5.57	631.72	0.88	2.85	2.44	223.62
Last 5 Variance 0			0.00	-0.17	-8.57			-0.08	-3.88
Variance 1			0.22	-0.02	-5.54			-0.09	-4.48
Variance 2			-0.08	-0.01	-0.05			-0.04	0.45

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-28 10:55:40

Project Information:		Pump Information:	
Operator Name	William Ballow	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	Bonded Polyethylene
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	68 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541717		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.141386 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.65 in
Depth to Water	51.34 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:38:16	300.10	20.90	5.69	54.20	1.97	51.90	7.74	121.89
Last 5	10:43:16	600.02	20.57	5.76	53.34	0.99	51.98	7.90	117.12
Last 5	10:48:16	900.02	20.66	5.74	52.86	0.07	52.04	7.90	119.34
Last 5	10:53:17	1200.69	20.75	5.78	52.69	0.01	52.01	7.88	118.58
Last 5									
Variance 0			-0.33	0.07	-0.85			0.16	-4.78
Variance 1			0.09	-0.02	-0.48			0.00	2.23
Variance 2			0.09	0.04	-0.17			-0.02	-0.77

Notes

Begin purge at 1030
Sample at 1053

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-28 13:22:06

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	bonded poly
Project Name	Plant Branch	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	43.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38s	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.9064382 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.8 in
Depth to Water	20.24 ft	Total Volume Pumped	3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:05:54	300.68	21.44	4.18	886.17	0.31	20.98	2.02	398.84
Last 5	13:10:54	600.68	21.01	4.16	894.42	0.19	20.99	1.95	398.98
Last 5	13:15:54	900.68	20.92	4.16	893.25	0.40	21.01	1.83	398.50
Last 5	13:20:54	1200.68	20.92	4.16	893.73	0.28	21.04	1.82	391.71
Last 5									
Variance 0			-0.43	-0.01	8.25			-0.07	0.13
Variance 1			-0.08	-0.00	-1.17			-0.12	-0.48
Variance 2			-0.00	0.01	0.48			-0.01	-6.79

Notes

Grab Samples

FIELD DATA FORMS

December 2018

Product Name: Low-Flow System

Date: 2018-12-18 11:21:05

Project Information:		Pump Information:	
Operator Name	Chris Tidwell	Pump Model/Type	QED Well Wizard
Company Name	Golder Associates	Tubing Type	polyethelene
Project Name	1666254	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	44.6 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	553835		
Turbidity Make/Model	LaMotte	Pump placement from TOC	39.6 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	175 mL/min
Well diameter	2 in	Total System Volume	0.6840687 L
Well Total Depth	44.6 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.92 in
Depth to Water	14.13 ft	Total Volume Pumped	8.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:58:08	1800.02	16.02	6.02	64.81	0.96	14.30	1.29	30.40
Last 5	11:03:08	2099.93	16.11	5.98	65.08	1.05	14.29	1.79	33.53
Last 5	11:08:08	2399.93	16.07	5.94	64.61	0.84	14.29	1.20	33.86
Last 5	11:13:08	2699.93	16.07	5.97	64.68	0.52	14.29	1.17	35.24
Last 5	11:18:08	2999.93	16.15	5.92	64.57	0.62	14.29	1.25	37.24
Variance 0			-0.04	-0.04	-0.47			-0.59	0.33
Variance 1			0.00	0.03	0.06			-0.03	1.38
Variance 2			0.08	-0.05	-0.11			0.07	2.00

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 10:07:58

Project Information:		Pump Information:	
Operator Name	Chris Tidwell	Pump Model/Type	QED Well Wizard
Company Name	Golder Associates	Tubing Type	polyethelene
Project Name	1666254	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	64.3 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	553835		
Turbidity Make/Model	LaMotte	Pump placement from TOC	59.3 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	170 mL/min
Well diameter	2 in	Total System Volume	0.7719981 L
Well Total Depth	64.3 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	27.24 in
Depth to Water	14.24 ft	Total Volume Pumped	10.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:45:06	2400.02	15.03	6.87	225.44	0.67	16.47	0.13	78.53
Last 5	09:50:06	2700.02	14.98	6.84	214.60	0.71	16.49	0.13	73.99
Last 5	09:55:06	3000.02	14.96	6.82	202.86	0.65	16.50	0.13	71.44
Last 5	10:00:06	3300.36	14.95	6.74	197.56	0.67	16.51	0.14	68.25
Last 5	10:05:12	3606.36	15.03	6.76	192.08	0.69	16.51	0.14	61.37
Variance 0			-0.02	-0.02	-11.74			0.00	-2.55
Variance 1			-0.01	-0.08	-5.30			0.01	-3.19
Variance 2			0.08	0.02	-5.48			0.00	-6.87

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 12:14:33

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	43.01 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.01 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	190 mL/min
Well diameter	2 in	Total System Volume	0.6769718 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**0.96** in
Depth to Water	12.11 ft	Total Volume Pumped	5.89 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:52:41	600.48	18.27	6.63	168.04	3.21	12.21	4.86	154.95
Last 5	11:57:41	900.48	18.34	6.66	171.18	2.42	12.23	4.60	186.23
Last 5	12:02:41	1200.48	18.34	6.68	175.15	2.19	12.21	4.36	230.63
Last 5	12:07:41	1500.48	18.52	6.69	178.50	2.26	12.20	4.17	280.21
Last 5	12:12:41	1800.48	18.59	6.70	180.43	2.81	12.19	3.97	348.37
Variance 0			-0.01	0.02	3.96			-0.24	44.39
Variance 1			0.18	0.01	3.35			-0.18	49.59
Variance 2			0.07	0.00	1.93			-0.20	68.16

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 11:19:36

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	63.82 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7698557 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.8 in
Depth to Water	12.01 ft	Total Volume Pumped	10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:58:05	1800.60	17.49	6.61	190.32	0.73	12.17	1.87	167.08
Last 5	11:03:05	2100.60	17.53	6.60	187.71	0.71	12.17	2.04	165.63
Last 5	11:08:05	2400.60	17.45	6.59	186.56	0.69	12.16	2.19	162.47
Last 5	11:13:05	2700.60	17.46	6.58	184.69	0.64	12.16	2.32	157.90
Last 5	11:18:05	3000.60	17.46	6.57	183.56	0.66	12.16	2.40	154.68
Variance 0			-0.09	-0.01	-1.15			0.16	-3.16
Variance 1			0.01	-0.01	-1.87			0.13	-4.57
Variance 2			0.00	-0.01	-1.13			0.08	-3.22

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 09:46:19

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	52.90 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7211151 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**5.16** in
Depth to Water	24.89 ft	Total Volume Pumped	**5.25** L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:25:03	300.03	16.91	7.05	57.17	1.52	25.34	7.68	161.90
Last 5	09:30:03	600.03	16.73	6.86	56.74	2.08	25.39	7.49	146.84
Last 5	09:35:03	900.02	16.78	6.78	56.82	0.90	25.35	7.44	144.10
Last 5	09:40:03	1200.02	16.78	6.74	56.90	1.38	25.32	7.36	151.63
Last 5	09:45:03	1500.02	17.24	6.71	56.93	1.20	25.32	7.21	166.80
Variance 0			0.04	-0.08	0.09			-0.06	-2.73
Variance 1			0.00	-0.04	0.07			-0.08	7.53
Variance 2			0.46	-0.03	0.03			-0.15	15.17

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-19 09:51:46

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	7.40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	6.40 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	155 mL/min
Well diameter	2 in	Total System Volume	0.1230293 L
Well Total Depth	7.40 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	**2.16** in
Depth to Water	5.80 ft	Total Volume Pumped	4.65 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	09:30:20	600.02	14.50	6.96	419.75	2.30	5.92	1.16	111.24
Last 5	09:35:20	900.02	14.58	6.72	420.36	0.92	5.92	1.11	102.26
Last 5	09:40:20	1200.02	14.58	6.62	418.76	0.81	5.94	1.05	96.87
Last 5	09:45:26	1506.02	14.69	6.58	421.16	0.65	5.96	1.02	93.04
Last 5	09:50:26	1806.02	14.68	6.56	422.99	0.56	5.98	1.05	90.42
Variance 0			-0.00	-0.09	-1.60			-0.06	-5.39
Variance 1			0.11	-0.04	2.41			-0.03	-3.84
Variance 2			-0.01	-0.02	1.83			0.03	-2.62

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 14:05:52

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.25 in
Site Name	Plant Branch	Tubing Length	31.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-33S	Final Pumping Rate	230 mL/min
Well diameter	2 in	Total System Volume	0.7906055 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.36 in
Depth to Water	6.52 ft	Total Volume Pumped	11.96 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	13:44:28	1800.02	20.48	4.86	490.30	0.79	6.53	0.29	316.64
Last 5	13:49:28	2100.02	20.58	4.85	489.53	0.47	6.55	0.53	320.95
Last 5	13:54:28	2400.02	20.65	4.84	489.54	0.49	6.55	0.18	322.64
Last 5	13:59:28	2700.02	20.69	4.83	489.03	0.49	6.55	0.13	322.03
Last 5	14:04:28	3000.02	20.38	4.84	489.81	0.59	6.55	0.28	322.02
Variance 0			0.07	-0.01	0.02			-0.35	1.69
Variance 1			0.04	-0.01	-0.51			-0.05	-0.61
Variance 2			-0.31	0.01	0.78			0.15	-0.02

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-18 15:10:26

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.250 in
Site Name	Plant Branch	Tubing Length	54.64 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	49.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	320 mL/min
Well diameter	2 in	Total System Volume	1.012425 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.12 in
Depth to Water	2.29 ft	Total Volume Pumped	7.68 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:54:20	300.33	19.76	5.97	720.41	0.56	2.30	0.16	186.33
Last 5	14:59:20	600.33	19.90	5.97	718.47	0.77	2.30	0.11	216.41
Last 5	15:04:20	900.33	19.72	5.97	718.85	0.47	2.30	0.08	231.85
Last 5	15:09:20	1200.33	19.79	5.97	717.93	0.62	2.30	0.07	239.59
Last 5									
Variance 0			0.13	0.01	-1.94			-0.05	30.08
Variance 1			-0.17	-0.00	0.39			-0.03	15.44
Variance 2			0.07	-0.00	-0.93			-0.02	7.74

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-19 11:52:43

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.250 in
Site Name	Plant Branch	Tubing Length	35.34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.34 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	220 mL/min
Well diameter	2 in	Total System Volume	0.8261276 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**0.24** in
Depth to Water	1.78 ft	Total Volume Pumped	6.16 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	11:31:12	300.10	17.01	6.20	650.27	3.23	1.87	2.47	63.51
Last 5	11:36:12	600.03	17.21	6.21	652.00	2.81	1.78	1.84	80.40
Last 5	11:41:12	900.02	17.38	6.21	652.61	2.06	1.80	1.61	84.90
Last 5	11:46:12	1200.02	17.63	6.22	653.60	1.51	1.80	1.54	87.54
Last 5	11:51:12	1500.02	17.52	6.22	659.33	1.17	1.80	1.41	89.41
Variance 0			0.17	0.00	0.61			-0.23	4.49
Variance 1			0.25	0.00	0.99			-0.07	2.64
Variance 2			-0.11	-0.00	5.74			-0.13	1.86

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-19 14:19:30

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	peristaltic
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Plant Branch	Tubing Length	34.02 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30.02 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2418457 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**1.68** in
Depth to Water	2.31 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	14:02:15	300.03	16.19	5.89	702.77	1.43	2.40	2.25	130.12
Last 5	14:07:15	600.02	16.20	5.79	698.60	2.00	2.42	2.22	128.24
Last 5	14:12:15	900.62	16.19	5.77	689.32	2.28	2.43	2.22	125.96
Last 5	14:17:15	1200.62	16.02	5.76	686.57	1.46	2.45	2.28	124.22
Last 5									
Variance 0			0.00	-0.09	-4.17			-0.03	-1.88
Variance 1			-0.01	-0.02	-9.28			-0.01	-2.28
Variance 2			-0.17	-0.02	-2.74			0.06	-1.74

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-19 10:46:38

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.250 in
Site Name	Plant Branch	Tubing Length	68.73 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	63.73 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	1.148432 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9.96 in
Depth to Water	51.92 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	10:30:15	300.12	17.09	6.36	55.54	0.68	52.65	8.27	164.77
Last 5	10:35:15	600.02	17.12	6.12	54.95	0.54	52.65	8.29	159.13
Last 5	10:40:16	900.64	17.49	6.09	54.86	0.59	52.79	8.32	154.58
Last 5	10:45:16	1200.64	17.49	6.07	54.53	0.51	52.75	8.28	153.80
Last 5									
Variance 0			0.03	-0.24	-0.59			0.02	-5.64
Variance 1			0.37	-0.03	-0.09			0.03	-4.55
Variance 2			-0.00	-0.03	-0.33			-0.04	-0.78

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-20 08:59:14

Project Information:		Pump Information:	
Operator Name	Travis Martinez	Pump Model/Type	QED
Company Name	Golder Associates	Tubing Type	poly
Project Name	166625418	Tubing Diameter	.250 in
Site Name	Plant Branch	Tubing Length	43.66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538245		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	38.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	155 mL/min
Well diameter	2 in	Total System Volume	0.9064382 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	**11.28** in
Depth to Water	19.67 ft	Total Volume Pumped	4.65 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 0
Last 5	08:36:54	600.02	16.12	4.24	866.06	0.94	20.58	1.96	360.62
Last 5	08:41:54	900.03	16.14	4.22	864.31	0.58	20.60	1.70	355.19
Last 5	08:46:54	1200.02	16.22	4.22	863.21	0.51	20.54	1.60	348.04
Last 5	08:51:55	1500.59	16.27	4.21	861.90	0.52	20.54	1.49	343.99
Last 5	08:56:55	1800.59	16.33	4.21	861.75	0.58	20.61	1.41	335.18
Variance 0			0.08	-0.01	-1.10			-0.10	-7.16
Variance 1			0.05	-0.00	-1.31			-0.11	-4.04
Variance 2			0.06	0.00	-0.15			-0.08	-8.81

Notes

Grab Samples

FIELD DATA FORMS

March 2019

Product Name: Low-Flow System

Date: 2019-03-19 10:14:08

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	39.6 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	39.6 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.6617516 L
Well Total Depth	44.6 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.28 in
Depth to Water	12.95 ft	Total Volume Pumped	7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:51:24	600.02	15.34	6.37	65.88	0.87	13.14	1.21	-60.06
Last 5	09:56:24	900.01	15.59	6.28	64.74	0.70	13.14	0.70	-61.69
Last 5	10:01:24	1200.01	15.45	6.22	63.45	0.82	13.14	1.20	-62.77
Last 5	10:06:25	1501.01	15.39	6.19	64.11	0.79	13.14	1.20	-63.20
Last 5	10:11:25	1801.01	15.29	6.18	64.22	0.95	13.14	1.03	-63.38
Variance 0			-0.13	-0.06	-1.29			0.50	-1.08
Variance 1			-0.06	-0.03	0.66			-0.01	-0.43
Variance 2			-0.10	-0.02	0.11			-0.16	-0.17

Notes

Sampled BRGWA-2S at 1010. FB-1 here

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 11:27:37

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	59.3 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	59.3 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-2I	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.7496811 L
Well Total Depth	64.3 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	46.92 in
Depth to Water	12.94 ft	Total Volume Pumped	16.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:05:17	2100.01	15.92	6.96	201.17	0.46	16.75	0.13	-87.04
Last 5	11:10:20	2403.00	16.04	6.92	191.99	0.50	16.80	0.15	-81.34
Last 5	11:15:20	2703.00	16.06	6.89	184.30	0.41	16.85	0.19	-78.69
Last 5	11:20:21	3003.99	16.06	6.87	182.31	0.36	16.85	0.19	-78.39
Last 5	11:25:21	3303.99	16.01	6.87	181.00	0.38	16.85	0.21	-77.53
Variance 0			0.01	-0.03	-7.69			0.03	2.65
Variance 1			0.00	-0.02	-1.99			0.01	0.30
Variance 2			-0.05	0.00	-1.31			0.01	0.86

Notes

Sampled BRGWA-2I at 1125. DUP-1 here

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 12:18:32

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	38.01 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	38.01 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5S	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.6546547 L
Well Total Depth	43.01 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.8 in
Depth to Water	10.33 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:01:29	300.03	17.45	6.50	180.30	2.06	10.48	2.00	-69.14
Last 5	12:06:29	600.02	17.54	6.55	186.44	2.02	10.48	1.76	-68.87
Last 5	12:11:29	900.02	17.68	6.60	189.53	3.09	10.48	1.72	-68.59
Last 5	12:16:29	1200.02	17.49	6.63	190.28	2.68	10.48	1.76	-68.57
Last 5									
Variance 0			0.08	0.05	6.13			-0.24	0.26
Variance 1			0.14	0.05	3.09			-0.04	0.29
Variance 2			-0.19	0.03	0.75			0.04	0.02

Notes

Sampled BRGWA-5S at 1215

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 12:52:04

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	58.82 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	58.82 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-5I	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.7475385 L
Well Total Depth	63.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.12 in
Depth to Water	10.24 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:35:19	300.03	17.98	6.33	163.40	0.51	10.45	3.70	-69.73
Last 5	12:40:19	600.02	17.98	6.40	160.12	0.64	10.50	4.14	-66.70
Last 5	12:45:19	900.02	18.15	6.43	159.89	0.76	10.50	4.23	-66.19
Last 5	12:50:19	1200.02	17.81	6.45	159.95	0.85	10.50	4.27	-65.23
Last 5									
Variance 0			0.00	0.08	-3.28			0.43	3.03
Variance 1			0.17	0.03	-0.23			0.10	0.51
Variance 2			-0.34	0.02	0.06			0.04	0.97

Notes

Sampled BRGWA-5I at 1250

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 10:23:22

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	QED well wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Default Site	Tubing Length	47.90 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model		Pump placement from TOC	47.90 ft

Well Information:		Pumping Information:	
Well ID	BRGWA-6S	Final Pumping Rate	165 mL/min
Well diameter	2 in	Total System Volume	0.698798 L
Well Total Depth	52.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.8 in
Depth to Water	22.02 ft	Total Volume Pumped	4.95 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:58:23	600.01	14.66	5.83	57.20	0.95	22.11	6.05	58.21
Last 5	10:03:23	900.00	13.89	6.01	57.52	1.16	22.09	6.16	58.33
Last 5	10:08:23	1199.98	13.75	6.11	58.26	0.96	22.09	6.59	61.54
Last 5	10:13:23	1499.97	13.80	6.12	58.73	0.92	22.09	6.78	64.41
Last 5	10:18:23	1799.97	14.12	6.18	59.26	0.98	22.09	7.05	64.20
Variance 0			-0.14	0.09	0.74			0.44	3.21
Variance 1			0.06	0.01	0.47			0.19	2.88
Variance 2			0.32	0.07	0.52			0.27	-0.21

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 15:27:12

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	7 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	7 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	0 mL/min
Well diameter	2 in	Total System Volume	0.121244 L
Well Total Depth	9.15 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	0 in
Depth to Water	6.1 ft	Total Volume Pumped	0 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:15:19	300.03	16.86	6.48	407.65	14.10	6.21	1.44	-76.63
Last 5									
Last 5									
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.00	0.00	0.00			0.00	0.00
Variance 2			0.00	0.00	0.00			0.00	0.00

Notes

Two readings skipped,smartroll frozen. Restarting low flow. 3.75L purged

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 15:52:11

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	7 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	7 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-17S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.121244 L
Well Total Depth	9.15 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	2.52 in
Depth to Water	6.10 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:33:30	300.03	16.65	6.44	285.79	5.10	6.31	2.43	-68.76
Last 5	15:38:30	600.02	16.64	6.44	408.50	4.48	6.31	2.51	-68.61
Last 5	15:43:30	900.02	16.66	6.43	410.78	2.76	6.31	2.85	-66.36
Last 5	15:48:30	1200.02	16.42	6.43	407.06	2.19	6.31	1.52	-68.26
Last 5									
Variance 0			-0.01	-0.00	122.70			0.08	0.15
Variance 1			0.03	-0.01	2.28			0.34	2.25
Variance 2			-0.25	0.00	-3.72			-1.34	-1.90

Notes

Purged previously 3.75L, smartroll froze - additional file created. Refer to field form for NTU/DTW data skipped. WL in screen, three volume method. 3.75L + 5L = 8.75L. Sampled at 1550

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 09:42:08

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	QED well wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Default Site	Tubing Length	26.66 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model		Pump placement from TOC	26.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWc-33S	Final Pumping Rate	190 mL/min
Well diameter	2 in	Total System Volume	0.6039948 L
Well Total Depth	31.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.1 in
Depth to Water	6.42 ft	Total Volume Pumped	4.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:16:08	300.09	15.63	4.53	486.29	0.44	6.50	0.84	123.02
Last 5	09:21:08	600.01	16.77	4.73	497.81	0.22	6.49	0.89	114.53
Last 5	09:26:08	900.00	16.83	4.76	471.29	0.20	6.50	1.03	110.50
Last 5	09:31:08	1199.99	16.87	4.74	471.08	0.57	6.51	1.07	110.10
Last 5	09:36:08	1499.98	16.90	4.77	471.25	0.55	6.51	1.12	107.76
Variance 0			0.06	0.03	-26.52			0.14	-4.03
Variance 1			0.03	-0.02	-0.21			0.04	-0.40
Variance 2			0.03	0.03	0.17			0.05	-2.34

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 10:41:23

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	QED well wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Default Site	Tubing Length	47.64 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte	Pump placement from TOC	47.64 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-34S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6976374 L
Well Total Depth	52.64 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.2 in
Depth to Water	2.33 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:18:40	300.03	16.27	5.79	688.68	0.61	2.35	0.58	87.12
Last 5	10:23:40	600.01	15.92	5.82	695.61	0.12	2.35	0.43	86.42
Last 5	10:28:40	900.00	16.32	5.83	688.55	0.08	2.35	0.27	86.18
Last 5	10:33:40	1199.99	16.55	5.84	685.11	0.11	2.35	0.24	86.28
Last 5	10:38:40	1499.98	16.55	5.84	686.26	--	--	0.24	86.21
Variance 0			0.39	0.01	-7.07			-0.16	-0.24
Variance 1			0.23	0.00	-3.44			-0.03	0.10
Variance 2			0.00	0.00	1.16			0.00	-0.07

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 11:57:22

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	QED well wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	.170 in
Site Name	Default Site	Tubing Length	30 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-35S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6189027 L
Well Total Depth	35.34 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.1 in
Depth to Water	1.82 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:33:43	900.00	15.12	6.06	635.06	0.34	1.90	1.56	82.66
Last 5	11:38:43	1199.99	15.25	6.06	639.10	0.15	1.91	1.42	83.21
Last 5	11:43:43	1499.98	15.34	6.06	640.14	0.18	1.91	1.62	83.49
Last 5	11:48:43	1799.98	15.39	6.05	641.44	0.35	1.91	1.65	82.95
Last 5	11:53:43	2099.97	15.48	6.06	643.11	0.18	1.92	1.57	83.14
Variance 0			0.09	-0.00	1.04			0.19	0.28
Variance 1			0.05	-0.01	1.30			0.04	-0.53
Variance 2			0.08	0.01	1.67			-0.08	0.18

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-19 14:23:47

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	30 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-36S	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	34.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.8 in
Depth to Water	2.35 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:06:37	300.03	16.91	5.90	660.11	0.46	2.48	2.08	-68.12
Last 5	14:11:37	600.02	16.91	5.77	645.98	1.65	2.49	2.12	-67.01
Last 5	14:16:37	900.02	17.00	5.74	633.86	1.52	2.49	2.17	-67.91
Last 5	14:21:37	1200.02	17.10	5.72	624.92	2.22	2.50	2.19	-68.16
Last 5 Variance 0			-0.00	-0.14	-14.13			0.03	1.11
Variance 1			0.09	-0.03	-12.12			0.06	-0.90
Variance 2			0.09	-0.02	-8.94			0.01	-0.25

Notes

Sampled BRGWC-36S at 1420

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 15:53:28

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	63.73 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	63.73 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-37S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.769454 L
Well Total Depth	68.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	10.44 in
Depth to Water	50.09 ft	Total Volume Pumped	3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:41:46	300.03	20.30	5.99	56.10	1.09	50.80	7.83	-88.58
Last 5	15:46:46	600.02	19.59	5.90	55.84	0.54	50.93	8.28	-81.17
Last 5	15:51:46	900.02	19.47	5.93	55.46	0.31	50.96	8.25	-79.03
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.72	-0.08	-0.26			0.44	7.42
Variance 2			-0.11	0.03	-0.37			-0.02	2.13

Notes

Sampled BRGWC-37S at 1550. FB-2 here

Grab Samples

Product Name: Low-Flow System

Date: 2019-03-20 16:38:58

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	QED Well Wizard
Company Name	Golder	Tubing Type	polyethylene
Project Name	166625418	Tubing Diameter	0.170 in
Site Name	Plant Branch	Tubing Length	38.66 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte	Pump placement from TOC	38.66 ft

Well Information:		Pumping Information:	
Well ID	BRGWC-38S	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6575559 L
Well Total Depth	43.66 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	12.6 in
Depth to Water	18.35 ft	Total Volume Pumped	3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:25:50	300.06	20.74	4.37	859.21	2.02	19.24	2.27	-70.51
Last 5	16:30:50	600.02	20.48	4.35	848.68	1.34	19.37	2.11	-67.66
Last 5	16:35:50	900.02	20.21	4.34	849.29	0.84	19.40	2.07	-67.15
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.26	-0.02	-10.53			-0.16	2.85
Variance 2			-0.27	-0.01	0.62			-0.04	0.51

Notes

Sampled BRGWC-38S at 1635

Grab Samples

APPENDIX A

DATA VALIDATION SUMMARIES

ENVIRONMENTAL® STANDARDS

Setting the Standards for Innovative Environmental Solutions

Stage 2A Data Verification Report
Georgia Power
Branch Fossil Plant
Site Ash Pond
Coal Combustion Residuals Project
Groundwater Samples

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the 207 groundwater samples collected as part of the eight rounds of 2016-2018 baseline monitoring, at the Georgia Power Branch Fossil Plant facility. These samples were collectively analyzed by Pace Analytical Services, Inc. (Pace), of Peachtree Corners, Georgia, or Asheville, North Carolina, for total metals by SW-846 Method 6020B; for total mercury by SW-846 Method 7470A; for total dissolved solids (TDS) by Standard Methods (SM) 2540C; and for anions (specifically, chloride, fluoride, and sulfate) by US EPA Method 300.0. In addition, these samples were collectively analyzed by Pace of Greensburg, Pennsylvania, for total radium-226 by SW-846 Method 9315, for total radium-228 by SW-846 Method 9320, and for combined radium-226+228 by calculation.

This review was performed with guidance from the US EPA Region IV Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (November 2001); the US EPA Region IV Data Validation Standard Operating Procedures (SOPs; US EPA Region IV, September 2011); and the applied analytical methods. These validation guidance documents, with the exception of the analytical methods, specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the SW-846, US EPA, and SM methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the SW-846, US EPA, and SM methods utilized by the laboratory.

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Summary

The analytical results and associated laboratory quality control (QC) samples were reviewed to determine the integrity of the reported analytical results and to verify that the data met the established data quality objectives.

The following sampling events were evaluated as part of this QA review: Event 1, collected 8/31/2016 through 9/8/2016; Event 2, collected 11/15/2016 through 11/21/2016; Event 3, collected 2/20/2017 through 2/24/2017; Event 4, collected 6/12/2017 through 6/15/2017; Event 5, collected 9/26/2017 through 9/28/2017; Event 6, collected 2/13/2018 through 2/15/2018; Event 7, collected 6/26/2018 through 6/28/2018; Event 8, collected 12/18/2018 through 12/20/2018; a catch-up event, collected 9/23/2016, 3/13/2017, 3/14/2017, 4/17/2017, 5/15/2017, 8/30/2017, 8/31/2017, 8/2/2018, 8/3/2018, 8/10/2018, 8/23/2018, and 9/19/2018; and a Pond B event collected 3/6/2018, 3/15/2018, 5/1/2018, 6/28/2018, and 10/29/2018.

The following samples were evaluated as part of this QA review: BRGWA-5S, BRGWA-5I, BRGWA-2I, BRGWA-2S, BRGWA-6S, BRGWA-12I, BRGWA-12S, BRGWA-23S, BRGWC-30I, BRGWC-24S, BRGWC-38S, BRGWC-35S, BRGWC-33S, BRGWC-17S, BRGWC-36S, BRGWC-32S, BRGWC-34S, BRGWC-27S, BRGWC-29I, BRGWC-25I, BRGWC-27I, BRGWC-37S, BRGWC-45, BRGWC-47, BRGWC-50, BRGWC-52, BRGWC-52I, PZ-41S, PZ-42S, PZ-40S, PZ-51S, PZ-51I, PZ-52I, PZ-45, PZ-47, PZ-10S, PZ-44, PZ-46, PZ-50, PZ-48, and PZ-49.

The following Pace inorganic SDGs were evaluated as part of this QA review: AZI0038, AZI0059, AZI0174, AZI0245, AZI0270, AZK0545, AZK0600, AZK0639, AZK0671, AAB0716, AAB0838, AAB0884, AAB0885, AAC0158, AAF0486, AAF0543, AFF0595, AAF0631, AAI0919, AAI0865, AAI0935, 261843, 261915, 261937, 266538, 266541, 266578, 266580, 266662, 267839, 268107, 268568, 269475, AAC0576, AAC0497, AAD0601, AAE0503, AAH0935, AAH0984, AZI0812, 2612884, 2612887, 2613019, 2613021, 262514, 262928, 264546, 266665, and 2610944.

The following Pace radiological SDGs were evaluated as part of this QA review: 30194944, 30195120, 30195377, 30195547, 30195633, 30202876, 30203114, 30203217, 30203642, 30211539, 30211808, 30211896, 30211897, 30212563, 30221513, 30221632, 30221830, 30222149, 30231661, 30231328, 30231663, 261843, 261915, 261937, 266540, 266542, 266579, 266582, 266664, 268108, 269476, 30213645, 30216664, 30219103, 30213361, 30228914, 30228913, 2612888, 2613020, 2613022, 262514, 262928, 264548, 266666, 2612886, 2610945, and 268569.

All data are considered usable as reported, or usable after integration of data validation qualifications.

Inorganic and Radiological Data Review

Data validation was performed for these samples based on the sample results, summary QC data, and raw data provided by the laboratory. The findings offered in this report for the inorganic analyses are based upon a review of the following QC measures:

- Sample condition upon laboratory receipt
- Chain-of-Custody (COC) Records
- Blank analysis results
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and precision
- Laboratory duplicate precision
- Sample holding times
- Case Narratives
- Chemical yield
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision
- Field duplicate precision

The above QC measures were evaluated against the analytical method requirements and QC acceptance criteria. The data were validated based on guidance from the US EPA Region IV Data Validation SOPs, the referenced procedures, and were qualified as appropriate as described in the sections below.

Comments and Exceptions

1. In the metals fraction, the laboratory did not report a set number of significant figures for results < 0.1 mg/L. All results that were < 0.1 mg/L were reported to four decimal places. As a result, reported sample results ranged from one to three significant figures. In addition, the anions results < 1 mg/L were reported to two decimal places, which led to sample results with one to two significant figures.

2. The data validator applied qualification to combined radium-226+228 based upon the QC samples associated with the analyses of the individual isotopes, radium-226 and radium-228. The electronic data deliverable (EDD) and the database only include the laboratory results for the combined radium-226+228; therefore, qualification of the individual isotopes is not addressed in this QA review.

3. SW-846 Method 9315 includes all alpha-emitting isotopes of radium. In order to analyze for only radium-226, a 21-day ingrowth period must be used. The radium-226 reported by the laboratory did not undergo a 21-day ingrowth; therefore, the results reported as radium-226 potentially contain additional alpha-emitting radium isotopes and could be high biased.

4. Combined radium-226+228 was reported as the summation of the calculated activities for radium-226 and radium-228. As consistent with routine radiological reporting conventions, negative activities were reported for the radium-226 and radium-228 analyses; however, all negative activities were entered as zero in the calculation of combined radium-226+228 activity.

5. The combined radium-226+228 sample-specific minimum detectable concentration (MDC) was reported as the summation of the MDCs for radium-226 and radium-228.

Consequently, there may be instances where a detection was observed in one of the individual isotopes but the combined radium-226+228 result was reported as "not-detected" due to the laboratory's reporting convention for combined radium-226+228.

6. The combined radium-226+228 result uncertainty was reported as the summation of the calculated uncertainties for radium-226 and radium-228. If routine statistical uncertainty reporting conventions were followed, the result uncertainty would have been reported as the root sum square (RSS; the square root of the sum of the squared individual uncertainties).

7. The laboratory did not flag results < the MDC as "not-detected" in the data package provided. The data validator qualified these samples as "U" on the data tables.

8. In SDG 30195120, the collection times on the COC and sample container for sample BRGWA-12I did not match, the laboratory logged the sample in using the time on the COC. Qualification of data due to this issue was not warranted.

9. In SDG 30195633, the laboratory indicated on the Sample Condition Upon Receipt that one of the sample bottles for sample BRGWC-25I had the sample ID recorded as "2nd Rad Bottle," the collection times on the COC and sample container for sample BRGWC-25I matched. Qualification of data due to this issue was not warranted.

10. In SDGs 30194944, 30195120, 30195377, 30195547, 30195633, 2612886, 2612888, 2613020, 2613022, 268108, 269476, 262514, 262928, 264548, 266666, 2610945, and 268569 containing radiological data, the laboratory did not provide the subcontracted COC record or Sample Condition Upon Receipt checklist from Pace Atlanta to Pace Pittsburgh. As these items were not needed to complete the data validation, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

11. In SDGs 262514, 262928, and 264546, the laboratory did not provide the subcontracted COC record or Sample Condition Upon Receipt checklist from Pace Atlanta to Pace Asheville. As these items were not needed to complete the data validation, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

12. In the majority of the data packages, the laboratory did not provide a Case Narrative associated with the metals and wet chemistry or radium analyses. As this item was not needed to complete the data validation, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

13. In the radium fraction of SDG 30194944, the laboratory performed matrix QC (laboratory duplicate) analyses on an associated field blank. Matrix QC analyses are performed to evaluate the impact of matrix interferences on target analyte results in investigative samples, which would not be present in a field blank sample. The data reviewer did not evaluate the results from the matrix QC analyses performed on the associated field blank.

14. In the TDS fraction of SDG AZK0639, the laboratory performed matrix QC (laboratory duplicate) analyses on an associated field blank. Matrix QC analyses are performed to

evaluate the impact of matrix interferences on target analyte results in investigative samples, which would not be present in a field blank sample. The data reviewer did not evaluate the results from the matrix QC analyses performed on the associated field blank.

15. In the TDS fraction of SDGs AAB0838, AAF0595, and AAF0631, the laboratory performed matrix QC (laboratory duplicate) analyses on an associated equipment blank. Matrix QC analyses are performed to evaluate the impact of matrix interferences on target analyte results in investigative samples, which would not be present in a field blank sample. The data reviewer did not evaluate the results from the matrix QC analyses performed on the associated equipment blank.

16. In SDGs 262514, 262928, and 268569, the data package provided did not include the Quality Control Sample Performance Assessment for all samples. Laboratory analytical accuracy and precision could not be evaluated for radium-226 and radium-228 in the project samples.

17. In SDGs 30213645, 30216664, 30219103, 30228914, 30228913, and 30213361, the laboratory did not provide the Sample Login Receipt Checklist from Pace Atlanta. As these items were not needed to complete the data validation, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

18. In SDGs 30213361 and 30213645, Pace Atlanta did not relinquish the samples to Pace Pittsburgh on the subcontracted COC record. As this item was not needed to complete the data validation, the laboratory has not been requested to provide this information. Qualification of data due to this issue was not warranted.

19. In SDG 30231661, the collection time for sample BRGWC-27I, and in SDG 30231663, the collection time for sample BRGWC-17S, on the Pace Atlanta COC record did not match the subcontracted COC record to Pace Pittsburgh. The laboratory logged the sample using the time from the original COC record. The sample collection time on the COC record and laboratory data report match. Qualification of data due to this issue was not warranted.

20. The following field duplicate pairs (see table) were submitted and analyzed for inorganic and radiological parameters with this data set. Acceptable precision and sample representativeness (the relative percent difference [RPD] between results was ≤ 20% when both results were ≥ 5× the reporting limit [RL], the difference between results was ≤ the RL when at least one result was < 5× the RL, or replicate error ratio [RER] < 3) were demonstrated by the reported results in the field duplicate pair evaluation with the exception of the parameters indicated in the Overall Assessment of Data Section below.

Laboratory SDG(s)	Sample	Field Duplicate
AZI0174 30195377	BRGWC-30I	Dup-1
AZI0245 30195547	BRGWC-35S	Dup-2
AZK0639 30203217	BRGWC-25I	Dup-1
AZK0639 30203217	BRGWC-27I	Dup-2
AAB0838 30211808	BRGWC-17S	Dup-2
AAB0885 30211897	PZ-42S	Dup-3
AAF0543 30221632	BRGWC-24S	Dup-1
AAF0595 30221830	BRGWC-29I	Dup-2
AAF0631 30222149	BRGWC-17S	Dup-3
AAI0865 30231328	BRGWA-12S	Dup-1
AAI0919 30231661	BRGWC-24S	Dup-2
AAI0935 30231663	BRGWC-17S	Dup-3
261915	BRGWC-27I	Dup-1
261937	BRGWC-17S	Dup-2
266541 266542	BRGWC-25I	Dup-1
266578 266579	BRGWC-33S	Dup-2
266662 266664	BRGWC-37S	Dup-3
2612887 2612888	BRGWC-34S	Dup-1
2613021 2613022	BRGWC-35S	Dup-2
2613019 2613020	BRGWC-27I	Dup-3
AAC0576	PZ-41S	FD-1

Laboratory SDG(s)	Sample	Field Duplicate
30213645		
AAD0601 30216664	BRGWC-37S	Dup-1
AAE0503 30219103	BRGWC-37S	Dup-1
AAH0935 30228914	PZ-41S	Dup-1
262514	PZ-44	FD-1
262928	PZ-50	FD-1
264546 264548	PZ-48	FD-1
267839	PZ-51I	FD-1
268568 268569	PZ-52I	FD-1
269475 269476	BRGWC-52I	FD-1
2610944 2610945	BRGWC-52	FD-1

Overall Assessment of Data

Based on a review of the data, qualification of data was warranted as noted below.

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
AZI0038	1	BRGWA-2I	antimony and boron	U*	BF – Field blank contamination
AZI0059	1	BRGWA-12I	antimony and boron	U*	BF – Field blank contamination
AZI0174	1	BRGWA-23S	boron	U*	BF – Field blank contamination
AZI0245	1	BRGWC-24S	boron	U*	BF – Field blank contamination BL – Method blank contamination
AZI0245	1	BRGWC-17S	boron	U*	BF – Field blank contamination
30195120	1	BRGWA-12I	combined radium-226+228	U*	BE – Equipment blank contamination
AZK0545	2	BRGWA-6S and BRGWA-5S	boron and chromium	U*	BL – Laboratory blank contamination
AZK0545	2	BRGWA-5S and BRGWA-6S	boron	U*	BE – Equipment blank contamination
AZK0600	2	BRGWA-12I, BRGWA-12S, BRGWA-2I, BRGWA-2S, and BRGWA-5I	boron	U*	BE – Equipment blank contamination
AZK0639	2	BRGWC-17S	boron	U*	BE – Equipment blank contamination
AZK0639	2	BRGWA-23S, BRGWC-36S, and BRGWC-34S	fluoride	U*	BL – Laboratory blank contamination
AZK0639	2	BRGWC-36S	antimony	U*	BL – Laboratory blank contamination
AAB0716	3	BRGWA-6S and BRGWA-5S	sulfate	U*	BL – Laboratory blank contamination
AAF0486	4	BRGWA-2I	mercury	U*	BL – Laboratory blank contamination
AAF0486	4	BRGWA-2I, BRGWA-5S, and BRGWA-6S	lead	U*	BF – Field blank contamination BE – Equipment blank contamination

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
AAF0595	4	BRGWC-29I and BRGWC-33S	lead	U*	BF – Field blank contamination BE – Equipment blank contamination
AAF0631	4	BRGWC-38S	lead	U*	BF – Field blank contamination BE – Equipment blank contamination
AAF0486	4	BRGWA-2I	mercury	U*	BF – Field blank contamination BE – Equipment blank contamination
AAF0543	4	BRGWC-24S and BRGWC-27I	mercury	U*	BF – Field blank contamination BE – Equipment blank contamination BL – Laboratory blank contamination
AAF0595	4	BRGWA-12I, BRGWC-29I, BRGWC-30I, BRGWC-32S, BRGWC-33S, BRGWC-34S, PZ-40S and PZ-41S	mercury	U*	BF – Field blank contamination BE – Equipment blank contamination BL – Laboratory blank contamination
AAF0631	4	BRGWC-17S, BRGWC-35S, BRGWC-36S, BRGWC-37S, and BRGWC-38S	mercury	U*	BF – Field blank contamination BE – Equipment blank contamination BL – Laboratory blank contamination
AAF0543	4	BRGWA-2S, BRGWA-12S, and BRGWC-24S	antimony	U*	BL – Laboratory blank contamination
AAF0486	4	BRGWA-5S and BRGWA-6S	sulfate	U*	BF – Field blank contamination BE – Equipment blank contamination
AAF0543	4	BRGWA-12S and BRGWA-2S	sulfate	U*	BF – Field blank contamination BE – Equipment blank contamination
AAF0631	4	BRGWC-37S	sulfate	U*	BE – Equipment blank contamination BF – Field blank contamination

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
AAF0543	4	BRGWA-12S, BRGWA-2S, and BRGWC-24S	antimony	U*	BF – Field blank contamination BE – Equipment blank contamination
AAF0595	4	BRGWA-12I, BRGWC-29I, and PZ-40S	antimony	U*	BF – Field blank contamination BE – Equipment blank contamination BL – Laboratory blank contamination
AAF0631	4	BRGWC-17S, BRGWC-36S, BRGWC-37S, and BRGWC-38S	antimony	U*	BF – Field blank contamination BE – Equipment blank contamination BL – Laboratory blank contamination
30222149	4	BRGWC-35S	combined radium-226+228	U*	BF – Field blank contamination BE – Equipment blank contamination
AAI0919	5	BRGWC-24S, BRGWC-25I, BRGWC-27I, BRGWC-29I, BRGWC-30I, BRGWC-32S, BRGWC-33S, BRGWC-34S, PZ-40S, and PZ-41S	mercury	U*	BE – Equipment blank contamination BF- Field blank Contamination BL – Laboratory blank contamination
AAI0919	5	BRGWC-33S and BRGWC-34S	cadmium	U*	BE – Equipment blank contamination
AAI0865	5	BRGWA-2I, BRGWA-5S, BRGWA-5I, BRGWA-6S, BRGWA-12S, BRGWA-12I, BRGWA-23S, and PZ-42S	arsenic	U*	BE – Equipment blank contamination BF – Field blank Contamination
AAI0935	5	BRGWC-37S	sulfate	U*	BF – Field blank contamination
266538	7	BRGWA-2I, BRGWA-5I, BRGWA-5S, and BRGWA-6S	boron	U*	BF – Field blank contamination
266538	7	BRGWA-2I	arsenic	U*	BE – Equipment blank contamination BF – Field blank contamination
266538	7	BRGWA-2S	barium and chloride	U*	BE – Equipment blank contamination

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
266662	7	BRGWC-37S	chloride	U*	BE – Equipment blank contamination
266541	7	BRGWA-23S and BRGWC-25I	arsenic	U*	BE – Equipment blank contamination BF – Field blank contamination
266541	7	BRGWA-12I	boron	U*	BF – Field blank contamination
266542	7	BRGWA-12S	combined radium-226+228	U*	BE – Equipment blank contamination BF – Field blank contamination BL – Method blank contamination
266578	7	BRGWC-17S	boron	U*	BF – Field blank contamination
266580	7	BRGWC-47	arsenic	U*	BE – Equipment blank contamination BF – Field blank contamination
266582	7	BRGWC-32S	combined radium-226+228	U*	BE – Equipment blank contamination BF – Field blank contamination BL – Laboratory blank Contamination
266662	7	BRGWC-36S, BRGWC-37S, and BRGWC-38S	arsenic	U*	BE – Equipment blank contamination BF – Field blank contamination
266662	7	BRGWC-37S	boron	U*	BF – Field blank contamination
266662	7	BRGWC-38S	mercury	U*	BL – Laboratory blank Contamination
266664	7	BRGWC-38S	combined radium-226+228	U*	BE – Equipment blank contamination BF – Field blank contamination BL – Laboratory blank Contamination
2613019	8	BRGWC-47 and BRGWC-27I	beryllium	U*	BL – Method blank contamination

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
2613019	8	BRGWC-32S and BRGWC-45	cadmium	U*	BL – Method blank contamination
2613021	8	BRGWC-35S and BRGWC-36S	beryllium	U*	BL – Method blank contamination
2613021	8	BRGWC-36S and BRGWC-38S	cadmium	U*	BL – Method blank contamination
2613021	8	BRGWC-38S	thallium	U*	BL – Method blank contamination
2613020	8	BRGWC-50	combined radium-226+228	U*	BL – Method blank contamination BF – Field blank contamination
2613022	8	BRGWC-38S	combined radium-226+228	U*	BL – Method blank contamination BF – Field blank contamination
2612886	8	BRGWA-12S	combined radium-226+228	U*	BL – Method blank contamination BE – Equipment blank contamination
2612888	8	BRGWC-33S	combined radium-226+228	U*	BL – Method blank contamination BE – Equipment blank contamination
2612887	8	BRGWA-2S, BRGWA-5I, BRGWA-5S, BRGWA-6S, and BRGWC-33S	arsenic	U*	BF – Field blank contamination BE – Equipment blank contamination
2612884	8	BRGWC-25I	arsenic	U*	BF – Field blank contamination BE – Equipment blank contamination
2613020	8	BRGWC-47	combined radium-226+228	U*	BF – Field blank contamination
2612888	8	BRGWC-34S	combined radium-226+228	U*	BE – Equipment blank contamination
267839	catch up	PZ-51S	boron	U*	BL – Method blank contamination
268568	catch up	PZ-47	selenium	U*	BL – Method blank contamination

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
AAH0935	catch up	all samples	fluoride	U*	BL – Method blank contamination
AAH0984	catch up	PZ-42S	fluoride	U*	BL – Method blank contamination
269476	catch up	BRGWC-52I	combined radium-226+228	U*	BL – Method blank contamination BF – Field blank contamination
30228913	catch up	PZ-42S	combined radium-226+228	U*	BL – Method blank contamination BF – Field blank contamination
30228914	catch up	all samples	combined radium-226+228	U*	BL – Method blank contamination BF – Field blank contamination
AAD0601	catch up	BRGWC-37S	chromium	U*	BF – Field blank contamination
AAH0984	catch up	PZ-42S	arsenic	U*	BF – Field blank contamination BE – Equipment blank contamination
AAH0935	catch up	all samples	arsenic	U*	BF – Field blank contamination BE – Equipment blank contamination
266666	Pond B	BRGWC-30I	combined radium-226+228	U*	BL – Method blank contamination
262514	Pond B	all samples	arsenic	U*	BF – Field blank contamination BE – Equipment blank contamination
30203642	2	BRGWC-29I	combined radium-226+228	J	BL – Laboratory blank contamination
30211896	3	BRGWC-38S	combined radium-226+228	J	BL – Laboratory blank contamination
30221830	4	BRGWC-29I	combined radium-226+228	J	BE – Equipment blank contamination
261915	6	BRGWA-12I, BRGWC-25I, BRGWC-29I, and BRGWC-32S	combined radium-226+228	J	BF – Field blank contamination

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
261937	6	BRGWC-38S	combined radium-226+228	J	BE – Equipment blank contamination
266580	7	BRGWC-47	TDS	J	BE – Equipment blank contamination BF – Field blank contamination
266662	7	BRGWC-37S	TDS	J	BE – Equipment blank contamination BF – Field blank contamination
266540	7	BRGWA-2S	combined radium-226+228	J	BE – Equipment blank contamination BF – Field blank contamination BL – Method blank contamination
266542	7	BRGWA-12I	combined radium-226+228	J	BE – Equipment blank contamination BF – Field blank contamination BL – Method blank contamination
266582	7	BRGWC-29I	combined radium-226+228	J	BF – Field blank contamination
266538	7	BRGWA-2I, BRGWA-2S, BRGWA-5I, BRGWA-5S, and BRGWA-6S	TDS	J	BF – Field blank contamination
266541	7	BRGWA-12S, BRGWA-12I, BRGWA-23S, and BRGWC-25I	TDS	J	BF – Field blank contamination
266578	7	BRGWC-34S, BRGWC-33S, BRGWC-35S, and BRGWC-17S	TDS	J	BF – Field blank contamination
266580	7	BRGWC-27I and BRGWC-29I	TDS	J	BF – Field blank contamination
266662	7	BRGWC-36S and BRGWC-38S	TDS	J	BF – Field blank contamination
268569	catch up	PZ-52I	combined radium-226+228	J	BL – Method blank contamination
262514	Pond B	PZ-47	combined radium-226+228	J	BL – Method blank contamination

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
264548	Pond B	PZ-49	combined radium-226+228	J	BL – Method blank contamination BF – Field blank contamination BE – Equipment blank contamination
30221830	4	BRGWA-12I, PZ-40S, BRGWC-29I, PZ-41S, BRGWC-32S, BRGWC-33S, BRGWC-30I, and BRGWC-34S	combined radium-226+228	J/UJ	L- – Low LCS recovery
30222149	4	BRGWC-17S, BRGWC-37S, BRGWC-36S, BRGWC-35S, and BRGWC-38S	combined radium-226+228	J/UJ	L- – Low LCS recovery
30231661	5	BRGWC-24S, BRGWC-25I, BRGWC-27I, BRGWC-30I, BRGWC-32S, PZ-40S, and PZ-41S	combined radium-226+228	UJ	L- – Low LCS recovery
30231661	5	BRGWC-29I, BRGWC-33S, and BRGWC-34S	combined radium-226+228	J	L- – Low LCS recovery
30231328	5	BRGWA-2S, BRGWA-2I, BRGWA-5S, BRGWA-5I, BRGWA-6S, BRGWA-12S, BRGWA-12I, BRGWA-23S, and PZ-42S	combined radium-226+228	UJ	L- – Low LCS recovery
30231663	5	all samples	combined radium-226+228	J/UJ	L- – Low LCS recovery
266540	7	all samples	combined radium-226+228	J/UJ	L- – Low LCS recovery
266542	7	all samples	combined radium-226+228	J/UJ (unless previously flagged “U*”)	L- – Low LCS recovery
266579	7	all samples	combined radium-226+228	UJ	L- – Low LCS recovery
266582	7	all samples	combined radium-226+228	J/UJ (unless previously flagged “U*”)	L- – Low LCS recovery
266664	7	all samples	combined radium-226+228	J/UJ (unless previously flagged “U*”)	L- – Low LCS recovery

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
2613019	8	all samples	chloride	J	L- – Low LCS recovery
2613022	8	all samples	combined radium-226+228	J/UJ (unless previously flagged "U*")	L- – Low LCS recovery
2613020	8	all samples	combined radium-226+228	J/UJ (unless previously flagged "U*")	L- – Low LCS recovery
2612886	8	all samples	combined radium-226+228	J/UJ (unless previously flagged "U*")	L- – Low LCSD recovery
2612888	8	all samples	combined radium-226+228	J/UJ (unless previously flagged "U*")	L- – Low LCS/LCSD recoveries
30213645	catch up	all samples	combined radium-226+228	UJ	L- – Low LCS recovery
30213361	catch up	BRGWC-24S	combined radium-226+228	UJ	L- – Low LCS recovery
269476	catch up	all samples	combined radium-226+228	J/UJ (unless previously flagged U*)	L- – Low LCSD recovery
268108	catch up	PZ-52I	combined radium-226+228	J	L- – Low LCS/LCSD recoveries
266666	Pond B	all samples	combined radium-226+228	J/UJ (unless previously flagged U*)	L- – Low LCSD recovery
2610945	Pond B	all samples	combined radium-226+228	UJ	L- – Low LCS/LCSD recoveries
261915	6	BRGWC-25I	combined radium-226+228	J	L+ – High LCSD recovery
261937	6	BRGWC-38S	combined radium-226+228	J	L+ – High LCSD recovery
30228914	catch up	all samples	combined radium-226+228	J (unless previously flagged "U*")	L – Low/high LCS recoveries

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
30228913	catch up	PZ-42S	combined radium-226+228	J	L – Low/high LCS recoveries
30211539	3	BRGWA-5S	combined radium-226+228	J	LP – LCS/LCSD imprecision
30211808	3	BRGWC-29I	combined radium-226+228	J	LP – LCS/LCSD imprecision
264548	Pond B	PZ-47, PZ-48, PZ-49, and PZ-50	combined radium-226+228	J	LP – LCS/LCSD imprecision
266662	7	BRGWC-36S, BRGWC-37S, and BRGWC-38S	chloride	J (unless previously flagged "U*")	M- – Low MS recoveries
AZI0245	1	BRGWC-24S, BRGWC-38S, BRGWC-35S, BRGWC-33S, BRGWC-17S, and BRGWC-36S	chloride	J	M- – Low MS recovery
AZI0245	1	BRGWC-24S, BRGWC-38S, BRGWC-35S, BRGWC-33S, BRGWC-17S, and BRGWC-36S	fluoride	J (unless previously flagged "U*")	M+ – High MS recovery
AZK0671	2	BRGWC-38S, BRGWC-32S, BRGWC-29I, and BRGWC-30I	fluoride	J	M+ – High MS recovery
AFF0631	4	BRGWC-17S, BRGWC-35S, BRGWC-36S, BRGWC-37S, and BRGWC-38S	fluoride	J	M+ – High MS recovery
AAI0919	5	BRGWC-24S, BRGWC-25I, BRGWC-27I, BRGWC-29I, BRGWC-30I, BRGWC-32S, BRGWC-33S, BRGWC-34S, PZ-40S, and PZ-41S	chloride	J	M+ – High MS recovery
AAI0919	5	BRGWC-25I, BRGWC-27I, BRGWC-29I, BRGWC-30I, BRGWC-33S, BRGWC-34S, PZ-40S, and PZ-41S	fluoride	J	M+ – High MS recovery
266578	7	BRGWC-34S, BRGWC-33S, BRGWC-35S, and BRGWC-17S	boron	J	M+ – High MS recoveries
266662	7	BRGWC-36S and BRGWC-38S	fluoride	J	M+ – High MS recoveries
2610944	Pond B	all samples	barium	J	M+ – High MS/MSD recoveries

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
AZK0639	2	BRGWC-25I	sulfate	J	FD – Field duplicate imprecision
261915	6	BRGWC-27I	TDS	J	FD – Field duplicate impression
266578	7	BRGWC-33S	TDS	J	FD – Field duplicate imprecision
262928	Pond B	PZ-50	fluoride	J	FD – Field duplicate imprecision
264546	Pond B	PZ-48	chloride	J	FD – Field duplicate imprecision

- All inorganic positive results reported between the method detection limit (MDL) and RL have been flagged "J."
- All radiological results reported below the MDC have been flagged "U."

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Date: 2/28/2019

INORGANIC AND RADIOLOGICAL DATA QUALIFIERS

U - The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit.

U* - This analyte should be considered “not-detected” because it was detected in an associated blank at a similar level.

UJ - The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J - The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R - The data are unusable. The sample results are rejected due to serious analytical deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

UR - The analyte was analyzed for, but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

Reason Codes and Explanations

Reason Code	Explanation
BE	Equipment blank contamination. The result should be considered “not-detected.”
BF	Field blank contamination. The result should be considered “not-detected.”
BL	Laboratory blank contamination. The result should be considered “not-detected.”
BN	Negative laboratory blank contamination.
C	Initial and/or continuing calibration issue, indeterminate bias.
C+	Initial and/or continuing calibration issue. The result may be biased high.
C-	Initial and/or continuing calibration issue. The result may be biased low.
FD	Field duplicate imprecision.
FG	Total versus dissolved imprecision.
H	Holding time exceeded.
I	Internal standard recovery outside of acceptance limits.
L	LCS and LCSD recoveries outside of acceptance limits, indeterminate bias.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits, indeterminate bias.
M+	MS and/or MSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.
MP	MS/MSD imprecision.
P	Post-digestion spike recoveries outside of acceptance limits, indeterminate bias.
P+	Post-digestion spike recovery outside of acceptance limits. The result may be biased high.
P-	Post-digestion spike recovery outside of acceptance limits. The result may be biased low.
Q	Chemical preservation issue.
R	RL standards outside of acceptance limits, indeterminate bias.
R+	RL standard(s) outside of acceptance limits. The result may be biased high.
R-	RL standard(s) outside of acceptance limits. The result may be biased low.
T	Temperature preservation issue.
SD	Serial dilution imprecision.
Y	Chemical yields outside of acceptance limits, indeterminate bias.
Y+	Chemical yield(s) outside of acceptance limits. The result may be biased high.
Y-	Chemical yield(s) outside of acceptance limits. The result may be biased low.
ZZ	Other

Quality Control Review of Analytical Data submitted by Pace Analytical Services, LLC

This narrative presents results of the Quality Control (QC) data review performed on analytical data submitted by Pace Analytical Services, LLC for groundwater samples collected at the Plant Branch CCR Ash Ponds between July 31, 2018 and February 13, 2019. The chemical data were reviewed to identify quality issues which could affect the use of the data for decision making purposes.

Information regarding the primary sample locations, analytical parameters, QC samples, sampling dates, and laboratory sample delivery group (SDG) designations is summarized in Table 1. In accordance with groundwater monitoring and corrective action procedures discussed in Title 40 CFR, Subpart D - Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, the samples were analyzed for detection monitoring constituents listed in 40 CFR, Part 257, Appendix III and assessment monitoring constituents listed in 40 CFR, Part 257, Appendix IV. Test methods included Inductively Coupled Plasma- Mass Spectrometry (USEPA Method 6020B), Mercury in Liquid Wastes (USEPA Method 7470A), Determination of Inorganic Anions (USEPA Method 300.0), Solids in Water (Standard Methods 2540C), Radium-226 (USEPA Method 9315) and Radium-228 (USEPA Method 9320).

Data were reviewed in accordance with the US EPA Region IV Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy (September 2011, Rev. 2.0) and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017). In addition, Southern Company Services, Inc. provided data validation guidance. The review included an assessment of the results for completeness, precision (laboratory duplicates, matrix spike/matrix spike duplicates), accuracy (laboratory control samples and matrix spike samples), and blank contamination (including laboratory blanks). Additionally, sample procedures, holding times and chains-of-custody were reviewed. Where there was a discrepancy between the QC criteria in the guidelines and the QC criterion established in the analytic methodology, method-specific criteria or professional judgment was used.

DATA QUALITY OBJECTIVES

Laboratory Precision: Laboratory goals for precision were met.

Field Precision: Field goals for precision were met with the exception of FD in SDG 2614928 as described in the qualifications sections below.

Accuracy: Laboratory goals for accuracy were met, with the exception of with the exception of barium in SDG 267818 and radium-228 in SDG 267819 as described in the qualifications sections below.

Detection Limits: Project goals for detection limits were met. Certain samples were diluted due to the concentration of the target analytes. Dilutions do not require qualifications based on USEPA guidelines. Detection and reporting limits of non-detect compounds are elevated proportional to the dilution when undiluted sample results are not provided by the laboratory. The data usability of diluted results was evaluated by the data user in the context of site-wide characterization.

Completeness: There were no rejected analytical results for this event, resulting in a completion of 100%.

Holding Times: All holding time requirements were met.

QUALIFICATIONS

In general, chemical results for the samples collected at the Site were qualified on the basis of low precision or accuracy, or on the basis of professional judgment. The following definitions provide brief explanations of the qualifiers which may have been assigned to data by the laboratory during the data validation process.

J	The analyte was positively identified above the method detection limit; however, the associated numerical value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified above the method detection limit; however, the concentration reported is an estimated value that may be biased high.
U	The analyte was not detected above the method detection limit.
UJ	The analyte was not detected above the method detection limit; the associated method detection limit is approximate and may be inaccurate.

The data generated as part of this sampling event met the QC criteria established in the respective analytical methods and data validation guidelines, except as specified below. Although these qualifications were applied to some data from of the samples collected at the site, the qualifications may not have been required or applied to all samples collected. A summary of sample qualifications can be found in Table 2.

- Certain barium results in SDGs 267818 were qualified as estimated biased high (J+) as the associated matrix spike and/or matrix spike duplicate (MS/MSD) recoveries were above the QC criteria.
- Certain radium-228 results in SDGs 267819 were qualified as estimated biased high (J+) as the associated laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) recoveries were above the QC criteria.
- Fluoride and chromium results in sample BRGWC-52 from SDG 2614928, were qualified as estimated (J) as the parent sample and field duplicate exceeded field goal precision criteria. Non-detected fluoride and chromium results in sample FD from SDG 2614928, were qualified as estimated (UJ) as the parent sample and field duplicate exceeded field goal precision criteria.
- The non-detect boron result in SDG 2612012 was qualified as non-detect (U) when the analyte was detected at a similar level in an associated blank sample. As shown in Table 2, when the original sample result was below the RL, the method detection limit was raised to the sample result as part of the qualification process.
- Certain radium-226 and total radium results in SDG 2612013 were qualified as non-detect (U) when radium-226 was detected at a similar concentration in an associated blank sample. As shown in Table 2, the minimum detectable concentration (MDC) was raised to the sample result as part of the qualification process.
- Certain total radium results in SDG 2612013 were qualified as estimated bias high (J+) when radium-226 was detected at a similar concentration in an associated blank sample.

Golder reviewed the data from samples collected at the Plant Branch CCR Ash Ponds between July 31, 2018 and February 13, 2019 in accordance with the analytical methods, the laboratory specific QC criteria, and the guidelines. As described above, 100% of the results were acceptable for project use.

REFERENCE

USEPA, September 2011, Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, *Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy,* Revision 2.0.

USEPA, January 2017, National, Office of Superfund Remediation and Technology Innovation, *National Functional Guidelines for Inorganic Superfund Methods Data Review,* Revision 0.0.

TABLE 1
Sample Summary Table
SCS Plant Branch

						Analyses			
SDGs	*Field Identification*	*Collection Date*	*Lab Identification*	*Matrix*	*QC Samples*	*TAL Metals + Hg (6020B, 7470A)*	*Anions (300.0)*	*TDS (2540C)*	Radium 226, Radium 228 (9315, 9320)
2612013, 2612012	BRGWC-45	11/28/2018	2612012001/2612013001	GW	-	X	X	X	X
2612013, 2612012	BRGWC-47	11/28/2018	2612012002/2612013002	GW	-	X	X	X	X
2612013, 2612012	BRGWC-50	11/28/2018	2612012003/2612013003	GW	-	X	X	X	X
2612013, 2612012	BRGWC-52	11/28/2018	2612012004/2612013004	GW	-	X	X	X	X
2612013, 2612012	FB-1	11/28/2018	2612012005/2612013005	WQ	FB	X	X	X	X
2612013, 2612012	EB-1	11/28/2018	2612012006/2612013006	WQ	RB	X	X	X	X
2612013, 2612012	FD-1	11/28/2018	2612012007/2612013007	GW	FD-1 (BRGWC-52)	X	X	X	X
2614928, 2614929	BRGWC-52	2/13/2019	2614928001/2614929001	GW	-	X	X	X	X
2614928, 2614929	EB	2/13/2019	2614928002/2614929002	WQ	EB	X	X	X	X
2614928, 2614929	FB	2/13/2019	2614928003/2614929003	WQ	FB	X	X	X	X
2614928, 2614929	FD	2/13/2019	2614928004/2614929004	GW	FD (BRGWC-52)	X	X	X	X
267818, 267819	PZ-45	7/31/2018	267818001/267819001	GW	-	X	X	X	X
267818, 267819	PZ-47	8/1/2018	267818002/267819002	GW	-	X	X	X	X
267818, 267819	PZ-50	8/1/2018	267818003/267819003	GW	-	X	X	X	X
267818, 267819	FB-1	8/1/2018	267818004/267819004	WQ	FB	X	X	X	X

Abbreviations:
EB- Equipment blank
FB - Field blank
FD - Field duplicate
GW - Groundwater
QC - Quality control
TAL - Target analyte list
TDS - Total dissolved solids
WQ - Water quality control

TABLE 2
Qualifier Summary Table
SCS Plant Branch

SDG	*Sample Name*	*Constituent*	*New RL*	*New MDL or MDC*	*Qualifier*	*Reason*
2612012	BRGWC-45	Boron	-	0.026	U	Blank detection
2612013	BRGWC-45	Radium-226	-	0.429	U	Blank detection
2612013	BRGWC-47	Radium-226	-	0.682	U	Blank detection
2612013	BRGWC-50	Radium-226	-	0.675	U	Blank detection
2612013	BRGWC-52	Radium-226	-	0.592	U	Blank detection
2612013	FD-1	Radium-226	-	0.752	U	Blank detection
2612013	BRGWC-47	Total Radium	-	1.67	U	Blank detection
2612013	BRGWC-50	Total Radium	-	1.76	U	Blank detection
2612013	FD-1	Total Radium	-	-	J+	Blank detection
2614928	BRGWC-52	Fluoride	-	-	J	Sample exceeds RPD field goals for precision
2614928	FD	Fluoride	-	-	UJ	Sample exceeds RPD field goals for precision
2614928	BRGWC-52	Chromium	-	-	J	Sample exceeds RPD field goals for precision
2614928	FD	Chromium	-	-	UJ	Sample exceeds RPD field goals for precision
267818	PZ-45	Barium	-	-	J+	MS and/or MSD recovery above QC criteria
267818	PZ-47	Barium	-	-	J+	MS and/or MSD recovery above QC criteria
267818	PZ-50	Barium	-	-	J+	MS and/or MSD recovery above QC criteria
267819	PZ-50	Radium-228	-	-	J+	LCS and/or LCSD recovery above QC criteria

Abbreviations:
MDC: Minimum detectable concentration
MS/MSD: Matrix spike / matrix spike duplicate
QC : Quality control
RL : Reporting limit
SDG : Sample delivery group
TDS : Total dissolved solids
RPD: Relative percentage difference

Qualifiers:
J: Estimated result
J+ : Estimated result, biased high
U : Non-detect result
UJ : Estimated result

Quality Control Review of Analytical Data submitted by Pace Analytical Services, LLC

This narrative presents results of the Quality Control (QC) data review performed on analytical data submitted by Pace Analytical Services, LLC for groundwater samples collected at the Plant Branch CCR Ash Ponds between March 19, 2019 and March 20, 2019. The chemical data were reviewed to identify quality issues which could affect the use of the data for decision making purposes.

Information regarding the primary sample locations, analytical parameters, QC samples, sampling dates, and laboratory sample delivery group (SDG) designations is summarized in Table 1. In accordance with groundwater monitoring and corrective action procedures discussed in Title 40 CFR, Subpart D - Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, the samples were analyzed for detection monitoring constituents listed in 40 CFR, Part 257, Appendix III. Test methods included Inductively Coupled Plasma- Mass Spectrometry (USEPA Method 6020B), Determination of Inorganic Anions (USEPA Method 300.0), and Solids in Water (Standard Methods 2540C).

Data were reviewed in accordance with the US EPA Region IV Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy (September 2011, Rev. 2.0) and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017). In addition, Southern Company Services, Inc. provided data validation guidance. The review included an assessment of the results for completeness, precision (laboratory duplicates, matrix spike/matrix spike duplicates), accuracy (laboratory control samples, matrix spike/matrix spike duplicates), and blank contamination (including laboratory blanks). Additionally, sample procedures, holding times and chains-of-custody were reviewed. Where there was a discrepancy between the QC criteria in the guidelines and the QC criterion established in the analytic methodology, method-specific criteria or professional judgment was used.

DATA QUALITY OBJECTIVES

Laboratory Precision: Laboratory goals for precision were met with the exception of total dissolved solids (TDS) in SDG 2616369 as described in the qualifications sections below.

Field Precision: Field goals for precision were met.

Accuracy: Laboratory goals for accuracy were met.

Detection Limits: Project goals for detection limits were met. Certain samples were diluted due to the concentration of the target analytes. Dilutions do not require qualifications based on USEPA guidelines. Detection and reporting limits of non-detect compounds are elevated proportional to the dilution when undiluted sample results are not provided by the laboratory. The data usability of diluted results was evaluated by the data user in the context of site-wide characterization.

Completeness: There were no rejected analytical results for this event, resulting in a completion of 100%.

Holding Times: All holding time requirements were met.

QUALIFICATIONS

In general, chemical results for the samples collected at the Site were qualified on the basis of low precision or accuracy, or on the basis of professional judgment. The following definitions provide brief explanations of the qualifiers which may have been assigned to data by the laboratory during the data validation process.

J The analyte was positively identified above the method detection limit; however, the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was not detected above the method detection limit.

The data generated as part of this sampling event met the QC criteria established in the respective analytical methods and data validation guidelines, except as specified below. Although these qualifications were applied to some data from of the samples collected at the site, the qualifications may not have been required or applied to all samples collected. A summary of sample qualifications can be found in Table 2.

- Certain TDS results in SDG 2616369 were qualified as estimated (J) as the parent sample and lab duplicate exceeded lab goal precision criteria.
- Certain sulfate and TDS results in SDG 2616407 were qualified as non-detect (U) as the analyte was detected at a similar level in an associated blank sample. As shown in Table 2, when the original sample result was below the RL, the method detection limit was raised to the sample result as part of the qualification process. When the original sample result was above the RL, both the MDL and the RL were raised to the sample result as part of the qualification process.

Golder reviewed the data from samples collected at the Plant Branch CCR Ash Ponds between March 19, 2019 and March 20, 2019 in accordance with the analytical methods, the laboratory specific QC criteria, and the guidelines. As described above, 100% of the results were acceptable for project use.

REFERENCE

USEPA, September 2011, Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, *Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data By Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy,* Revision 2.0.

USEPA, January 2017, National, Office of Superfund Remediation and Technology Innovation, *National Functional Guidelines for Inorganic Superfund Methods Data Review,* Revision 0.0.

TABLE 1
Sample Summary Table
SCS Plant Branch

						Analyses		
SDGs	***Field Identification***	***Collection Date***	***Lab Identification***	***Matrix***	***QC Samples***	***Select Metals (6020B)***	***Anions (300.0)***	***TDS (2540C)***
2616369	BRGWA-12S	03/19/19	2616369001	GW	-	X	X	X
2616369	BRGWA-12	03/19/19	2616369002	GW	-	X	X	X
2616369	BRGWA-27I	03/19/19	2616369003	GW	-	X	X	X
2616369	BRGWA-23S	03/19/19	2616369004	GW	-	X	X	X
2616369	BRGWA-47	03/19/19	2616369005	GW	-	X	X	X
2616369	EB-1	03/19/19	2616369006	WQ	EB	X	X	X
2616371	BRGWA-2S	03/19/19	2616371001	GW	-	X	X	X
2616371	BRGWA-2I	03/19/19	2616371002	GW	-	X	X	X
2616371	BRGWA-5S	03/19/19	2616371003	GW	-	X	X	X
2616371	BRGWA-5I	03/19/19	2616371004	GW	-	X	X	X
2616371	BRGWA-6S	03/19/19	2616371005	GW	-	X	X	X
2616371	BRGWC-17S	03/19/19	2616371006	GW	-	X	X	X
2616371	BRGWC-36S	03/19/19	2616371007	GW	-	X	X	X
2616371	FB-1	03/19/19	2616371008	WQ	FB	X	X	X
2616371	Dup-1	03/19/19	2616371009	WQ	FD (BRGWA-2I)	X	X	X
2616405	BRGWC-25I	03/20/19	2616405001	GW	-	X	X	X
2616405	BRGWC-29I	03/20/19	2616405002	GW	-	X	X	X
2616405	BRGWC-30I	03/20/19	2616405003	GW	-	X	X	X
2616405	BRGWC-32S	03/20/19	2616405004	GW	-	X	X	X
2616405	BRGWC-45	03/20/19	2616405005	GW	-	X	X	X
2616405	BRGWC-50	03/20/19	2616405006	GW	-	X	X	X
2616405	BRGWC-52I	03/20/19	2616405007	GW	-	X	X	X
2616405	Dup-2	03/20/19	2616405008	GW	FD (BRGWC-52I)	X	X	X
2616405	Dup-3	03/20/19	2616405009	GW	FD (BRGWC-25I)	X	X	X
2616405	FB-3	03/20/19	2616405010	WQ	FB	X	X	X
2616405	EB-2	03/20/19	2616405011	WQ	EB	X	X	X
2616405	EB-3	03/20/19	2616405012	WQ	EB	X	X	X
2616407	BRGWC-33S	03/20/19	2616407001	GW	-	X	X	X
2616407	BRGWC-34S	03/20/19	2616407002	GW	-	X	X	X
2616407	BRGWC-35S	03/20/19	2616407003	GW	-	X	X	X
2616407	BRGWC-37S	03/20/19	2616407004	GW	-	X	X	X
2616407	BRGWC-38S	03/20/19	2616407005	GW	-	X	X	X
2616407	FB-2	03/20/19	2616407006	WQ	FB	X	X	X

Abbreviations:
FB - Field blank
FD - Field duplicate
GW - Groundwater
EB - Equipment blank
TDS - Total dissolved solids
WQ - Water quality contol

TABLE 2
Qualifier Summary Table
SCS Plant Branch

SDG	*Sample Name*	*Constituent*	*New RL*	*New MDL*	*Qualifier*	*Reason*
2616369	BRGWA-23S	Total Dissolved Solids	-	-	J	Laboratory duplicate exceeded RPD lab goals for precision
2616369	BRGWA-12S	Total Dissolved Solids	-	-	J	Laboratory duplicate exceeded RPD lab goals for precision
2616369	BRGWA-12I	Total Dissolved Solids	-	-	J	Laboratory duplicate exceeded RPD lab goals for precision
2616369	BRGWA-27I	Total Dissolved Solids	-	-	J	Laboratory duplicate exceeded RPD lab goals for precision
2616369	BRGWA-47	Total Dissolved Solids	-	-	J	Laboratory duplicate exceeded RPD lab goals for precision
2616407	BRGWC-37S	Sulfate	-	0.39	U	Blank detection
2616407	BRGWC-37S	Total Dissolved Solids	68	68	U	Blank detection

Abbreviations:
MDL: Method detection limit
QC : Quality control
RL : Reporting limit
SDG : Sample delivery group
RPD: Relative percentage difference

Qualifiers:
J: Estimated result
U: Non-detect result

APPENDIX B

STATISTICAL ANALYSES

Interwell Prediction Limit

Branch Client: Golder Associates Data: Plant Branch Ash Pond Printed 6/5/2019, 12:59 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	**BRGWC-33S**	**0.02195**	**n/a**	**3/20/2019**	**1.3**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Boron (mg/L)	**BRGWC-34S**	**0.02195**	**n/a**	**3/20/2019**	**2.3**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Boron (mg/L)	**BRGWC-35S**	**0.02195**	**n/a**	**3/20/2019**	**1.7**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Boron (mg/L)	**BRGWC-36S**	**0.02195**	**n/a**	**3/19/2019**	**1**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Boron (mg/L)	**BRGWC-38S**	**0.02195**	**n/a**	**3/20/2019**	**1.5**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Calcium (mg/L)	**BRGWC-17S**	**24**	**n/a**	**3/19/2019**	**31.6**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-33S**	**24**	**n/a**	**3/20/2019**	**51.4**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-34S**	**24**	**n/a**	**3/20/2019**	**82**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-35S**	**24**	**n/a**	**3/20/2019**	**61.8**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-36S**	**24**	**n/a**	**3/19/2019**	**49.5**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-38S**	**24**	**n/a**	**3/20/2019**	**38.2**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-17S**	**4.8**	**n/a**	**3/19/2019**	**5**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-33S**	**4.8**	**n/a**	**3/20/2019**	**6.2**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-34S**	**4.8**	**n/a**	**3/20/2019**	**6.9**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-35S**	**4.8**	**n/a**	**3/20/2019**	**6.6**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-36S**	**4.8**	**n/a**	**3/19/2019**	**7.1**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-38S**	**4.8**	**n/a**	**3/20/2019**	**6.6**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Fluoride (mg/L)	**BRGWC-38S**	**0.19**	**n/a**	**3/20/2019**	**0.95**	**Yes**	**45**	**44.44**	**n/a**	**0.000...**	NP (normality) 1 of 2
pH (S.U)	**BRGWC-33S**	**7.241**	**5.862**	**3/20/2019**	**4.77**	**Yes**	**44**	**0**	**No**	**0.000...**	Param 1 of 2
pH (S.U)	**BRGWC-34S**	**7.241**	**5.862**	**3/20/2019**	**5.84**	**Yes**	**44**	**0**	**No**	**0.000...**	Param 1 of 2
pH (S.U)	**BRGWC-36S**	**7.241**	**5.862**	**3/19/2019**	**5.72**	**Yes**	**44**	**0**	**No**	**0.000...**	Param 1 of 2
pH (S.U)	**BRGWC-38S**	**7.241**	**5.862**	**3/20/2019**	**4.34**	**Yes**	**44**	**0**	**No**	**0.000...**	Param 1 of 2
Sulfate (mg/L)	**BRGWC-17S**	**7.5**	**n/a**	**3/19/2019**	**126**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-33S**	**7.5**	**n/a**	**3/20/2019**	**204**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-34S**	**7.5**	**n/a**	**3/20/2019**	**329**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-35S**	**7.5**	**n/a**	**3/20/2019**	**268**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-36S**	**7.5**	**n/a**	**3/19/2019**	**307**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-38S**	**7.5**	**n/a**	**3/20/2019**	**405**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-17S**	**299**	**n/a**	**3/19/2019**	**303**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-33S**	**299**	**n/a**	**3/20/2019**	**338**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-34S**	**299**	**n/a**	**3/20/2019**	**517**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-35S**	**299**	**n/a**	**3/20/2019**	**501**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-36S**	**299**	**n/a**	**3/19/2019**	**498**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-38S**	**299**	**n/a**	**3/20/2019**	**615**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2

Interwell Prediction Limit

Branch Client: Golder Associates Data: Plant Branch Ash Pond Printed 6/5/2019, 12:59 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	BRGWC-17S	0.02195	n/a	3/19/2019	0.00195ND	No	45	68.89	n/a	0.000...	NP (NDs) 1 of 2
Boron (mg/L)	**BRGWC-33S**	**0.02195**	**n/a**	**3/20/2019**	**1.3**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Boron (mg/L)	**BRGWC-34S**	**0.02195**	**n/a**	**3/20/2019**	**2.3**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Boron (mg/L)	**BRGWC-35S**	**0.02195**	**n/a**	**3/20/2019**	**1.7**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Boron (mg/L)	**BRGWC-36S**	**0.02195**	**n/a**	**3/19/2019**	**1**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Boron (mg/L)	**BRGWC-38S**	**0.02195**	**n/a**	**3/20/2019**	**1.5**	**Yes**	**45**	**68.89**	**n/a**	**0.000...**	NP (NDs) 1 of 2
Boron (mg/L)	BRGWC-37S	0.02195	n/a	3/20/2019	0.004	No	45	68.89	n/a	0.000...	NP (NDs) 1 of 2
Calcium (mg/L)	**BRGWC-17S**	**24**	**n/a**	**3/19/2019**	**31.6**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-33S**	**24**	**n/a**	**3/20/2019**	**51.4**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-34S**	**24**	**n/a**	**3/20/2019**	**82**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-35S**	**24**	**n/a**	**3/20/2019**	**61.8**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-36S**	**24**	**n/a**	**3/19/2019**	**49.5**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	**BRGWC-38S**	**24**	**n/a**	**3/20/2019**	**38.2**	**Yes**	**45**	**6.667**	**n/a**	**0.000...**	NP (normality) 1 of 2
Calcium (mg/L)	BRGWC-37S	24	n/a	3/20/2019	3.3	No	45	6.667	n/a	0.000...	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-17S**	**4.8**	**n/a**	**3/19/2019**	**5**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-33S**	**4.8**	**n/a**	**3/20/2019**	**6.2**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-34S**	**4.8**	**n/a**	**3/20/2019**	**6.9**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-35S**	**4.8**	**n/a**	**3/20/2019**	**6.6**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-36S**	**4.8**	**n/a**	**3/19/2019**	**7.1**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	**BRGWC-38S**	**4.8**	**n/a**	**3/20/2019**	**6.6**	**Yes**	**45**	**0**	**n/a**	**0.000...**	NP (normality) 1 of 2
Chloride (mg/L)	BRGWC-37S	4.8	n/a	3/20/2019	2.3	No	45	0	n/a	0.000...	NP (normality) 1 of 2
Fluoride (mg/L)	BRGWC-17S	0.19	n/a	3/19/2019	0.1	No	45	44.44	n/a	0.000...	NP (normality) 1 of 2
Fluoride (mg/L)	BRGWC-33S	0.19	n/a	3/20/2019	0.14	No	45	44.44	n/a	0.000...	NP (normality) 1 of 2
Fluoride (mg/L)	BRGWC-34S	0.19	n/a	3/20/2019	0.074	No	45	44.44	n/a	0.000...	NP (normality) 1 of 2
Fluoride (mg/L)	BRGWC-35S	0.19	n/a	3/20/2019	0.088	No	45	44.44	n/a	0.000...	NP (normality) 1 of 2
Fluoride (mg/L)	BRGWC-36S	0.19	n/a	3/19/2019	0.0145ND	No	45	44.44	n/a	0.000...	NP (normality) 1 of 2
Fluoride (mg/L)	**BRGWC-38S**	**0.19**	**n/a**	**3/20/2019**	**0.95**	**Yes**	**45**	**44.44**	**n/a**	**0.000...**	NP (normality) 1 of 2
Fluoride (mg/L)	BRGWC-37S	0.19	n/a	3/20/2019	0.062	No	45	44.44	n/a	0.000...	NP (normality) 1 of 2
pH (S.U)	BRGWC-17S	7.241	5.862	3/19/2019	6.43	No	44	0	No	0.000...	Param 1 of 2
pH (S.U)	**BRGWC-33S**	**7.241**	**5.862**	**3/20/2019**	**4.77**	**Yes**	**44**	**0**	**No**	**0.000...**	Param 1 of 2
pH (S.U)	**BRGWC-34S**	**7.241**	**5.862**	**3/20/2019**	**5.84**	**Yes**	**44**	**0**	**No**	**0.000...**	Param 1 of 2
pH (S.U)	BRGWC-35S	7.241	5.862	3/20/2019	6.06	No	44	0	No	0.000...	Param 1 of 2
pH (S.U)	**BRGWC-36S**	**7.241**	**5.862**	**3/19/2019**	**5.72**	**Yes**	**44**	**0**	**No**	**0.000...**	Param 1 of 2
pH (S.U)	**BRGWC-38S**	**7.241**	**5.862**	**3/20/2019**	**4.34**	**Yes**	**44**	**0**	**No**	**0.000...**	Param 1 of 2
pH (S.U)	BRGWC-37S	7.241	5.862	3/20/2019	5.93	No	44	0	No	0.000...	Param 1 of 2
Sulfate (mg/L)	**BRGWC-17S**	**7.5**	**n/a**	**3/19/2019**	**126**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-33S**	**7.5**	**n/a**	**3/20/2019**	**204**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-34S**	**7.5**	**n/a**	**3/20/2019**	**329**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-35S**	**7.5**	**n/a**	**3/20/2019**	**268**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-36S**	**7.5**	**n/a**	**3/19/2019**	**307**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	**BRGWC-38S**	**7.5**	**n/a**	**3/20/2019**	**405**	**Yes**	**45**	**20**	**n/a**	**0.000...**	NP (normality) 1 of 2
Sulfate (mg/L)	BRGWC-37S	7.5	n/a	3/20/2019	0.195ND	No	45	20	n/a	0.000...	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-17S**	**299**	**n/a**	**3/19/2019**	**303**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-33S**	**299**	**n/a**	**3/20/2019**	**338**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-34S**	**299**	**n/a**	**3/20/2019**	**517**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-35S**	**299**	**n/a**	**3/20/2019**	**501**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-36S**	**299**	**n/a**	**3/19/2019**	**498**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	**BRGWC-38S**	**299**	**n/a**	**3/20/2019**	**615**	**Yes**	**45**	**11.11**	**n/a**	**0.000...**	NP (normality) 1 of 2
Total Dissolved Solids (mg/L)	BRGWC-37S	299	n/a	3/20/2019	34ND	No	45	11.11	n/a	0.000...	NP (normality) 1 of 2

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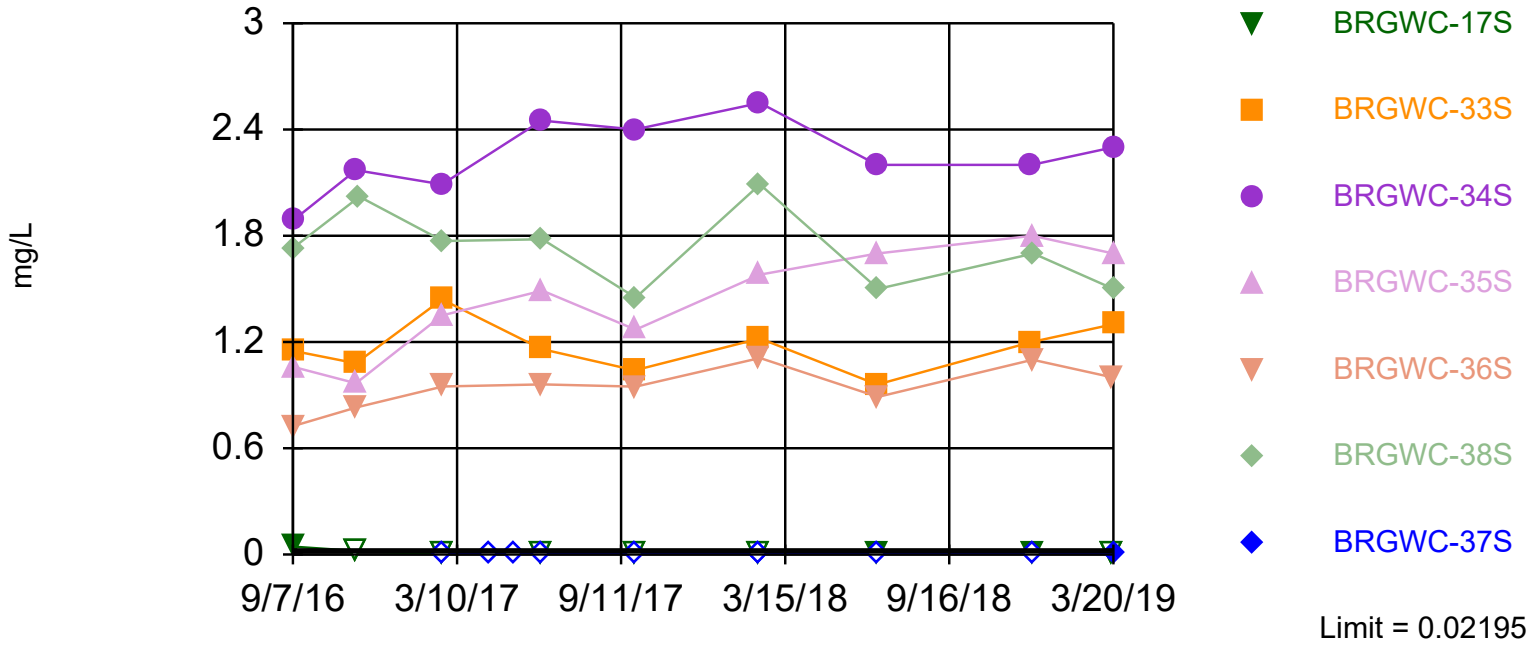
Hollow symbols indicate censored values.

Prediction Limit

Interwell Non-parametric

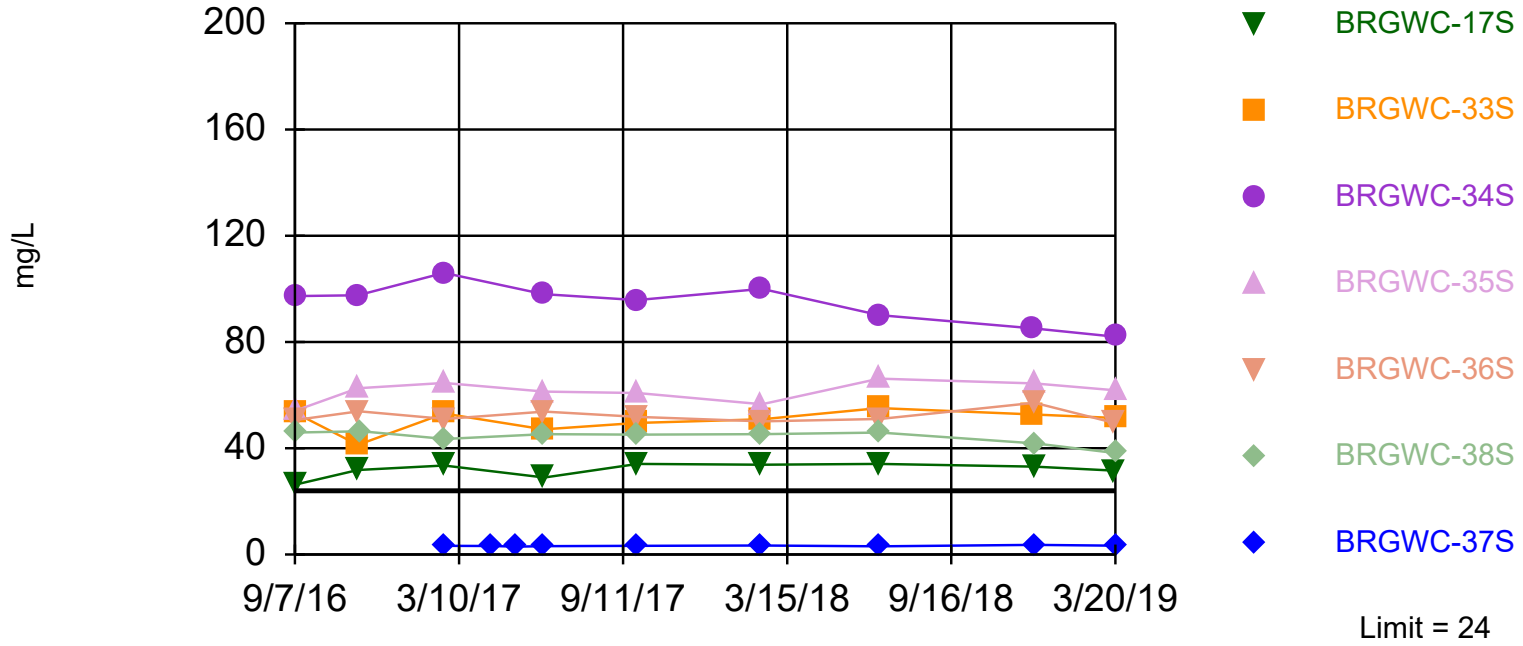


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 45 background values. 68.89% NDs. Annual per-constituent alpha = 0.01647. Individual comparison alpha = 0.0009222 (1 of 2). Comparing 7 points to limit. Assumes 2 future values. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 6/5/2019 12:58 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

Prediction Limit

Interwell Non-parametric

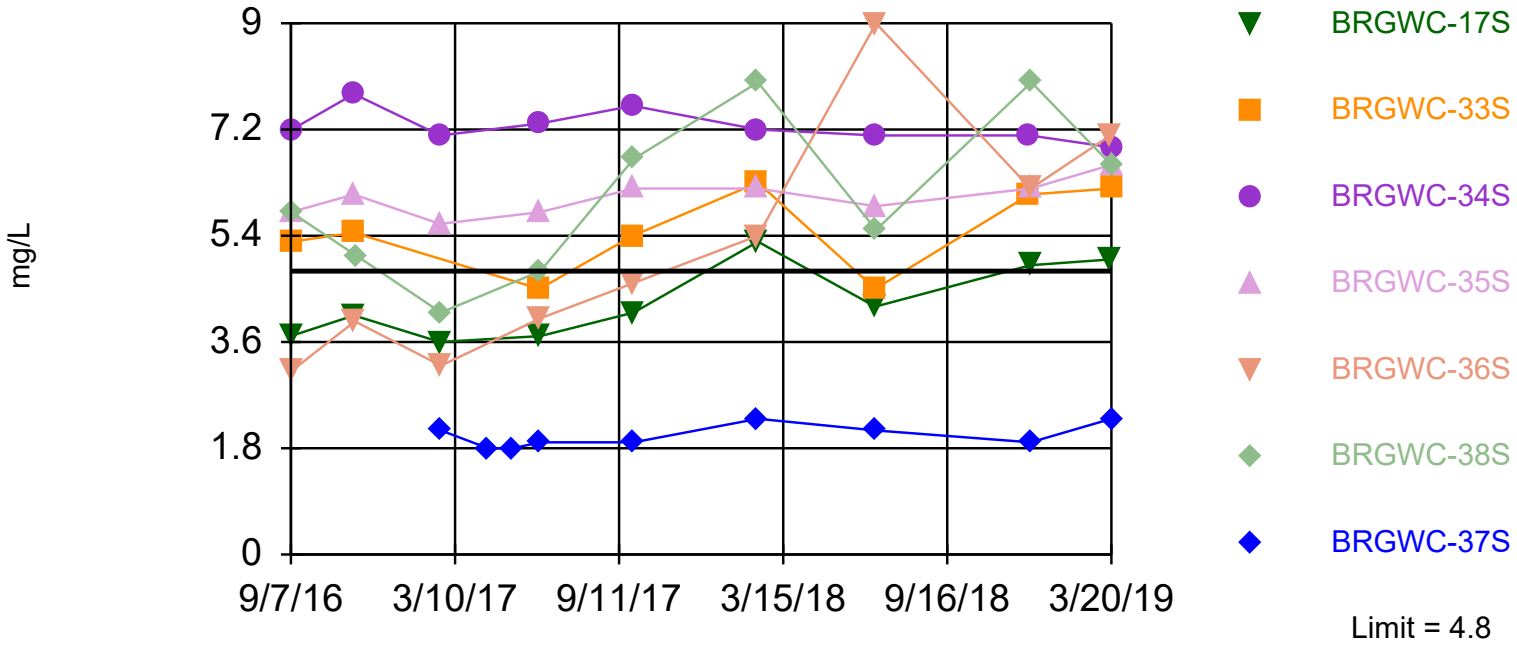


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 45 background values. 6.667% NDs. Annual per-constituent alpha = 0.01647. Individual comparison alpha = 0.0009222 (1 of 2). Comparing 7 points to limit. Assumes 2 future values. Seasonality was not detected with 95% confidence.

Constituent: Calcium Analysis Run 6/5/2019 12:58 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 45 background values. Annual per-constituent alpha = 0.01647. Individual comparison alpha = 0.0009222 (1 of 2). Comparing 7 points to limit. Assumes 2 future values. Seasonality was not detected with 95% confidence.

Constituent: Chloride Analysis Run 6/5/2019 12:58 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

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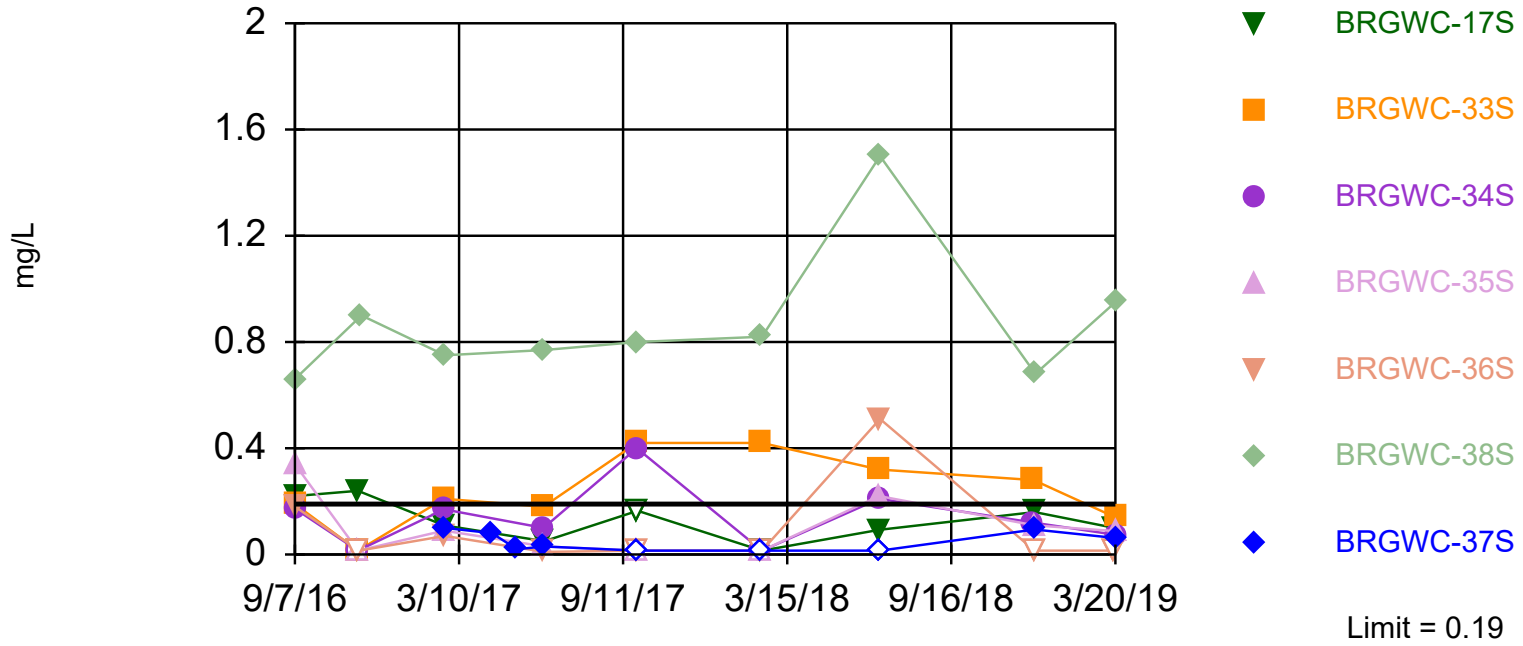
Hollow symbols indicate censored values.

Prediction Limit

Interwell Non-parametric

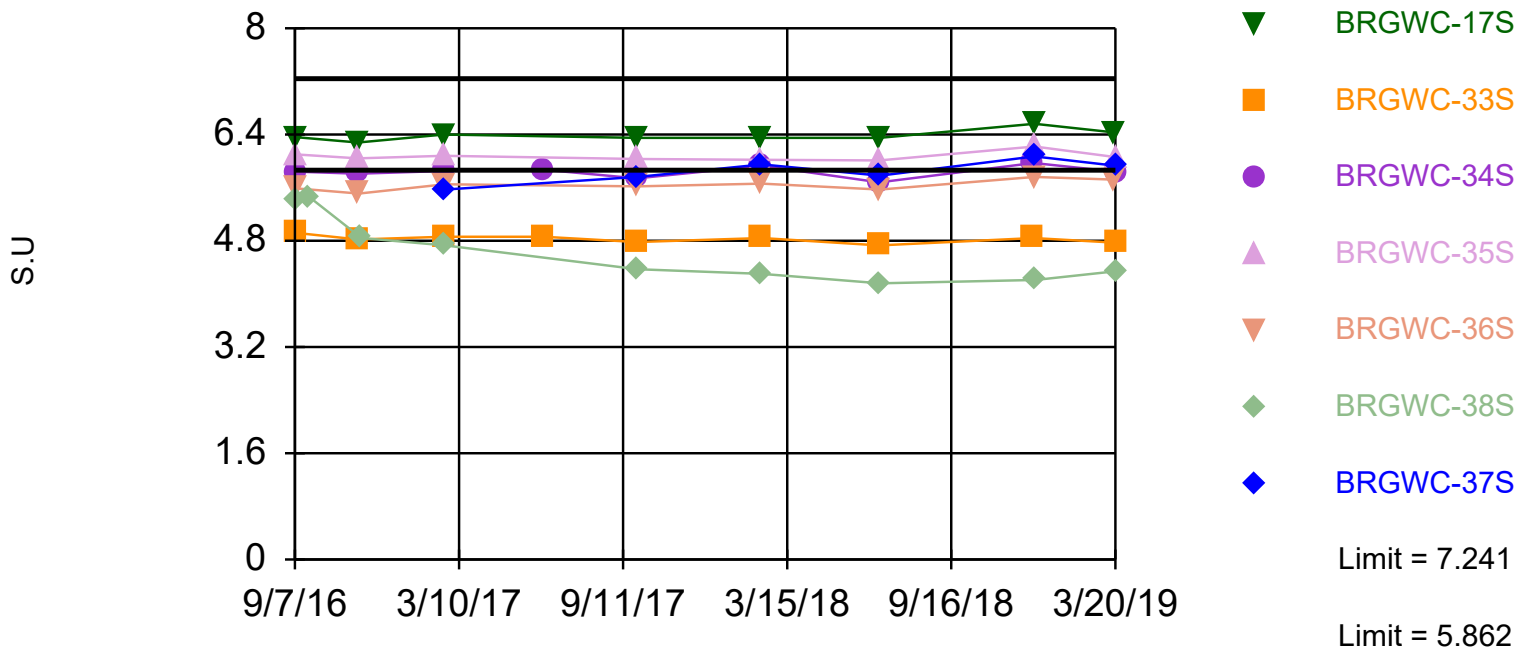


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 45 background values. 44.44% NDs. Annual per-constituent alpha = 0.01647. Individual comparison alpha = 0.0009222 (1 of 2). Comparing 7 points to limit. Assumes 2 future values. Seasonality was not detected with 95% confidence.

Constituent: Fluoride Analysis Run 6/5/2019 12:58 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=6.552, Std. Dev.=0.3403, n=44. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9602, critical = 0.924. Kappa = 2.026 (c=7, w=9, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0004179. Comparing 7 points to limit. Assumes 2 future values.

Constituent: pH Analysis Run 6/5/2019 12:58 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

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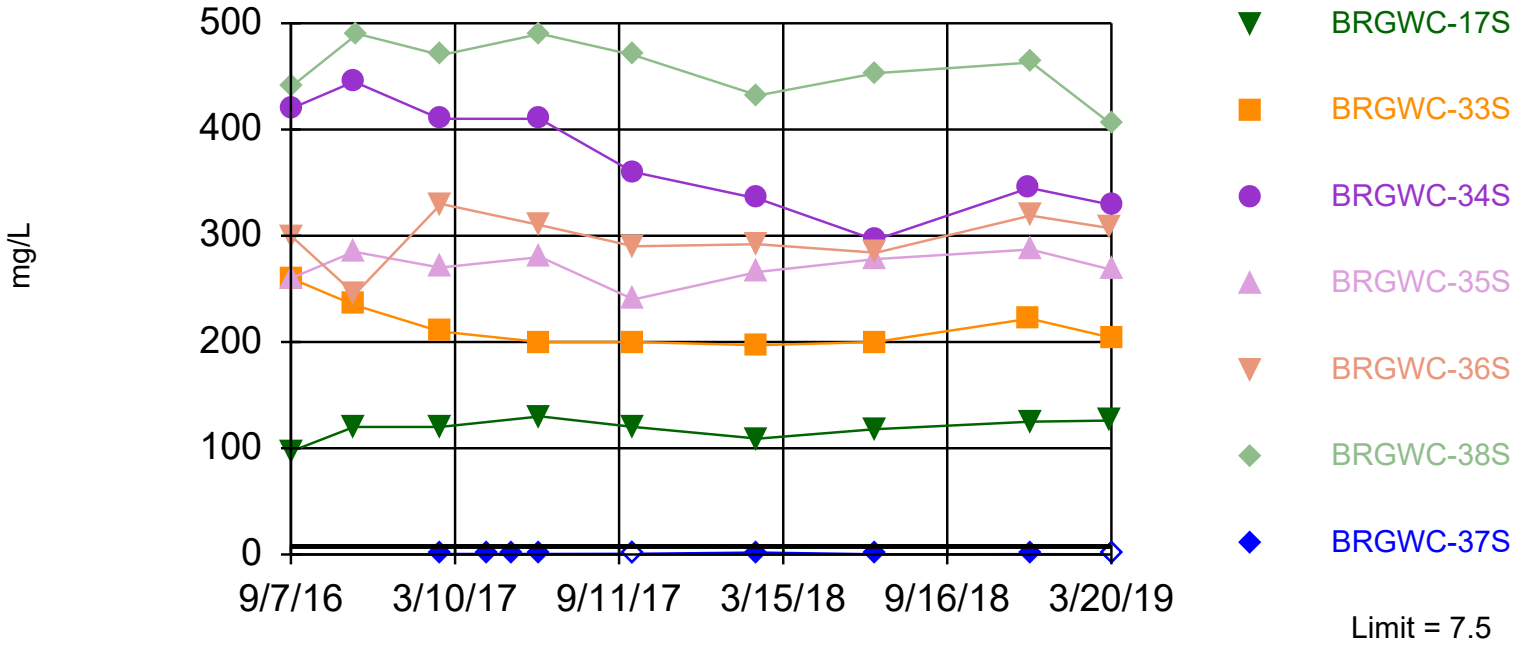
Hollow symbols indicate censored values.

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 45 background values. 20% NDs. Annual per-constituent alpha = 0.01647. Individual comparison alpha = 0.0009222 (1 of 2). Comparing 7 points to limit. Assumes 2 future values. Seasonality was not detected with 95% confidence.

Constituent: Sulfate Analysis Run 6/5/2019 12:58 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

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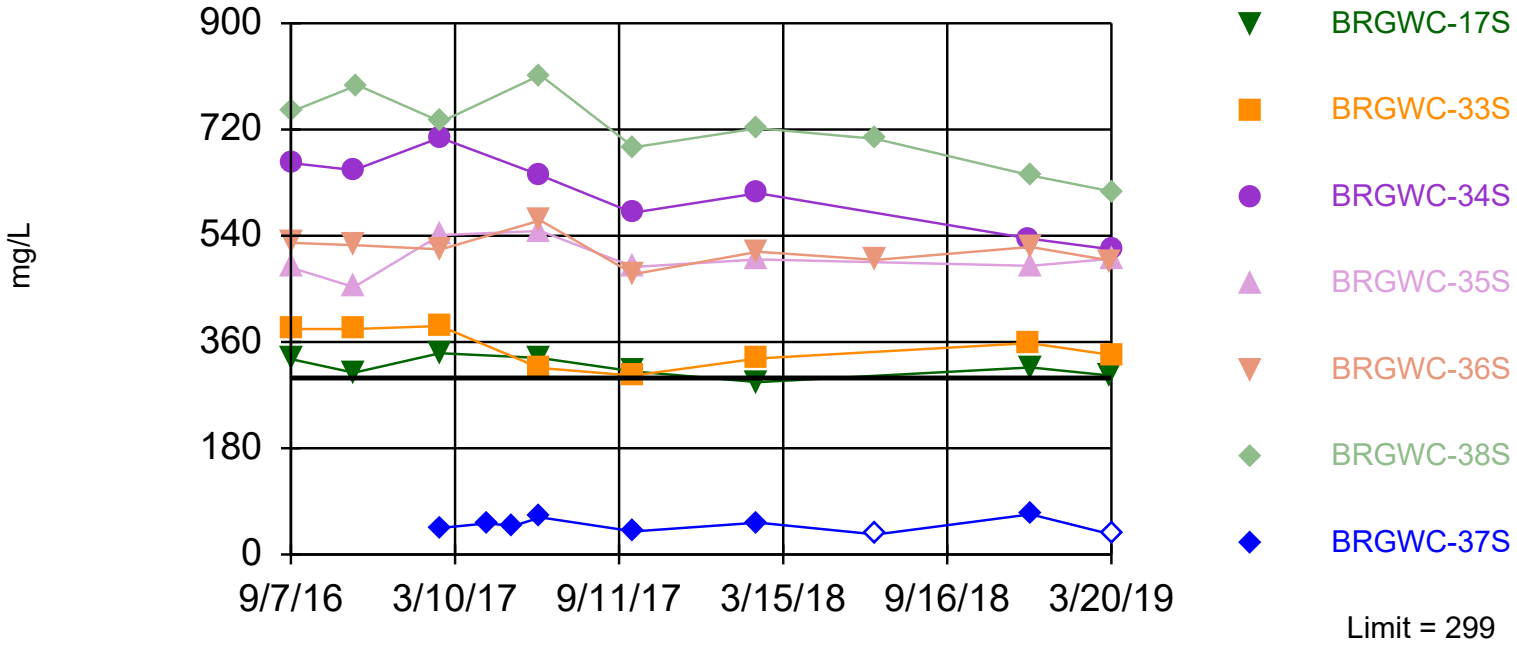
Hollow symbols indicate censored values.

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 45 background values. 11.11% NDs. Annual per-constituent alpha = 0.01647. Individual comparison alpha = 0.0009222 (1 of 2). Comparing 7 points to limit. Assumes 2 future values. Seasonality was not detected with 95% confidence.

Constituent: Total Dissolved Solids Analysis Run 6/5/2019 12:58 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

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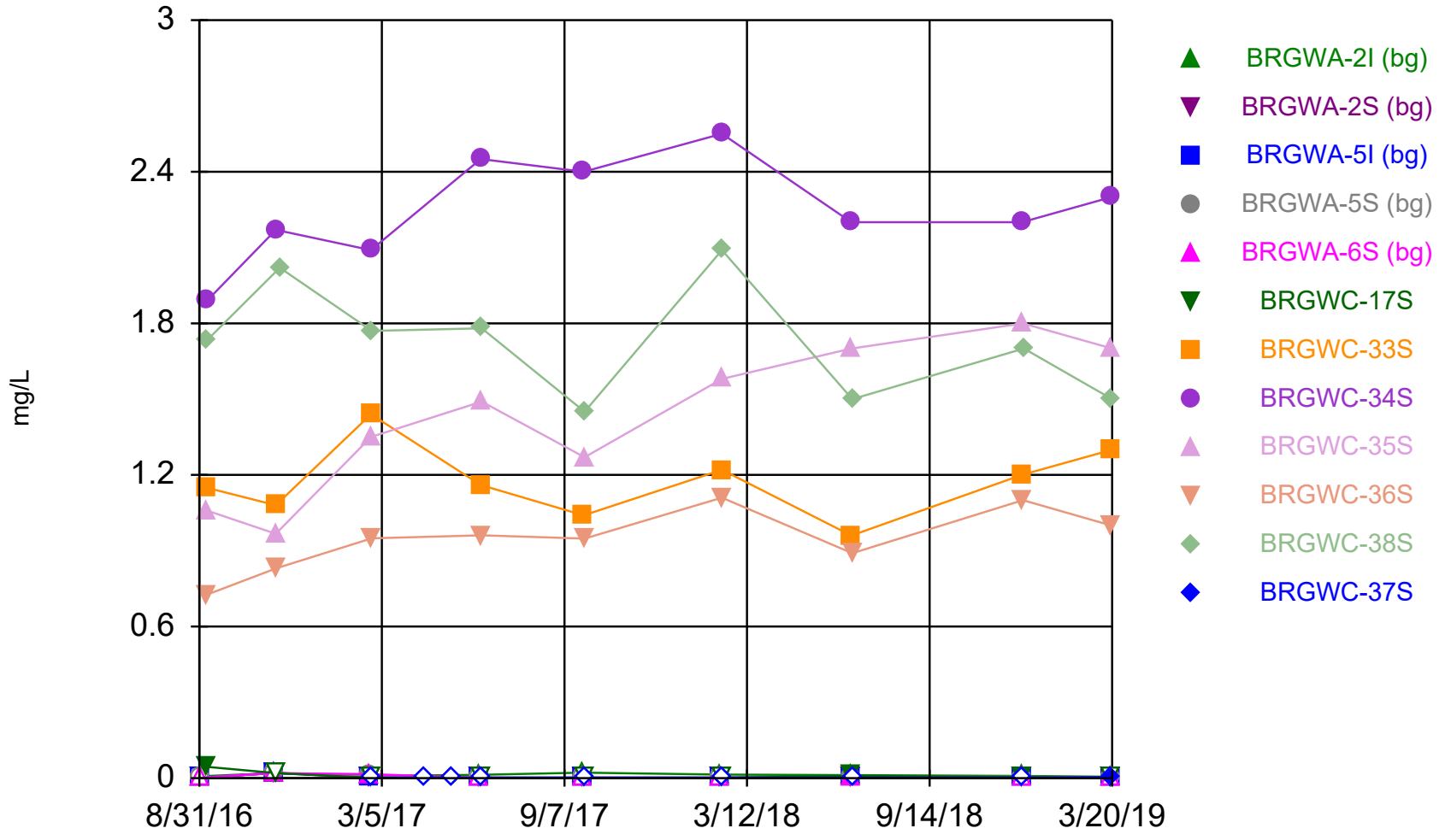
Hollow symbols indicate censored values.

Time Series



Constituent: Boron Analysis Run 6/5/2019 12:57 PM View: Pond E Appendix III
Branch Client: Golder Associates Data: Plant Branch Ash Pond

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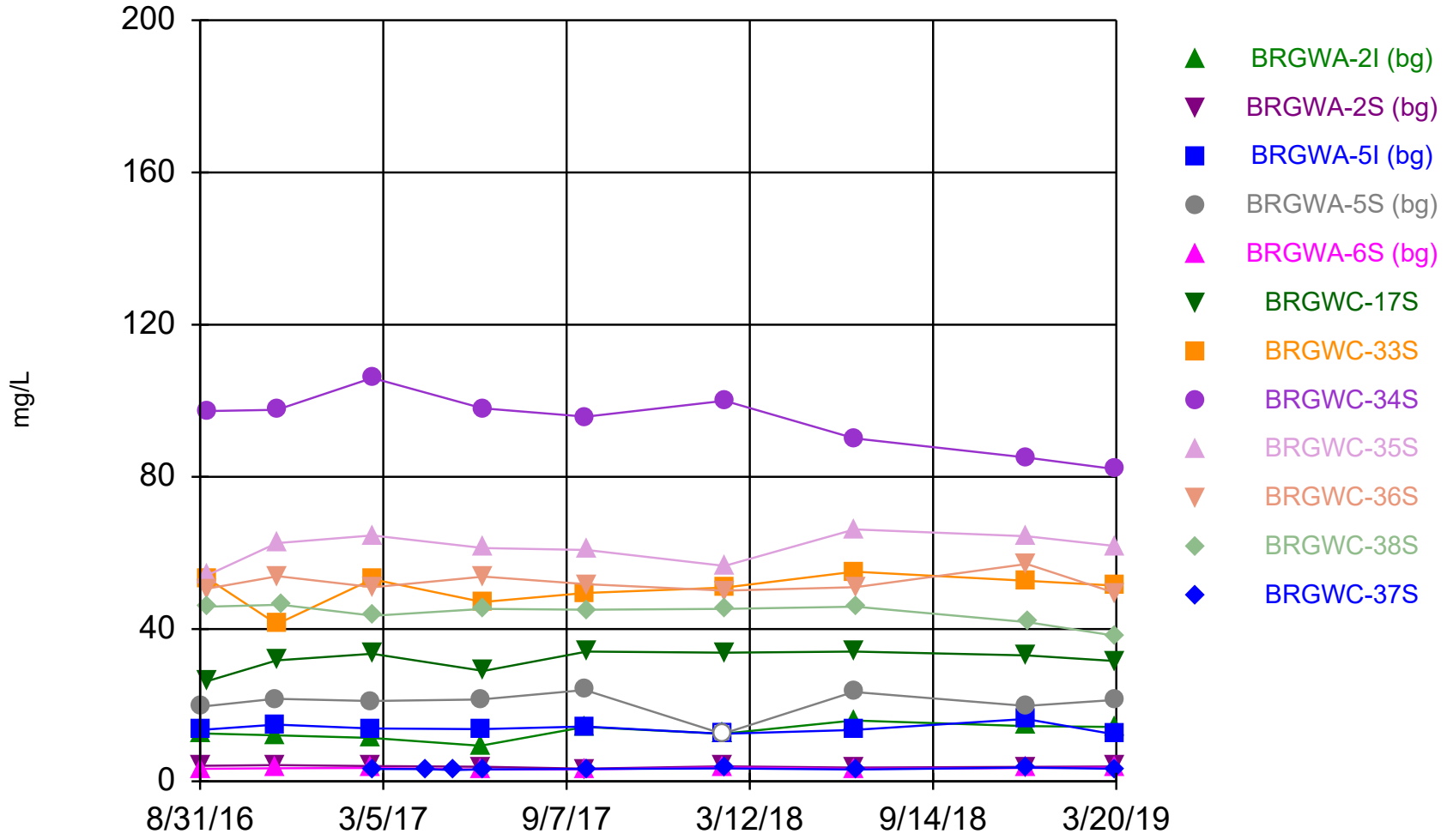
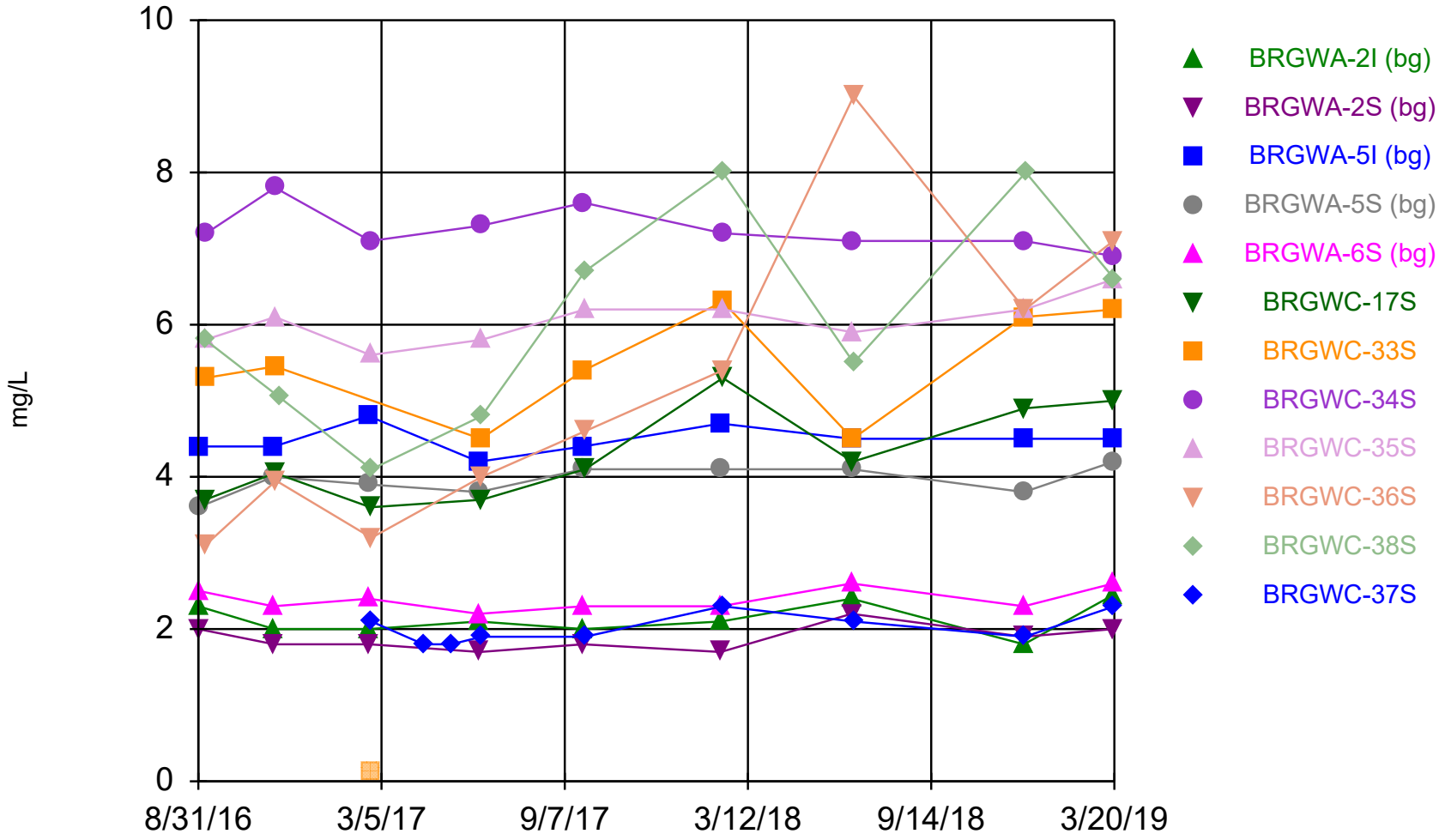
Hollow symbols indicate censored values.

Time Series



Constituent: Calcium Analysis Run 6/5/2019 12:57 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

Time Series



Constituent: Chloride Analysis Run 6/5/2019 12:57 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

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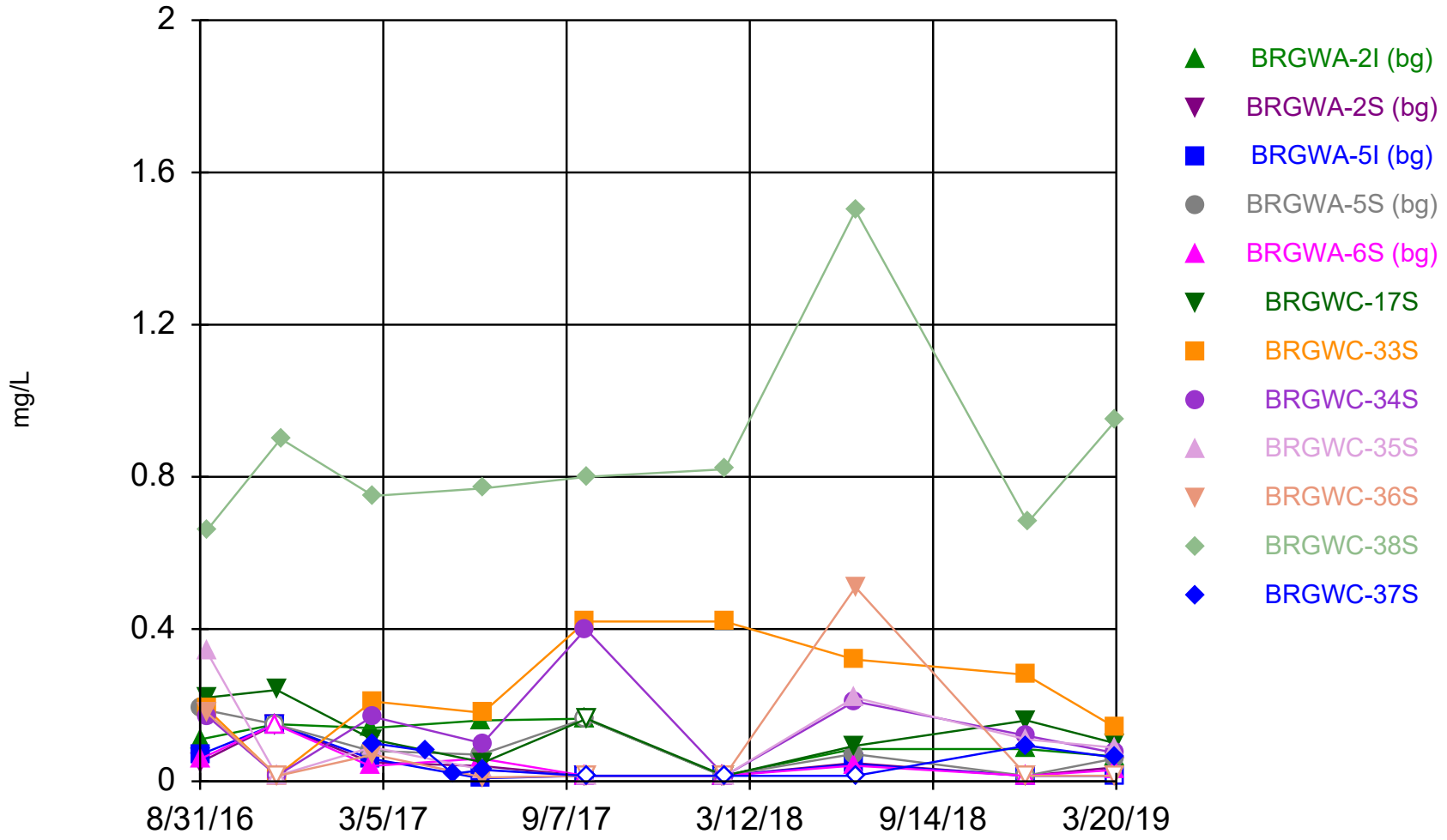
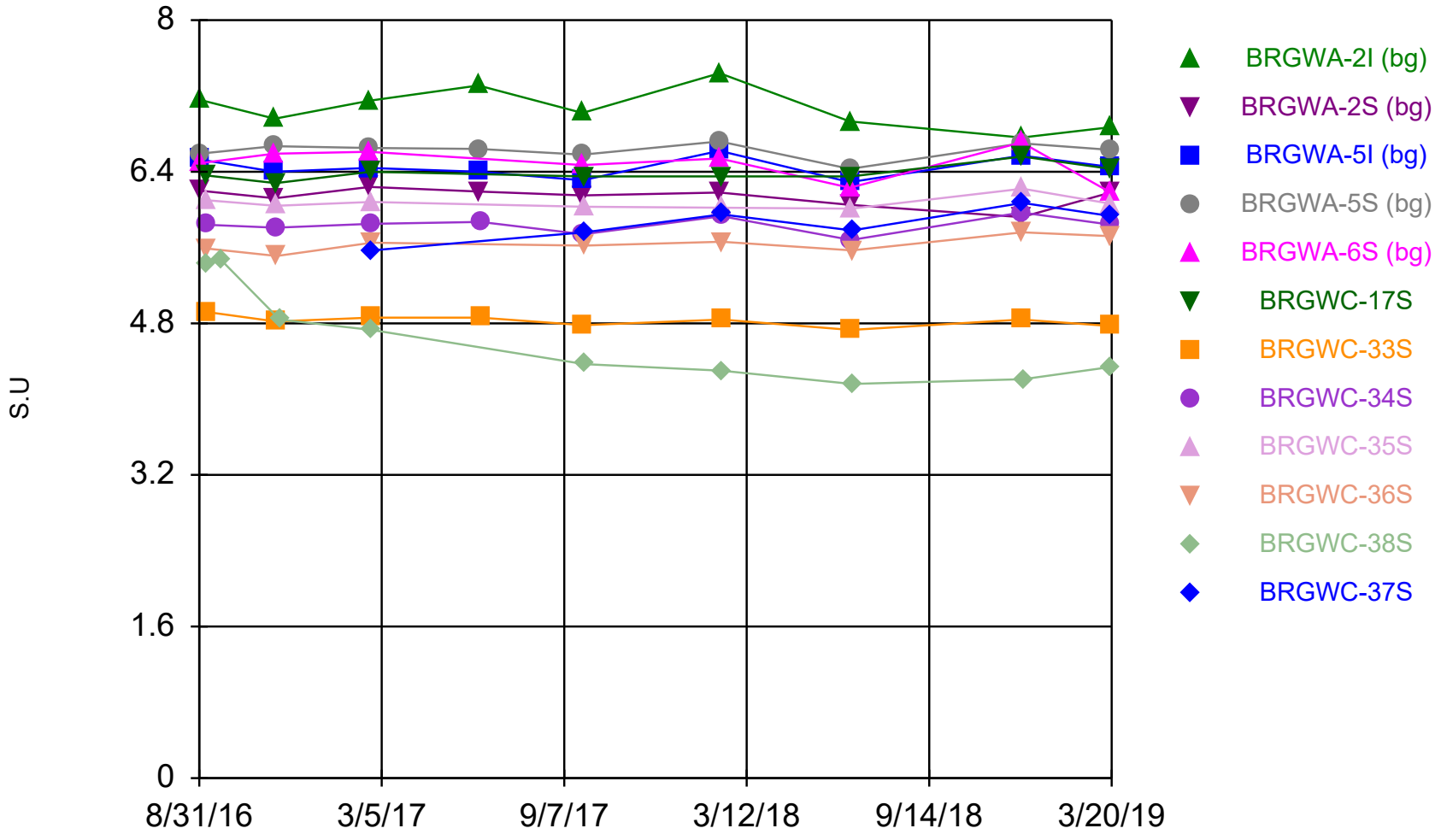
Hollow symbols indicate censored values.

Time Series



Constituent: Fluoride Analysis Run 6/5/2019 12:57 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

Time Series



Constituent: pH Analysis Run 6/5/2019 12:57 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

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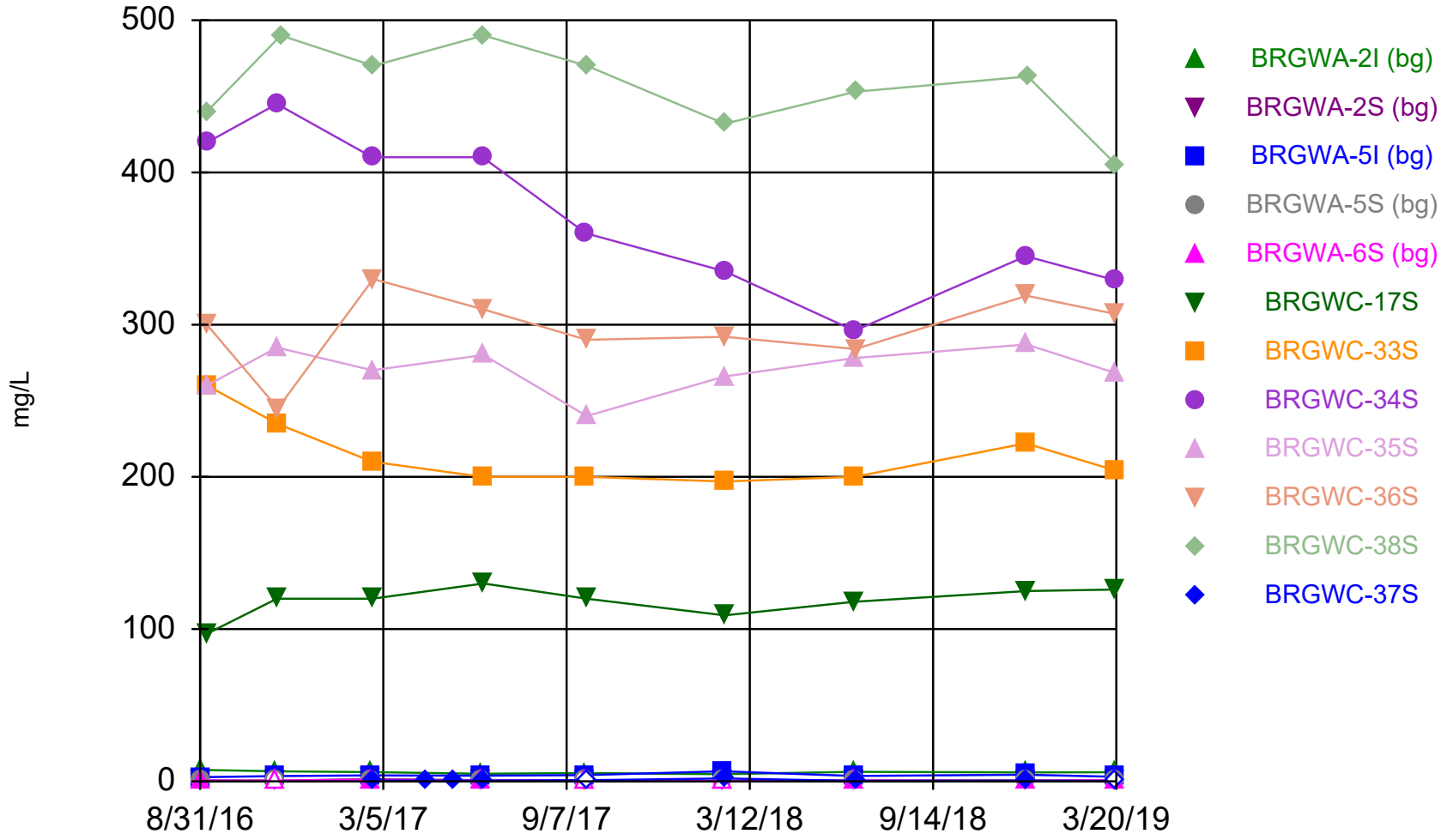
Hollow symbols indicate censored values.

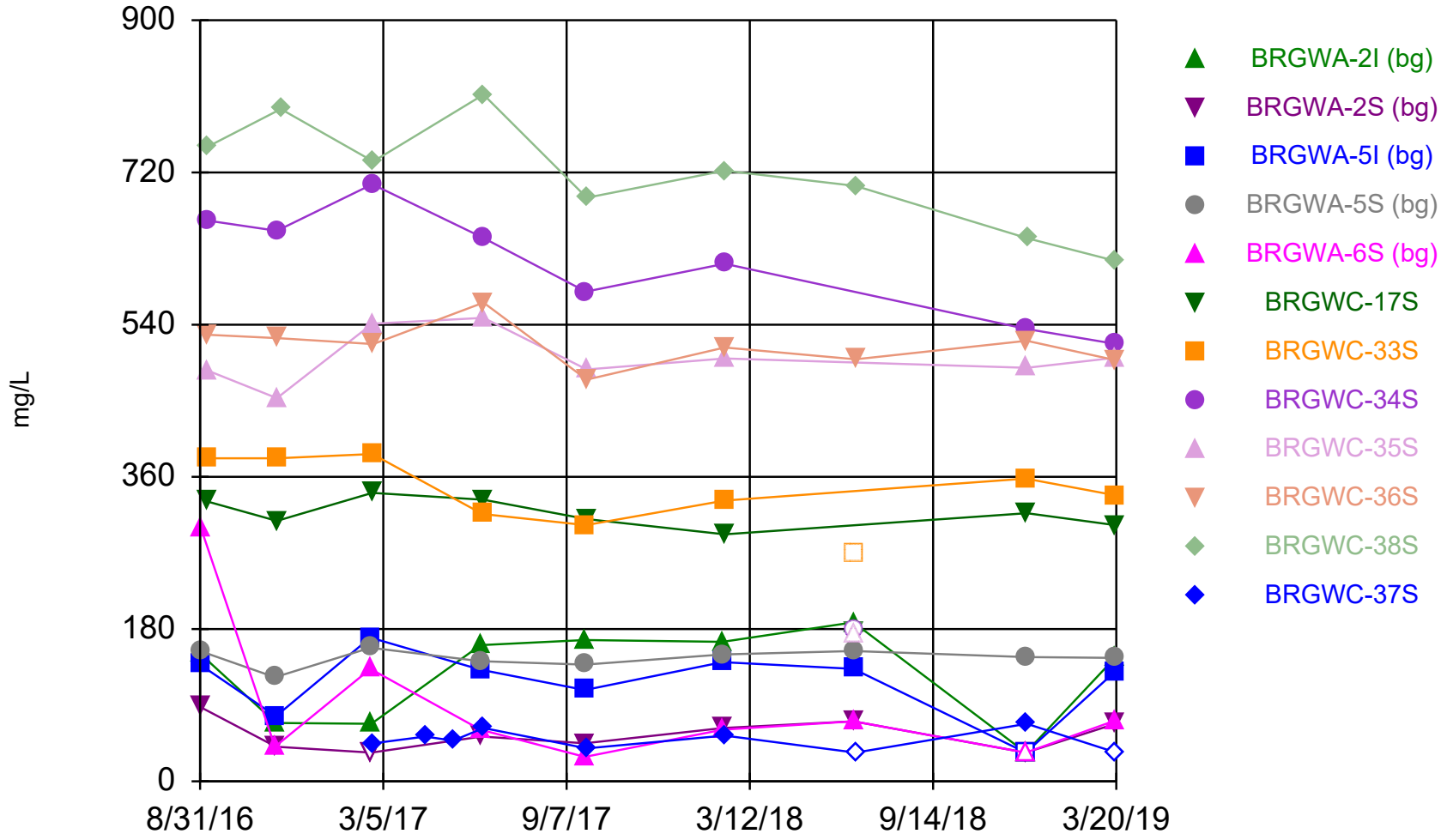
Time Series



Constituent: Sulfate Analysis Run 6/5/2019 12:57 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

Sanitas™ v.9.6.14 For the statistical analyses of ground water by Golder Associates only. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Total Dissolved Solids Analysis Run 6/5/2019 12:57 PM View: Pond E Appendix III Branch Client: Golder Associates Data: Plant Branch Ash Pond

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